

**Intergovernmental Science-Policy  
Platform on Biodiversity and  
Ecosystem Services**Distr.: General  
17 October 2014

English only

---

**Plenary of the Intergovernmental Science-Policy  
Platform on Biodiversity and Ecosystem Services  
Third session**

Bonn, Germany, 12–17 January 2015

Item 7 (a) of the provisional agenda\*

**Rules and procedures for the operation of the Platform:  
nomination and selection of members of the  
Multidisciplinary Expert Panel****Compilation of curricula vitae of proposed members of the  
Multidisciplinary Expert Panel****Proposed members from Western European and other States****Note by the secretariat**

1. The annex to the present note, prepared by the secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, compiles the curricula vitae of the candidates proposed for the Multidisciplinary Expert Panel, as submitted by Western European and other States. The curricula vitae are reproduced as received, without formal editing.
2. The candidates are the following:
  - Mark Lonsdale, Australia
  - Jake Rice, Canada
  - Sara Wilson, Canada
  - Paul Leadley, France
  - Marie Roué, France
  - James Wilson, Ireland
  - Christian Mulder, Netherlands
  - Urbano Fra Paleo, Spain
  - Esteban Manrique Reol, Spain
  - Unai Pascual, Spain
  - Luis E. Santamaría Galdón, Spain
  - Marie Stenseke, Sweden
  - Markus Fischer, Switzerland
  - Judith Weis, United States of America

---

\* IPBES/3/1.

## **Annex**

### **Compilation of curricula vitae of proposed members from Western European and other States for the Multidisciplinary Expert Panel**

---

# Dr W.M. (Mark) Lonsdale

---

## Personal Information

- Nationality: Australian/British
- Date of Birth: 19 April 1957

## Professional experience

2013 - CSIRO Canberra

### **Biodiversity Portfolio Director**

- Oversee CSIRO's \$28M p.a. biodiversity research portfolio.
- Build collaborations across CSIRO and with external agencies, industries and universities.
- Co-edited the [CSIRO Biodiversity Book](#) – available as hard copy or as a free eBook, and describing for the public the latest scientific knowledge on Australia's biodiversity.

2010 - 2013 CSIRO Ecosystem Sciences Canberra

### **Chief of Division**

- Merged CSIRO's Sustainable Ecosystems and Entomology Divisions to form a new integrated division of sustainability research.
- Managed the Division's \$60M budget, 500 staff, and 16 sites across Australia and the globe.
- Led a significant improvement in science productivity metrics across the merged division.

2007 - 2010 CSIRO Entomology Canberra

### **Chief of Division**

- Managed the Division's \$35M budget, 300 staff, and seven laboratories across Australia and the globe
- Provided strategic leadership for CSIRO Entomology
- In addition, in 07-08, supervised CSIRO's demerger from Ensis forest science joint venture with NZ and led reintegration of Forest Biosciences into CSIRO

2003 - 2007 CSIRO Entomology Canberra

### **Assistant Chief (2003- 2005) ; Deputy Chief (from 2005).**

- Represented the Chief in external fora
- Assisted Chief to manage the Division's \$35M budget, 250 staff, and seven laboratories across Australia and the globe

2001 - 2003 CSIRO Entomology Canberra

### **Strategy Director - Environment**

- As part of the senior management team, provided strategic direction for CSIRO Entomology's environmental research.
- Drove implementation of the Division's Strategic Plan for 2002-2007.
- Led research into risk analysis, biosecurity, complex systems, ecological implications of GMOs, and plant invasions.

1999-2001                      CSIRO Entomology                      Canberra

**Program Leader, Weed Management Program**

- Managed financial, capital and human resources and intellectual property of the Program (50 staff in four Australian and three overseas locations)
- Carried out research into integrated management of temperate weeds and into plant invasions.

1995 - 1998                      CSIRO European Laboratory                      Montpellier, France

**Officer in Charge**

- Managed financial, capital and human resources and intellectual property of the Laboratory.
- Carried out research into biological control of Mediterranean weeds and into plant invasions.

1984 – 1995                      CSIRO Entomology                      TERC, Darwin, NT

**Weed ecologist and Deputy Officer in Charge**

- Studied ecology and impact of tropical weeds including *Mimosa pigra*, and monitored impact of biocontrol agents

1981 – 1983                      Federal University of Technology                      Bauchi, Nigeria

**Lecturer (2 year contract)**

- Taught ecology, biology and biogeography.

**Additional  
professional/  
leadership  
activities**

- 2013 – present: coordinator of Australian regional node bid for Future Earth.
- 2013 - present: Chair of the Editorial Board of [The Conversation](#).
- 2013 - present: Co-Chair of the interim Multidisciplinary Expert Panel of [IPBES](#).
- 2013 - present: Secretary of Australian membership of [IIASA](#).
- 2005 – present: [faculty member](#), F1000, Conservation and Restoration Ecology
- 2010 - present: Member of CSIRO Publishing Advisory Committee and Co-Chair of CSIRO journals' Board of Standards.
- 2010: Chair of the Local Organizing Committee for the Ecological Society of Australia 50<sup>th</sup> anniversary conference, Canberra.
- 2007- present: Invited member of the Diversitas Science Committee; delivered new Strategic Plan 2011
- 2006 – present: member, DAFF Eminent Scientists' Group on biosecurity (reappointed 2010 and 2013).
- 2005: led the development of research priorities for the Australian Federal Government's Defeating the Weeds Menace R&D program
- 2005 – 2011: member, Board of the CRC for Invasive Animals
- 2004 – 2010: Invited board member, Global Invasive Species Program (Chair

from 2004-2006).

- 1998 – 2000 Wrote and supervised the successful bid for a new Australian national Weeds CRC (2001 – 2008, A\$2.8M pa)
- 1996 – 2002: Member, Editorial Board of Journal of Applied Ecology
- 1996-2000: member, Editorial Board, Australian Journal of Ecology
- 1998 – 2009: Member, Editorial Board of Biological Invasions

**Invited  
participation in  
outside forums (a  
selection only)**

- Keynote speaker on biological invasions, INTECOL Conference London 2013
- Invited speaker at US NRC Symposium “Twenty-First Century Ecosystems”, Washington, February 2009.
- Invited to participate in joint paper on invasions at University of Arizona September 2007
- Invited speaker on invasions, Diversitas Conference, Mexico, 2005
- Invited as keynote speaker on biosecurity risk to the Society for Risk Analysis, Melbourne August 2006
- Invited keynote speaker reviewing Australia’s weed strategies at Australian Weeds Conference Perth, November 2002.
- Invited as keynote to speak on science and invasions, CABI Conference, Beijing, 2004.
- Invited speaker at International Biodiversity Observation Year meeting, Maryland USA June 2001
- Keynote speaker at invasions meeting at University of Minnesota May 2002
- Keynote speaker reviewing Australia’s weed strategies at Australian Weeds Conference Perth November 2002
- Keynote speaker on strategy for managing invasive species for IPINAMS conference, Florida 2003
- Expert witness on GMOs at New Zealand Royal Commission into Biotechnology, March 2001 (by invitation of NZ parliamentary Commissioner for the Environment)
- Speaker on the environment and GMOs at Biotechnology Australia’s GM forum Launceston 2001
- Speaker on GMOs and Risk at SA Academy of Science 2001
- Chaired session on environmental risks of GMOs at OECD meeting in December 2001, Raleigh, NC.

**Education**

1978 - 1981                      University of East Anglia                      Norwich, England

**Ph.D.**

- Thesis topic – “Studies on thinning in pure and mixed populations of plants” (density-dependent mortality in plants).
- Supervisor – Dr A.R. Watkinson

1975 - 1978                      University of Manchester                      Manchester, England

**B.Sc. (Hons) Degree in Biology****Professional  
Development**

- Graduate of the Australian Institute of Company Directors: April 2004.
- Undertook a three week residential course (Leading the Research Enterprise) in research management run by CSIRO in 2004-05.
- Have undertaken regular Executive coaching with Colin Pitson, Veritas Alliance, Canberra (<http://www.veritasalliance.com.au/>).

**Professional  
memberships**

Ecological Society of Australia  
Ecological Society of America

**Referees**

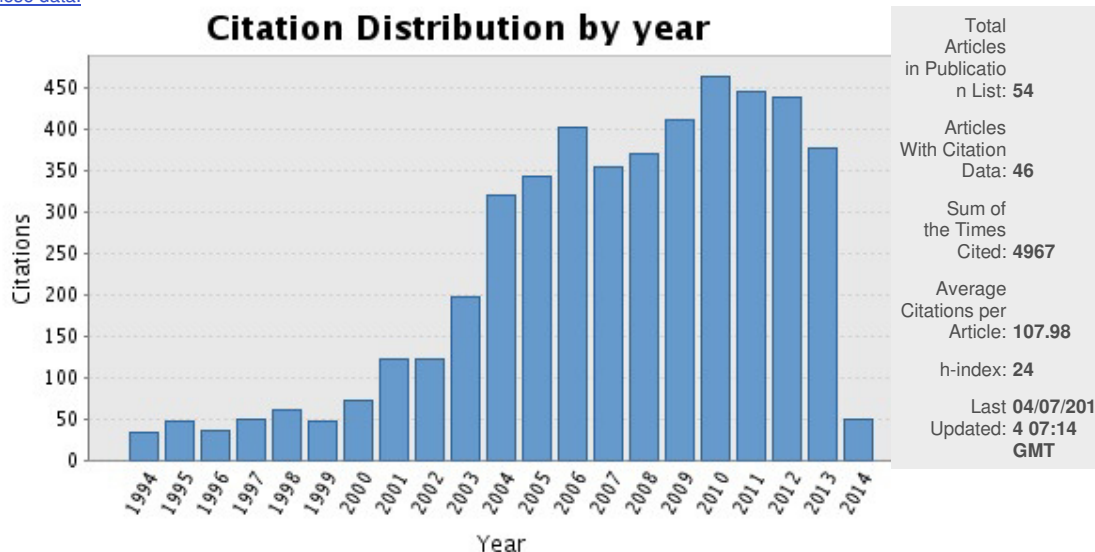
On application

## W.M. Lonsdale - Publication list

**Citation metrics (Researcher ID no: C-1403-2008; [Google Scholar](#)).**

This graph shows the number of times the articles on the publication list have been cited in each of the last 20 years.

Note: Only articles from Web of Science Core Collection with citation data are included in the calculations. [More information about these data.](#)



## Refereed scientific publications

\*Papers cited 10 or more times in the ISI Web of Science; \*\*papers cited 30 or more times;

\*\*\*papers cited 100 or more times; \*\*\*\*papers cited 300 or more times.

1. Cook, DC; Fraser RW; Paini, DR, Warden AC, Lonsdale WM, De Barro PJ (2011) Biosecurity and yield improvement technologies are strategic complements in the fight against food insecurity. *PLOS ONE*, **6**: 10.1371/journal.pone.0026084
2. Lonsdale WM & FitzGibbon F (2011) The known unknowns – managing the invasion risk from biofuels. *Current Opinion in Environmental Sustainability*, **3**, 31 - 35.
3. Cook, DC; Liu, SG; Murphy, B; Lonsdale, W.M. (2010) Adaptive approaches to biosecurity governance. *Risk Analysis*, **30**, 1303-1314.
4. Lonsdale, M. (2010) Pest risk assessment and invasion pathways: invasive weeds. *New Zealand Journal Of Forestry Science*, **40** (Supplement): 73-76.
5. Perrings, C.; Burgiel, S.; Lonsdale, M.; Mooney, H.; Williamson, M. (2010) International cooperation in the solution to trade-related invasive species risks. *Annals Of The New York Academy Of Sciences*, **1195**, 198-212.
6. \*Morton, S.R.; Hoegh-Guldberg, O.; Lindenmayer, D.B.; et al. (2009) The big ecological questions inhibiting effective environmental management in Australia. *Austral Ecology*, **34**, 1-9.
7. Mason, T.J.; French, K.; Lonsdale, W.M. (2009) Do graminoid and woody invaders have different effects on native plant functional groups? *Journal Of Applied Ecology*, **46**, 426-433

8. \*Caley, P., Lonsdale, W.M. & Pheloung, P.C. (2006) Quantifying Uncertainty in Predictions of Invasiveness. *Biological Invasions*, **8**, 277-286.
9. \*Firbank, L., Lonsdale, M. & Poppy, G. (2005) Reassessing the Environmental Risks of GM Crops. *Nature Biotechnology*, **23**, 1475-1476.
10. \*Huwer, R.K., Briese, D.T., Dowling, P.M., Kemp, D.R., Lonsdale, W.M., Michalk, D.L., Neave, M.J., Sheppard, A.W. & Woodburn, T.L. (2005) Can an Integrated Management Approach Provide a Basis for Long-Term Prevention of Weed Dominance in Australian Pasture Systems? *Weed Research*, **45**, 175-192.
11. \*Godfree, R.C., Young, A.G., Lonsdale, W.M., Woods, M.J. & Burdon, J.J. (2004) Ecological Risk Assessment of Transgenic Pasture Plants: a Community Gradient Modelling Approach. *Ecology Letters*, **7**, 1077-1089.
12. \*\*Buckley Y.M., Rees, M. Paynter, Q. & Lonsdale, M. (2004) Modelling integrated weed management of an invasive shrub in tropical Australia. *Journal of Applied Ecology*, **41**, 547-560.
13. \*Vila, M., Williamson, M. & Lonsdale, W. (2004) Competition experiments on alien weeds with crops: lessons for measuring plant invasion impact? *Biological Invasions*, **6**, 59-69.
14. \*Islam, N., Lonsdale, M., Upadhyaya, N. M., Higgins, T. J., Hirano, H., and Akhurst, R. Protein extraction from mature rice leaves for two dimensional gel electrophoresis and its application in proteome analysis. *Proteomics* **4**, 1903-1908. 2004.
15. Hayes, KR, Gregg, PC, Gupta, V. V. S. R., Jessop, R., Lonsdale, W. M., Sindel, B., Stanley, J., and Williams, C. K. (2004). Identifying hazards in complex ecological systems. Part 3: Hierarchical Holographic Model for herbicide tolerant oilseed rape. *Environmental Biosafety Research* **3**, 109-128.
16. \*Paynter Q, Csurhes SM, Heard TA, Ireson J, Julien MH, Lloyd J, Lonsdale WM, Palmer WA, Sheppard AW & van Klinken RD (2003) Worth the risk? Introduction of legumes can cause more harm than good: an Australian perspective. *Australian Systematic Botany*, **16** (1), 81-88.
17. \*Williamson, M., Gaston, K.J. & Lonsdale, W.M. (2002) An asymptote is an asymptote and not found in species-area relationships. *Journal of Biogeography*, **29**, 1713.
18. \*\*\*Byers, J.E., Reichard, S., Randall, J.M., Parker, I.M., Smith, C.S., Lonsdale, W.M., Atkinson, I.A.E., Seastedt, T.R., Williamson, M., Chornesky, E. & Hayes, D. (2002) Directing research to reduce the impacts of non-indigenous species. *Conservation Biology*, **16**, 630-640.
19. \*\*Williamson, M., Gaston, K.J. & Lonsdale, W.M. (2001) The species-area relationship does not have an asymptote! *Journal of Biogeography*, **28**, 827-830.
20. \*\*Mack, R.N. & Lonsdale, W.M. (2001) Humans as global plant dispersers: getting more than we bargained for. *Bioscience*, **51**, 95-102.
21. Lonsdale, W.M. (2000) Swapping space for time and unfair tests of ecological models: a reply to Tyre et al. *Austral Ecology*, **25**, 332.
22. \*\*\*\*Mack, R.N., Simberloff, D., Lonsdale, W.M., Evans, H., Clout, M. & Bazzaz, F.A. (2000) Biotic invasions: causes, epidemiology, global consequences, and control. *Ecological Applications*, **10**, 689-710.
23. Walker, B. and Lonsdale, W. M. 2000. Genetically modified organisms at the crossroads: Comments on "Genetically Modified Crops: Risks and Promise" by Gordon Conway.

24. \*\*\*\*Lonsdale, W.M. (1999) Global patterns of plant invasions and the concept of invasibility. *Ecology*, **80**, 1522-1536.
25. Smith, C.S., Lonsdale, W.M. & Fortune, J. (1999) When to ignore advice: invasion predictions and decision theory. *Biological Invasions*, **1**, 89-96.
26. Parker, I.M., Simberloff, D., Lonsdale, W.M., Goodell, K., Wonham, M., Kareiva, P.M., Williamson, M.H., Von Holle, B., Moyle, P.B., Byers, J.E. & Goldwasser, L. (1999) Impact: toward a framework for understanding the ecological effects of invaders. *Biological Invasions*, **1**, 3-19.
27. \*Lonsdale, W.M. & Farrell, G.S. (1998) Testing the effects on *Mimosa pigra* of a biological control agent *Neurostrota gunniella* (Lepidoptera : Gracillariidae), plant competition and fungi under field conditions. *Biocontrol Science and Technology*, **8**, 485-500.
28. Lonsdale, W.M., Braithwaite, R.W., Lane, A.M. & Farmer, J. (1998) Modelling the recovery of an annual savanna grass following a fire-induced crash. *Australian Journal of Ecology*, **23**, 509-513.
29. Lane, A.M., Williams, R.J., Muller, W.J. & Lonsdale, W.M. (1997) The effects of the herbicide tebuthiuron on seedlings of *Mimosa pigra* and native floodplain vegetation in northern australia. *Australian Journal of Ecology*, **22**, 439-447.
30. \*Lonsdale, W.M., Farrell, G. & Wilson, C.G. (1995) Biological control of a tropical weed - a population-model and experiment for *Sida acuta*. *Journal of Applied Ecology*, **32**, 391-399.
31. \*\*\*Lonsdale, W.M. (1994) Inviting trouble - introduced pasture species in northern Australia. *Australian Journal of Ecology*, **19**, 345-354.
32. \*\*Lonsdale, W.M. & Lane, A.M. (1994) Tourist vehicles as vectors of weed seeds in Kakadu National Park, northern Australia. *Biological Conservation*, **69**, 277-283.
33. \*\*Lonsdale, W.M. (1993) Rates of spread of an invading species – *Mimosa pigra* in northern Australia. *Journal of Ecology*, **81**, 513-521.
34. \*Lonsdale, W. M. and Miller, I. L. 1993. Fire as a management tool for a tropical woody weed: *Mimosa pigra* in northern Australia. *Journal of Environmental Management* **39**, 77-87.
35. \*\*Lonsdale, W. M. 1993. Losses from the seed-bank of *Mimosa pigra*: soil micro-organisms vs. temperature fluctuations. *Journal of Applied Ecology* **30**, 654-660.
36. Lonsdale, W.M. & Braithwaite, R.W. (1992) *Fiddling while Rome burns - Nero much misunderstood - reply*. *Australian Journal of Ecology*, **17**, 106-108.
37. \*\*Lonsdale, W. M. and Braithwaite, R. W. 1991. Assessing the effects of fire on vegetation in tropical savannas. *Australian Journal of Ecology* **16**, 363-374.
38. \*\*Lonsdale, W. M. 1990. The self-thinning rule: dead or alive? *Ecology* **71**, 1373-1388.
39. \*\*Andersen, A. N. and Lonsdale, W. M. 1990. Herbivory by insects in Australian tropical savannas: A review. *Journal of Biogeography* **17**, 433-444.
40. \*\*Watkinson, A. R., Lonsdale, W. M., and Andrew, M. H. 1989. Modelling the population dynamics of an annual plant: *Sorghum intrans* in the wet-dry tropics. *Journal of Ecology* **77**, 162-181.

41. \*Lonsdale, W. M., Miller, I. L., and Forno, I. W. 1989. The Biology of Australian Weeds 20. *Mimosa pigra* L. *Plant Protection Quarterly* **4**, 119-131.
42. \*\*Lonsdale, W. M. and Abrecht, D. G. 1989. Seeding mortality in *Mimosa pigra*, an invasive tropical shrub. *Journal of Ecology* **77**, 371-385.
43. \*\*Braithwaite, R. W., Lonsdale, W. M., and Estbergs, J. A. 1989. Alien vegetation and native biota in tropical Australia: the impact of *Mimosa pigra*. *Biological Conservation* **48**, 189-210.
44. \*\*Lonsdale, W. M., Harley, K. L. S., and Gillett, J. D. 1988. Seed bank dynamics in *Mimosa pigra*, an invasive tropical shrub. *Journal of Applied Ecology* **25**, 963-976.
45. \*Lonsdale, W.M. (1988) Predicting the amount of litterfall in forests of the world. *Annals of Botany*, **61**, 319-324.
46. Lonsdale, W. M. 1988. The ordered development of plants: a critical analysis. *Annals of Botany* **55**, 903-908.
47. \*Lonsdale, W. M. 1988. Litterfall in an Australian population of *Mimosa pigra*, an invasive tropical shrub. *Journal of Tropical Ecology* **4**, 381-392.
48. \*Lonsdale, W. M. 1988. Interpreting seed survivorship curves. *Oikos* **52**, 361-364.
49. Miller, I. L. and Lonsdale, W. M. 1987. Early records of *Mimosa pigra* in the Northern Territory. *Plant Protection Quarterly* **2**, 140-142.
50. Braithwaite, R. W. and Lonsdale, W. M. 1987. The rarity of *Sminthopsis virginiae* in relationship to natural and unnatural habitats. *Conservation Biology* **1**, 341-343.
51. \*\*Watkinson, A. R., Lonsdale, W. M., and Firbank, L. G. 1983. A neighbourhood approach to self-thinning. *Oecologia* **56**, 381-384.
52. Lonsdale, W. M. and Watkinson, A. R. 1983. Tiller dynamics and self-thinning in grassland habitats. *Oecologia* **60**, 390-395.
53. \*\*Lonsdale, W. M. and Watkinson, A. R. 1983. Plant geometry and self-thinning. *Journal of Ecology* **71**, 285-297.
54. \*\*Lonsdale, W. M. and Watkinson, A. R. Light and self-thinning. 1982. *The New Phytologist* **90**, 431-445.

### **Books**

55. Morton SR, Sheppard A, and Lonsdale WM (eds.) 2014. Biodiversity. CSIRO Publishing, Melbourne.

### **Book Chapters**

56. Lonsdale WM 2011. Risk assessment and prioritization. Pp. 604-608 In: Encyclopaedia of Biological Invasions (Simberloff D and Rejmanek M eds), University of California Press, Berkeley, USA.
57. Lonsdale, W.M. & Smith, C.S. 2001 Evaluating pest screening systems - insights from epidemiology and ecology. Weed Risk Assessment (Groves, R. H., Panetta, F. D., and Virtue, J. G), pp. 52-60. CSIRO Publishing, Melbourne.
58. Lonsdale, W.M., Briese, D.T. & Cullen, J.M. 2001 Risk analysis and weed biocontrol. In : Indirect effects in biological control (Wajnberg, E., Scott, J. K., and Quimby, P. C., eds ), pp.

185-210. CABI, London.

59. Lonsdale, W.M. 2001 Biological Invasions. In: *Encyclopaedia of Global Change* Vol. 2. (Ed. Munn, T), Wiley, Chichester.
60. Farrell, G. S. and Lonsdale, W. M. 1997. Measuring the impact of biological control agents on weeds. Julien, M. C. and White, G. *Handbook on Weed Biocontrol*. Canberra, ACIAR.
61. Lonsdale, W. M. 1996. The balance of weed populations. In: Floyd, R. B., Sheppard, A. W., and De Barro, P. A. *Frontiers of Population Ecology*. 573-588. Melbourne, CSIRO Publishing.
62. Lonsdale, W. M., Miller, I. L., and Forno, I. W. 1995. *Mimosa pigra* L. Groves, R. H., Shepherd, R. C. H., and Richardson, R. G. *The Biology of Australian Weeds*. 169-188. Melbourne, R.G. and R.J. Richardson
63. Lonsdale, W. M. and Forno, I. W. 1994. *Mimosa pigra* L. Labrada, R., Caseley, J. C., and Parker, C. *Weed Management for Developing Countries*. 107-111. Rome, Food and Agriculture Organization.
64. Lonsdale, W. M. 1992. The biology of *Mimosa pigra*. Harley, K. L. S. *A Guide to the Management of Mimosa pigra*. 8-32. Canberra, CSIRO.
65. Miller, I. L. and Lonsdale, W. M. 1992. Ecological management of *Mimosa pigra*: use of fire and competitive pastures. Harley, K. L. S. *A Guide to the Management of Mimosa pigra*. 104-106. Canberra, CSIRO.

#### **Edited proceedings**

66. Lonsdale WM. A scientific framework for assessing transgenic organisms in the environment. Roseland CR. LMOs and the Environment: Proceedings of an International Conference. Pp. 185-194. 2002. Paris, OECD.
67. Lonsdale WM. GMOs: Risk, environment and perception. Biotechnology of *Bacillus thuringiensis* and its environmental impact: proceedings of the 4th Pacific Rim Conference. 239-243. 2002. Canberra, CSIRO.
68. Mack, R. N. and W. M. Lonsdale. 2002. Eradicating invasive plants: hard-won lessons for islands. In: "Turning the Tide: the Eradication of Invasive Species" (D. Veitch and M. Clout, editors) Invasive Species Specialist Group of the World Conservation Union (IUCN): Auckland, New Zealand, pp. 164-172.
69. Lonsdale, W.M. & Milton, S.J. 2002 People and plant invasions of the rangelands. Pp 101-115 In *Global Rangelands: Progress and Prospects*. Grice A. and Hodgkinson, K.C.), CABI, London.
70. Paynter, Q., Flanagan, G.J., Lonsdale, W.M., Schatz, T. and Steinbauer, M.J. (2000) Ecological studies to optimise the integrated management of the wetland weed, *Mimosa pigra*. Pp. 389-395 in Spencer, N. ed. *Proceedings of the X Conference on Biological Control of Weeds*. Montana State University, Bozeman, Montana, USA.
71. Smith, C. S., Lonsdale, W. M., and Fortune, J. 1998. Predicting weediness in a quarantine context. In Maillet, J. and Navas, M.-L. *Proceedings of the 6th EWRS Mediterranean Symposium*. 33-40. European Weed Research Society
72. Lonsdale, W. M., Vitou, J., Espiau, C., and Dowling, P. M. 1998. The potential for biological control of *Vulpia*. In Maillet, J. and Navas, M.-L. *Proceedings of the 6th EWRS Mediterranean Symposium*. 00-00. European Weed Research Society

73. Böttcher, S. and Lonsdale, W. M. 1998. Prospects for predictions in biological control of weeds. In Maillet, J. and Navas, M.-L. Proceedings of the 6th EWRS Mediterranean Symposium. 105-110. European Weed Research Society.
74. Breton, F., Cheylan, M., Lonsdale, W. M., Maillet, J., Pascal, M., and Vernon, P. 1997. Les invasions biologiques. *Courrier de l'environnement de l'INRA* 32, 11-28.
75. Lonsdale, W. M. 1996 Plant population processes and weed control. In Moran, V. C. and Hoffmann, J. H. *Proceedings of the IX International Symposium on Biological Control of Weeds*. 33-37. Cape Town, University of Cape Town.
76. Storrs, M. J., Kenyon, A., and Lonsdale, W. M. 1996. Strategic weed management for the Aboriginal lands of the Top End. Richardson, R. G. and Richardson, F. J. *Eleventh Australian Weeds Conference Proceedings*. 402-407. Frankston, Victoria, Weed Science Society of Victoria, Inc.
77. Storrs, M. J. and Lonsdale, W. M. 1995 Developing a weed management strategy for a conservation area. In Finlayson, C. M. ed. *Wetlands Research in the Wet-dry Tropics of Australia*. 182-189.. Barton ACT, Supervising Scientist.
78. Lonsdale, W. M. 1992 The impact of weeds in national parks. In Combellack, J. H., Levick, K. J., Parsons, J., and Richardson, R. G. *Proceedings of the International Weed Control Congress, Vol. 1*. 145-149.. Melbourne, Weed Science Society of Victoria.
79. Lonsdale, W. M. 1990. Weeds and conservation in the Australian tropics. Keong, Y. S. and Win, L. S. Proceedings of the International Conference on Tropical Biodiversity: "In Harmony with Nature". 187-192. Kuala Lumpur, Malayan Nature Society.
80. Wilson, C. G. and Lonsdale, W. M. 1987. Recent advances in weed biocontrol in northern Australia. Proceedings of the Eighth Australian Weeds Conference. 89-92. Sydney, Council of Australian Weed Science Societies.
81. Lonsdale, W. M. and Segura, R. (1987) A demographic comparison of native and introduced populations of *Mimosa pigra*. Lemerle, D. and Leys, A. R. Proceedings of the Eighth Australian Weeds Conference.. Sydney, Council of Australian Weed Science Societies.
82. Lonsdale, W. M., Harley, K. L. S., and Miller, I. L. 1985. The biology of *Mimosa pigra* L. Proceedings of the Tenth Asian-Pacific Weed Science Society Conference. 484-490. Bangkok, Asian-Pacific Weed Science Society, Dept of Agriculture.

#### **Non-refereed scientific publications**

83. Lonsdale, W. M. 1999. Weeding out the enemy. *Ecos* 100, 32-33. Canberra, CSIRO.
84. Braithwaite, R. W. and Lonsdale, W. M. 1994. *Just add water - the ecology of Australia's northern wetlands*. Issues 27, 31-40.
85. Lonsdale, W. M. and Braithwaite, R. W. 1988. The shrub that conquered the bush. *New Scientist* **120 (1634)**, 52-55.

#### **Key reports**

86. Groves, R. H., Boden, R., and Lonsdale, W. M. Jumping the Garden Fence: Invasive Garden Plants in Australia and their environmental and agricultural impacts. 2005. WWF Australia, Sydney.
87. CRC for Australian Weed Management (Lonsdale et al.). Defeating the Weed Menace R&D Strategy. 2005. Canberra, CRC for Australian Weed Management.

88. Lonsdale, W.M., Floyd, R., Vickers, R., De Barro, P., Chakraborty, S., Groves, R.H. and Clarke G. (2001). Implications of incursion ecology for managing Incursions in the Plant Industries. Plant Health Australia, Canberra, Australia
89. Panetta, D., Pheloung, P., Lonsdale, W. M., Jacobs, S., Mulvaney, M., and Wright, W. 1994. Screening plants for weediness: A procedure for assessing species proposed for importation to Australia. A report commissioned by the Australian Weeds Committee.

## Curriculum Vitae

### Dr. Jake Rice

Department of Fisheries and Oceans; 200 Kent Street, Stn 12S015  
Ottawa, Ontario; Canada K1A 0E6

Phone - 613-990-0288 e-mail – jake.rice@dfo-mpo.gc.ca

### Personal History:

Born - 26 June 1948; Homer, New York U.S.A.  
Canadian Citizen, Landed Immigrant – 1970; Naturalized Citizen - 1986

### Education:

B.Sc.: Cornell University 1970  
Ithaca, New York, U.S.A.  
Major: Conservation

Ph.D.: University of Toronto 1974  
Toronto, Ontario, Canada  
Major: Zoology

### Employment:

04/12 – present: Chief Scientist. Department of Fisheries and Oceans.  
Chief advisor to Assistant Deputy Minister, Science, on all issues of science applied to departmental policy making, international science-policy issues, and strategic science planning in the Ministry.

09/07 – 04/12 - Senior National Advisor, Ecosystem Science; Department of Fisheries and Oceans  
Expert advisor to senior Ministry officials on all aspects of ecosystem science, ecosystem approaches to management, and related issues. Special priority to serve as science advisor and credentialed member of Canadian Delegations to international marine policy meetings at United Nations (ICP, BBNJ etc), Convention on Biological Diversity (COP, SBSTTA etc), FAO, etc. Chair many Canadian and international peer review and advisory meetings on marine ecosystem and biodiversity issues. Conduct original research on marine ecosystem structure and function, impacts of human activities on ecosystems, and ecosystem approaches to integrated management of human activities in the sea.

02/96 - 09/07 - Director – Scientific Advice and Peer Review  
Direct and coordinate peer review and provision of scientific advice on all fisheries and marine science issues within the Department of Fisheries and Oceans. Chair meetings and workshops and national working groups. Serve as Headquarters liaison for many Regional science review and advisory groups, and as main point of contact for transfer of science advice to policy and management sectors, and media. Represent Canada at many international fisheries and marine science bodies. Conduct original research on ecosystem dynamics, ecosystem management, the effects of fishing on marine ecosystems, and integrating traditional and modern scientific knowledge in the development of advice on resource management.

### Earlier Positions:

8/97 - 02/98 - Guest Professor - University of Copenhagen (Royal Danish Academy of Sciences)  
09/90 - 09/96 - Head - Marine Fish Division, Pacific Region. Department of Fisheries and Oceans  
02/88 - 09/90 - Head - Groundfish Division. Newfoundland Region - Department of Fisheries & Oceans  
06/82 - 02/88 – Head, Fisheries Ecology Section, Newfoundland Region - Department of Fisheries & Oceans.  
05/87 - 06/82. Associate Professor - Center for Environmental Studies Arizona State University, Tempe, Arizona, U.S.A. Position held jointly with my professorship at Memorial University.  
76-06/82 Assistant and Associate Professor - Department of Biology. Memorial University of Newfoundland, St. John's, Newfoundland, Canada.

## **Honours**

American Fisheries Science – Award of Excellence for Fisheries Management 2014  
Queen's Diamond Jubilee Medal of Recognition - 2012  
ICES Outstanding Achievement Award – 2009  
Deputy Minister Prix d 'Excellence – 9 awards over career, including 2013 and 2014.

## **Illustrative recent assignments and professional recognitions:**

UN Regular Process for Global Marine Assessments including Social and Economic Aspects – Group of Experts and coordinator for the 24 Chapters on biodiversity 2009-2014  
IPCC 5<sup>th</sup> Assessment Report – Working Group III – Mitigation; Lead Author for Chapter 5 – Drivers, Trends and Mitigation 2011-2014  
UN Assessment of Assessments; Group of Experts 2007-2009.

UN Ad Hoc Working Group for Biodiversity Beyond National Jurisdiction – Member of Canadian Delegation 2008 – present

UN Ad Hoc Working Group of the Whole for the Regular Process for Global Marine Assessments– Member of Canadian Delegation 2009 - present

UN Informal Consultative Process for Marine Issues - Member of Canadian Delegation 2005 - 2009, 2011.

CBD Conference of Parties – Member of Canadian Delegation 2006, 2008, 2010, 2012, 2014

CBD SBSTTA – Member of Canadian Delegation 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014

IUCN Congress – Member of Canadian Delegation 1996, 2004, 2008, 2012

FAO COFI – Member of Canadian Delegation 2007, 2010.

Global Ocean Forum – Member of Canadian Delegation 2009, 2011, 2013

NOAA Science Advisory Board – Member 1998 – 2006

NOAA Science Advisory Board Working Group on Ecosystem Science and Management 2007 – present.

## **FAO Technical or Expert Consultations and Workshops on:**

Guidelines for Bycatch Management and Discard Reduction 2010

Review of Implementation of the Deep Sea Fisheries Guidelines – 2010

Destructive Fishing Practices – 2009

Review of Bycatch Management and Reduction of Discards – 2009

Climate Change, Biodiversity, and Food Security 2008

Develop Guidelines for Deep Sea Fisheries 2008

Consultations on Management and Sustainability of Deep-Sea Fisheries 2006, 2007

Evaluation of the Suitability of the CITES Criteria for Listing Species Exploited by Fisheries 2000

## **CBD Expert Workshops or Consultations**

Workshop on Application of EBSA Criteria for the North Pacific 2013 – Co-Chair

Workshop on Application of EBSA Criteria for the Arctic 2014 – Co-Chair

Workshop on Application of EBSA Criteria for the Northwest Atlantic 2013 – Chair

Workshop for Consideration of Biodiversity in Stock Assessments & Management of Fisheries on Forage Species – 2011

Workshop to Review Progress on Use of Criteria for Identifying Biologically and Ecologically Significant Areas in the High Seas – 2009 – Chair

Workshop on Environmental Impact Assessment and Integrated Assessments – 2009

Workshop on Criteria for Identifying Ecologically or Biologically Significant Areas Beyond National Jurisdiction 2005 – Chair

GOODS [Global Open-Ocean and Deep-Sea Habitats] Bioregionalisation Initiative

Marine Stewardship Council Expert Review of Certification Criteria – Invited Expert for Principles 2 (ecosystems) and 3 (Governance) 2007-8, and all three Principles in 2013.

ICES – JRC Task Group to provide scientific basis for implementation of Descriptor 6 – Seafloor Integrity – Chair 2010, and ICES – JRC Expert Group to review Implementation Guidance for Descriptor 6 - Chair

Training Course on Biodiversity Considerations in Fisheries Management – 2011 and 2013 - Instructor

PICES FUTURE 10 Year Science Plan – Implementation Strategy Drafting Team – Canadian member 2008-2010; Chair of Review Panel for mid-session review 2014.

ICES – EFARO – European Marine Board – Expert Group on the Science Dimensions of Ecosystem Approach to Management of Biotic Ocean Resources in support of the EU Marine Policy 2008-09 – Chair

Government of Canada Insight Team for emerging policy issues for the Ministerial Committee on Climate Change, Energy, and the Environment 2014

Government of Canada Interdepartmental Working Group on Science Integrity – 2013 - present

2<sup>nd</sup> International Ocean Science Conference – Barcelona, Spain 2014 – Panel Convenor

ICES-PICES Symposium on Climate Change and Marine Fish Populations - 2010 – Steering Committee,

International Congress on Marine Biodiversity – Valencia, Spain 2008 – Steering Committee

ICES Symposium on Fisheries Management Strategies – 2006 – Co-convenor & Chair of Scientific Program

Expert Workshop on Ecosystem Approaches to Management – From Theory to Practice – U Washington 2009.

Keynote Speaker

#### Key Illustrative Scientific Publications and Books

Garcia, S.M., Rice, J.C. and Charles, A.T. (eds), 2014. Governance for Marine Fisheries and Biodiversity Conservation: Interaction and coevolution. Wiley InterScience

Also co-author on 9 of the chapters in the book, including Science Foundations for Ocean Governance

Blanco G., R. Gerlagh, S. Suh, J. Barrett, H. de Coninck, C.F. Diaz Morejon, R. Mathur, N. Nakicenovic, A. Ofosu Ahenkora, J. Pan, H. Pathak, J. Rice, R. Richels, S.J. Smith, D. Stern, F.L. Toth, and P. Zhou, 2014:

Drivers, Trends and Mitigation. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Rice, J. 2014. Evolution of international commitments for fisheries sustainability. ICES Journal of Marine Science 71: 157-165.

Rice, J.C., Kidd, S. and Smith, A.D.M. 2013, Marine Spatial Planning. Pp 189-215. in Fogarty, M.J. and McCarthy, J.J. (eds). The Sea, Vol. 16: Marine Ecosystem-Based Management. Harvard University Press.

Rice, J.C. and 17 co-authors. 2012. The role of MPAs in reconciling fisheries management with conservation of biological diversity. Ocean and Coastal Management 69:217-230.

Garcia, S.M. and 16 co-authors, including J.C. Rice 2012. Balanced Harvesting: reconsidering the effects of selective harvesting. Science 335: 1045-1047.

Rice, J.C. 2011, Advocacy Science and Fisheries Decision-Making. ICES Journal of Marine Science 68: 2007-2012.

Rice, J.C. 2011. Achieving coherent policies for conservation and sustainable use of marine ecosystems. (invited editorial). Conservation Biology 25: 1065-1068.

Rice, J.C. and S.M. Garcia. 2011. Fisheries, Food Security, Biodiversity and Climate Change. ICES Journal of Marine Science. 68:1343-1353

Rice, J.C. 2011. Managing fisheries well: Delivering the promise of an Ecosystem Approach. Fish and Fisheries. 12: 209-231

Anderson, K.A. and J.C. Rice. 2010. Direct and indirect community effects of rebuilding plans. ICES Journal of Marine Science. 67:1980-1988.

Rice, J.C., K. Gjerd, J.A. Ardron, S.G. Arico, I. Cresswell, E.M. Escobar, S. Grant, and M.A. Vierros. 2011. Policy relevance of biogeographic classification for conservation and management of marine biodiversity beyond national jurisdiction, and the GOODS biogeographic classification. Ocean and Coastal Management. 54: 110-122.

Rice, J.C. and L. Ridgeway. 2009. Biodiversity and Fisheries Management. Pp. 139-149 In Q. Grafton (ed) Handbook of Fisheries. Oxford University Press.

Ridgeway, L. and J.C. Rice. 2009. International Organisations and Fisheries Governance. Pp. 485-504 In Q. Grafton (ed) Handbook of Fisheries. Oxford University.

# Sara Justine Wilson, Hon. B.A., MSc.F.

180 Willow Avenue, Toronto, ON M4E 3K5 Canada

Phone: 416.992.3282; Email: [sarajwilson@bell.net](mailto:sarajwilson@bell.net)

## Summary of Qualifications

---

Sara Wilson is an independent principal consultant who has directed and managed her consultancy (Natural Capital Research & Consulting) for over 12 years. She is specialized in leading-edge research using creative approaches to integrate economics and environmental issues. In particular, she has substantial experience in natural capital accounting and ecosystem service valuations including quantifying and valuing watershed services such as water filtration provided by forests, and carbon storage provided by forests, wetlands, pasture, grassland, tidal marshes and coastal seagrasses. Sara has also developed genuine progress indicators and trends for sustainability reporting for Alberta and Nova Scotia.

Sara is an experienced report writer on topics including social and market values for carbon, climate change mitigation and adaptation strategies and policies, economic incentives for conservation, payment for ecosystem services, health costs of air and water pollution, marginal costs of land use change and the socio-economic importance of environmental policy initiatives. She has crafted federal environmental policy options for federal budget submissions, and has undertaken reviews for federal environmental departments. At the international level, Sara was selected to participate in bi-national environmental meetings with China as a non-governmental expert, and her work has been a featured case study for The Economics of Ecosystems and Biodiversity (TEEB) initiative. Most recently she was nominated (by the Canadian national focal point) and selected as the Canadian expert for the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) regional and sub-regional assessment work programme. Sara is also experienced in project design, project management, sourcing and designing spatial data analysis and mapping, and building teams for projects.

## Work Experience

---

### 2002 – present

#### Principal – Natural Capital Research & Consulting

- Manages innovative consultancy with a focus on economics and the environment.
- Expertise in natural capital, ecosystem services valuation and carbon accounting.
- Expertise in forest carbon models and watershed models using spatial data.
- Experience in designing and reporting on environmental accounts and indicators.
- Expertise in spatial data sourcing and design of spatial data analysis for land cover/land use and ecosystem services mapping.

## Projects Completed

### Ontario Studies

*The Values of Urban Ravine Valley Systems for Healthy Cities: A Scoping Paper* (Author, July 2014)

- Scoping document to assess data requirements and data availability for a socio-economic assessment of the ecosystem services provided by urban ravine systems in the Greater Toronto Area
- An assessment of the data requirements and data availability for modelling of ecosystem services using the Natural Capital Project's InVest modules and iTree software.

*Canada's Wealth of Natural Capital: Rouge National Park*. David Suzuki Foundation. (Author, September 2012).

- Provided a natural capital account for the land cover and land use types in Rouge Park.
- Quantified and assessed the values of the ecosystem services provided by the lands protected by the Rouge Park.
- Included review of economic incentive programs to restore and enhance the supply of ecosystem services on agricultural lands and woodlots in Canada.

*Ontario's Wealth, Canada's Future: Appreciating the Value of the Greenbelt's Eco-Services*. The Greenbelt Foundation and David Suzuki Foundation (Author, September 2008).

- Provided a natural capital account for the land cover and land use types across the southern Ontario Greenbelt.
- Quantified and assessed the values of the ecosystem services provided by the watersheds, farmlands and recreational areas protected by the Greenbelt surrounding the Greater Toronto and Hamilton Area (one of North America's fastest growing urban areas).
- Report was highlighted as a case study by the TEEB initiative.

*Lake Simcoe Basin's Natural Capital: The Value of the Watershed's Ecosystem Services*. Lake Simcoe Region Conservation Authority. (Author, June 2008)

- Assessed the value of the ecosystem services values provided by the Lake Simcoe Basin in the southern Ontario region.

## **Western Canada Studies**

*Natural Capital in the B.C. Peace River Watershed: Values for the Ecosystem Services Provided by Nature*. (Lead Author, July 2014).

- Quantified and valued the suite of ecosystem services provided by the natural capital assets of the B.C. Peace River Watershed, situated in northeastern British Columbia.
- Developed a regional forest carbon model based on forest age class using vegetative resource inventory spatial data, which enabled a more precise landscape account of carbon storage and annual sequestration rates at different forest ecosystem stages.
- Developed watershed model for impact of forest cover change across watershed on the local price of drinking water for downstream communities based on the correlation between forest cover and water treatment costs.
- Developed marginal values for forest clearing and wetland draining in terms of the social costs of carbon losses and the forgone options for forest carbon offsets.

*Mission Creek Ecological Goods and Services Assessment for Proposed Mission Creek Restoration Initiative* (Kelowna, B.C.) Prepared for Mission Creek Restoration Working Group (Co-author, March 2013).

- Assessed the potential ecosystem services provided by a proposed restoration initiative in Kelowna, B.C.
- Compiled geo-referenced data for ecosystem goods and services, and designed valuation approaches and models.
- Wrote report including background information, methodologies, ecosystem service valuations, and implications for restoration of Mission Creek.

*Return on Investment for the Economic and Social Value of Land Conservation Investment by Ducks Unlimited Canada* (Co-author, June 2014 release).

- Analyzed non-market ecosystem service values derived from investments in conservation lands by Ducks Unlimited Canada as part of a study by Anielski Management Inc.
- Ecosystem service values were used to report a return on investment for investments in land conservation by Ducks Unlimited Canada.

*Upper Bow River Basin Cumulative Effects Study –Scenario Modelling*. Prepared for ALCES Consulting Group. Alberta. (April 2012).

- Developed primary and transfer values for modelling changes in ecosystem services under future land use option scenarios for Upper Bow River Basin, which includes the watershed flowing down from Lake Louise to the city of Calgary.

*Natural Capital in BC's Lower Mainland: Valuing the Benefits from Nature*. The Pacific Parklands Foundation and David Suzuki Foundation (Author, November 2010). <http://www.pacificparklands.com/Projects/naturalcapital.html>

- Identified land cover data sources and developed primary and transfer values for the valuations of ecosystem services provided by the major watersheds in British Columbia's Lower Mainland region.

*Mitigation and Adaptation to Climate Change through the Conservation of Nature*. The BC Land Trust Alliance (Lead Author, 2008).

- Researched and co-authored a report on the role that ecosystems play as carbon stores in terms of mitigation and adaptation for climate change.
- Quantified the carbon stored by B.C.'s ecosystems, and developed estimates for the value of carbon.

## **Northern Canada Studies**

*Ecological Goods and Services Assessment for KaageeTu Candidate Protected Area, NWT; and, Ecological Goods and Services Assessment for Kwets'ootl'aa Candidate Protected Area*. Prepared for Environment Canada. (Lead Co-author, 2012).

- Identified data sources for land cover/ecosystem types, and reviewed socio-economic literature to develop economic valuations for the ecosystem services provided by northern sub-arctic candidate wilderness areas in the Northwest Territories.
- Included subsistence values for subsistence hunting and gathering by local aboriginal communities.

*The Real Wealth of the Mackenzie Region: Assessing the Natural Capital Value of a Northern Ecosystem* (Lead Co-author, 2007, 2009 update)

*Counting Canada's Natural Capital: An Assessment of the Boreal's Ecosystem Values* (co-author, 2005).

- Developed non-market values for ecosystem services provided by Canada's northern ecosystems. This project included the development of a natural capital accounting framework, the creation of regional datasets, and an assessment of the economic values for the region's natural capital including the costs of environmental degradation due to impacts on human health.

## **Coastal Studies**

*Nature's Value in Clallam County: The Economic Benefits of Feeder Bluff and other Ecosystems.* (Nearshore Coastal Ecosystem Services Assessment for Feeder Bluff Ecosystems in Clallam County, Washington). Earth Economics. (Lead Author on Primary Values, August 2013).

- Developed primary ecosystem service valuations for near-shore/coastal marine ecosystems.
- Designed ecosystem assessment study areas, identified data sources, and coordinated geo-referenced data analysis.
- Coordinated data and project requirements among study partners including Earth Economics, municipal partners, and local academic researchers.

*Ecosystem Goods & Services Valuation for the Gulf of Maine Watershed in Canada.* Commissioned by Environment Canada. (Lead Author, March 2013).

- Primary investigator for a geospatially-based study that assessed the ecosystem services provided by the Gulf of Maine watershed in eastern Canada.
- Undertook literature review to update marine ecosystem services annotated literature database for Environment Canada and Gulf of Maine strategic partners using academic search portals and on-line search engines.
- Compiled geo-referenced data for ecosystem goods and services, and designed valuation approaches and models.
- Wrote report including background information, methodologies, land cover/ecosystem inventories, ecosystem service valuations, results, policy implications, and conclusions.

## **International & National Policy/Reports**

*Chapter 4: Ecosystem Services in Cities and Public Management.* In: *The Economics of Ecosystems and Biodiversity in Local and Regional Policy and Management.* Eds. Heidi Wittmer, Haripriya Gundimeda. United Nations Environmental Program. Earthscan. (Reviewer, 2012)

*Chapter 6: Spatial Planning and Environmental Assessments..* In: *The Economics of Ecosystems and Biodiversity in Local and Regional Policy and Management.* Eds. Heidi Wittmer, Haripriya Gundimeda. United Nations Environmental Program. Earthscan. (Reviewer, 2012)

*Ecosystem Services Research in Canada: Canada-China Joint Committee on Environmental Cooperation (JCEC) – Ecosystem Services and Biodiversity Workshop.* Sanya, China. (Advisor, November 2011).

- Prepared and presented on the status of ecosystem services research and policy implications at a federal Canada-China Joint Committee on Environmental Cooperation JCEC meeting in Sanya, China,
- Prepared follow-up report on JCEC meeting for Environment Canada.

*The Benefits of Canada's Protected Areas: A Scoping Study on Valuing Ecosystem Services Valuation.* Commissioned by Parks Canada (Lead Co-Author. May 2010).

- Created a framework for undertaking ecosystem service valuations in Canada's national parks.
- Undertook a pilot study for ecosystem service valuation for Fundy National Park in New Brunswick.

*Status of Current Measurement and Valuation of Ecosystem Goods and Services in Canada.* (Author, March 2009).

- Reviewed ecosystem goods and services measurement and valuation research undertaken in Canada, for Environment Canada.

*Ecological Goods and Services and Agriculture: Summary of EG&S policy analyses* (Co-author, 2007).

- Prepared internal report for senior government officials at Agriculture and Agri-Food Canada on the economic and social drivers, and policy tools for including ecological goods and services in agricultural land management.

*National Roundtable on the Environment and the Economy: Greening the Budget 2004 submission.* (Lead/Co-author, 2004)

- Developed and compiled federal policy recommendations regarding aboriginal communities, northern development, energy, and eco-efficiency for the 2004 National Roundtable on the Environment and the Economy federal budget submission.

## 2001-2002

### Program Manager - Green Budget Coalition (Nature Canada), Ottawa, Canada

- Developed policy briefs and socio-economic evidence to support proposals for federal investment in the environment (energy/climate change, pollution prevention, and conservation), and ecological fiscal reform for the federal finance committee and finance department.
- Coordinated and facilitated meetings with federal Ministers, Members of Parliament, and policy-makers.
- Successfully managed the annual campaign (doubled the operating budget) for the coalition including lobbying, fundraising, communications strategy, media monitoring, and networking/outreach to academics, industry associations and health associations.
- Directed communications for the coalition, including writing of speeches, op-eds and press releases/conferences.

### Highlighted Achievements

*Green Budget Coalition Recommendations for Budget 2001.* Co-author and coordinator of submission to Finance Committee.

*The Green Budget Coalition: Ecological Fiscal Reform for Canada's Environment.* Presentation at the International Society for Ecosystem Health 2002 Conference. Washington, D.C.

*The Socio-Economic Benefits of Greenhouse Gas Emission Reductions.* Internal brief for the federal government, commissioned by the Green Budget Coalition (2002).

## 2000-2001

### Senior Researcher - Green Economics Program - Pembina Institute, Canada

- Designed and researched indicators to generate environmental and economic trends for the *Alberta Sustainability Index* (Alberta Genuine Progress Index).
- Analyzed and managed socio-economic data for indicators and trends.
- Identified and assessed the damage costs, restoration costs, social impacts, and replacement costs resulting from resource depletions and environmental losses for full cost accounting.
- Wrote reports on changes in environmental progress for each account.
- Reported on the government subsidies provided to the mining industry in Canada.

### Highlighted Achievements

Co-Author. 2001. *The Alberta Environmental GPI Accounts: Greenhouse Gas Emissions and Energy Use/Air Quality/ Wetlands and Peatlands/ Water Quality/ Agricultural Lands/ Forests.* Pembina Institute. Alberta.

## 1998-2000

### Senior Researcher/Project Manager, Water Quality & Forests - GPI Atlantic, Halifax, Canada

- Designed environmental indicators to develop provincial accounts for Nova Scotia's Genuine Progress Index.
- Analyzed ecological, social, and economic data for changes in water quality and forest trends.
- Wrote reports on the value of water quality and sustainable forests.
- Undertook cost-benefit analysis for environmental projects.

### Highlighted Achievements

*The GPI Water Quality Accounts: Nova Scotia's Water Resource Values and the Damage Costs of Declining Water Resources and Water Quality.* (2000). GPI Atlantic. <http://www.gpiatlantic.org/clippings/waterclips.htm>

*The GPI Forest Accounts: The Ecological, Economic and Social Values of Nova Scotia's Forests.* (1999). GPI Atlantic.

*The Costs and Benefits of Sewage Treatment and Source Control for the Halifax Harbour.* (2000). GPI Atlantic.

## Education

### Certificate in GHG Inventory, Accounting, and Reporting – University of Toronto (2014)

- Intensive training in greenhouse gas accounting and reporting protocol and the ISO 14064.

#### **Environmental Leadership & Climate Change - LEAD Canada/LEAD International (2008)**

- Fellowship Training in Environmental Leadership & Sustainability, <http://www.lead.org/>

#### **Economic and Policy Solutions for Ecosystem Conservation - Smithsonian Institution, Washington D.C. (1999)**

- Intensive Training included 150 hours in Applied Microeconomics and Environmental Economics.
- Environmental Leadership Program included training in management, and negotiation skills.

#### **Master of Science in Forestry. MSc.F. - University of Toronto (1998)**

- Wrote Master's thesis on forest regeneration following natural fire and clearcut harvest.
- Included courses on Forest Ecology, Multivariate Statistics, and Socio-economic studies.

#### **Honours B.A. in Environmental Geography & International Development Studies - University of Toronto (1994)**

- Included courses in environmental studies, urban planning, political studies, economics, and international development.

### **Other Work Experience**

---

**Instructor, Ecology**, Saint Mary's University, Halifax, Nova Scotia (1998-1999)

**Research Assistant**, Kejimikujik/ Red Spruce Forest Study, Nova Scotia (1998-2000)

**Forest Researcher**, Centre for Northern Forest Ecosystem Research, Thunder Bay, Ontario (1996)

**Forest Management and Ecology Researcher**, Wildlands League, Toronto, Ontario (1995)

**Forest Program Manager**, Canadian Parks and Wilderness Society, Toronto, Ontario (1992,1993)

### **Volunteer Experience**

---

**Member, Eco-Committee (Parent Council)**, Balmy Beach School, Toronto (2012, 2014)

**Member, Forest Caucus, Ecology Action Centre**, Halifax, Nova Scotia (1998-2000)

**Board Director, Ecology Action Centre**, Halifax, Nova Scotia (2000)

**Committee Member, Forest Stewardship Council (FSC)** - Maritime Regional Standards, Eastern Canada (1999-2000)

**Board Director, Ontario Public Interest Research Group (OPIRG)**, University of Toronto (1994-1996)

**Member, Environmental Working Group, Ontario Public Interest Research Group**, University of Toronto (1992-1995)

**Executive Committee Member, Global Development Network**, University of Toronto (1992-1994)

**Staff Writer, Varsity Newspaper**, University of Toronto (1993-1994)

### **Presentations/Conferences/Awards**

---

**Selected as North American Expert, IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services)**

**Regional and Sub-regional Assessment Work Programme (Deliverable 2b)**. (July 2014)

**Delegate, Ecosystem Services Partnership Conference 2012**. Portland, Oregon. (August, 2012).

- Participated in one-week workshop on ecosystem services valuation methodologies.

**Presentor, Ecosystem Services Research in Canada: Canada-China Joint Committee on Environmental Cooperation (JCEC) – Ecosystem Services and Biodiversity Workshop**. Sanya, China. (2011).

**Speaker, The Eco-Service Values Provided by Ontario's Greenbelt**. (2009).

- Presented report findings for provincial government ministry staff and municipal conservation authorities.

**Plenary Speaker, Stewardship and Conservation through Changing Climates**, Land Trust Alliance of British Columbia, Manning Park, BC (2008)

- Presented report findings on the role of ecosystems as carbon stores at provincial conference.

**Invited Delegate, Carbon Pricing for a Sustainable Economy**. Pembina Institute, Calgary, AB (2007).

**Invited Speaker, Ecosystem Valuations Workshop**. Parks Canada. Gatineau, QC (2007).

**Invited Speaker, National Biodiversity Strategy Workshop**. Environment Canada. Gatineau, QC (2006).

**Speaker, Canadian Society of Ecological Economists (CANSEE) 2001 Conference**. McGill University. Montreal, QC.

**The Green Budget Coalition: A Strategic Reinvestment for Canada's Environment**.

**Poster Presentation. EcoSummit 2000**. Halifax, Nova Scotia.

- Presented poster on *The Nova Scotia GPI Environmental Accounts* at international conference.

**Graduate Award in Silviculture**, University of Toronto (1997)

**Research Assistantship**, Centre for Northern Forest Ecosystem Research (1996-1998)

**Tel Aviv University Scholarship**, Canadian Friends of Tel Aviv University (1989)

**Bronze Sail**, Canadian Yachting Association

## Curriculum Vitae - Paul LEADLEY

Professor, University Paris-Sud  
Director: Ecology, Systematics and Evolution Laboratory (ESE)  
UMR 8079 University Paris-Sud / CNRS / AgroParisTech  
Tel: +33 (0)1 69 15 72 22  
E-mail: paul.leadley@u-psud.fr  
Website: www.ese.u-psud.fr

### **Employment and Education**

|            |                                                                      |
|------------|----------------------------------------------------------------------|
| 1997-pres. | Professor, Université Paris-Sud 11, Orsay, France                    |
| 1993-1997  | Post-doctoral researcher, University of Basel, Switzerland           |
| 1990-1993  | PhD thesis in Ecology, San Diego State University and UC Davis, USA  |
| 1986-1989  | Research technician, San Diego State University, USA                 |
| 1986-1989  | Research technician, Smithsonian Env. Research Center, Maryland, USA |
| 1985-1986  | Research technician, New Mexico State University, New Mexico, USA    |
| 1982-1985  | M.S. in Botany, North Carolina State University, USA                 |
| 1981-1982  | Crops manager, WC Guthrie & sons farms, Pavilion, NY, USA            |
| 1977-1981  | B.S. in Science, Pennsylvania State University, USA                  |

### **Research Interests**

#### ***Research activities***

My current research focuses on the impacts of global change, especially climate change and rising CO<sub>2</sub> on ecosystem functioning and plant diversity in terrestrial ecosystems. In past I have also worked extensively on the interactions between biodiversity and ecosystem functioning and modeling nutrient competition between plants as well as rhizosphere interactions between plants and soil micro-organisms. My research is based primarily on field experiments and mathematical models.

I have worked with a variety of models ranging from very fine scale models of nutrient fluxes in soils to large regional scale models of climate change impacts on arctic tundra and forests. I currently lead or participate in several research projects using multi-model comparisons and model-data comparisons to quantify uncertainty in projections of global change impacts on terrestrial ecosystems. In one of these projects we are using models to explore the impacts of climate change on forests, and are collaborating with foresters to develop adaptive management strategies.

Research on grasslands dominated my experimental research over the last 20 years, al. Most recently our team has been investigating the combined effects of fire and elevated levels of temperature, CO<sub>2</sub>, N deposition and precipitation on nitrogen cycling in California grasslands in collaboration with l'INRA Lyon, Northern Arizona University and Stanford University. We have also been collaborating with INRA in Clermont-Ferrand on experimental studies of interacting global change impacts on temperate grasslands.

#### ***Research co-ordination and assessment activities***

At the international level, I have been heavily involved in international science programs for over 20 years including in the GCTE (Global Change and Terrestrial Ecosystems) program, the Global Land Project and DIVERSITAS (the international biodiversity science program). I am currently the chair of the bioDISCOVERY core project of Future Earth (the new international global change science program of ISCU) that focuses on improving the science of biodiversity assessments, monitoring and scenarios. I have recently become involved in science-policy communication through activities in international assessment processes. I led the biodiversity scenarios review for the Convention on Biological

Diversity's Global Biodiversity Outlook 3 which came out in May 2010, coordinated the Global Biodiversity Outlook 4 which will come out in October 2014, participated in key meetings supporting the Intergovernmental Science-Policy Panel on Biodiversity and Ecosystem Services (IPBES) processes and was a lead author as part of the IPCC's 5th Assessment report. I am currently a member of the IPBES MEP.

At the national level, until last year I was a member of the scientific steering committees of the Foundation for Biodiversity Research (FRB, the inter-institutional body for biodiversity research in France), the national environmental alliance (AllEnvi) and a regional program for interdisciplinary research on climate change (GIS "Climat, Environnement, Société). I currently chair the FRB's flagship program on biodiversity scenarios and modeling.

## **Publications**

Journal articles + other significant publications such as books (*in italics*).

59 publications indexed on ISI "Web of Knowledge", >3300 citations, citations/paper = 56, h=27.

- Leadley P, Proença V, Fernández-Manjarrés J, Pereira HM, Alkemade R, et al. 2014. Interacting regional-scale regime shifts for biodiversity and ecosystem services. *BioScience*. In press.
- Benito-Garzón M, Leadley P, Fernández-Manjarrés JF. 2014. Assessing global biome exposure to climate change through the Holocene–Anthropocene transition. *Global Ecology and Biogeography* 23: 235-244.
- Smith B, Wårlind D, Arneth A, Hickler T, Leadley P, Siltberg J, Zaehle S. 2013. Implications of incorporating N cycling and N limitations on primary production in an individual-based dynamic vegetation model. *Biogeosciences Discussions*. 10:18613-18685
- Imbach PA, Locatelli B, Molina LG, Ciais P, Leadley P. 2013. Climate change and plant dispersal along corridors in fragmented landscapes of Mesoamerica *Ecology and evolution* 3:2917-2932
- Cheai A, Badeau V, Boe J, Chuine I, Delire C, Dufrêne E, Francois C, Gritti E, Legay M, Pagé C, Thuiller W, Viovy N, Leadley P. 2012. Climate change impacts on tree ranges: model inter-comparison facilitates understanding and quantification of uncertainty. *Ecology Letters*. 15:533-544.
- Bellard C, Bertelsmeier C, Leadley P, Thuiller W, Courchamp F. 2012. Impacts of climate change on the future of biodiversity. *Ecology Letters*. 15:365-377.
- Blouin M, Mathieub J, Leadley PW. 2012. Plant homeostasis, growth and development in natural and artificial soils. *Ecological Complexity*. 9:10-15.
- Niboyet A, Brown JR, Dijkstra P, Blankinship JC, Leadley PW, Le Roux X, Barthes L, Barnard RL, Field CB, Hungate BA. 2011. Global change could amplify fire effects on soil greenhouse gas emissions. *PLoS One*. 6: article e20105
- Niboyet A, Le Roux X, Dijkstra P, Hungate BA, Barthes L, Blankinship JC, Brown JR, Field CB, Leadley PW. 2011. Testing interactive effects of global environmental changes on soil nitrogen cycling. *Ecosphere*. 2: article 56
- Kattge J, Díaz S, Lavorel S, Prentice IC, Leadley P, Bönsch G, Garnier E, Westoby M, Reich PB, Wright IJ, ... Wirth C (73 authors). 2011. TRY – a global database of plant traits. *Global Change Biology*. 17:2905-2935
- Pereira H, Leadley PW et al. 2010. Scenarios for global biodiversity in the 21<sup>st</sup> century. *Science*. 330:1496-1501 (Science Express, 26 October 2010, co-first author)
- Leadley PW et al. 2010. *Biodiversity Scenarios: Projections of 21<sup>st</sup> century change in biodiversity and associated ecosystem services. TS-50. Sec. of the Convention on Biological Diversity, Montreal.* [www.cbd.int/doc/publications/cbd-ts-50-en.pdf](http://www.cbd.int/doc/publications/cbd-ts-50-en.pdf)
- Bloor JMG, Pichon P, Falcimagne R, Leadley P, Soussana J-F. 2010. Effects of warming, summer drought, and CO<sub>2</sub> enrichment on aboveground biomass production, flowering phenology, and community structure in an upland grassland ecosystem. *Ecosystems*. 13:888-900.
- Niboyet A, Barthes L, Hungate BA, Le Roux X, Bloor JMG, Ambroise A, Fontaine S, Price P, Leadley PW. 2010. Responses of soil nitrogen cycling to the interactive effects of elevated CO<sub>2</sub> and inorganic N supply. *Plant & Soil*. 327:35-47.
- Bloor JMG, Niboyet A, Leadley, PW, Barthes L. 2009. CO<sub>2</sub> and inorganic N supply modify competition for N between co-occurring grass plants, tree seedlings and soil microorganisms. *Soil Biol. & Biochem*. 41: 544-552.
- Bekunda M, Palm PA, de Fraiture C, Leadley P, Maene L, Martinelli LA, McNeely J, Otto J, Ravindranath, NH, Reynaldo L, Victoria RL, Watson H, Woods J. 2009 *Biofuels in Developing Countries. In: Howarth and S.*

- Bringezu (eds.), *Biofuels: Environmental Consequences and Interactions with Changing Land Use. Proceedings of the Scientific Committee on Problems of the Environment (SCOPE) International Biofuels Project Rapid Assessment*
- Ojima D, Field C, Leadley P, Sala O, Messeme D, Petersen J, Borng J, Vanwey L, Mba Wright M. 2009. Mitigation Strategies: Biofuel Development Considerations to Minimize Impacts on the Socio-Environmental System. In: Howarth and S. Bringezu (eds.), *Biofuels: Environmental Consequences and Interactions with Changing Land Use. Proceedings of the Scientific Committee on Problems of the Environment (SCOPE) International Biofuels Project Rapid Assessment*.
- Bloor, JMG, Barthes L, Leadley PW. 2008. Effects of elevated CO<sub>2</sub> and N on tree-grass interactions: an experimental test using *Fraxinus excelsior* and *Dactylis glomerata*. *Functional Ecol.* 22:537-546.
- Bloor JMG, Leadley PW, Barthes L. 2008. Responses of *Fraxinus excelsior* seedlings to grass-induced above- and below-ground competition. *Plant Ecology* 194:293-304.
- Raynaud X, Jaillard B, Leadley PW. 2008. Plants may alter competition by modifying nutrient bioavailability in the rhizosphere: a modeling approach. *American Naturalist.* 171:44-58.
- Hector A, Joshi J...Leadley PW...Trouwmbis AY. 2007. Biodiversity and ecosystem functioning: reconciling the results of experimental and observational studies. *Functional Ecology.* 21:998-1002.
- Potvin C, Chapin III FS, Gonzalez A, Leadley PW, P Reich, Roy J. 2007. Plant biodiversity and responses to elevated carbon dioxide. In: Canadell J, Pataki D, Pitelka L (eds) *Global change and terrestrial ecosystems.* Springer-Verlag, Heidelberg, Germany.
- Barnard R, Le Roux X, Hungate B, Cleland E, Blankinship, Barthes L, Leadley PW. 2006. Several components of global change alter nitrifying and denitrifying activities in an annual grassland. *Functional Ecology.* 20:557-564.
- Barnard R, Barthes L, Leadley PW. 2006. Short-term uptake of <sup>15</sup>N by a grass and soil micro-organisms after long-term exposure to elevated CO<sub>2</sub>. *Plant and Soil.* 280:91-99
- Raynaud X, Lata JC, Leadley PW. 2006. Soil microbial loop and nutrient uptake by plants: a test using a coupled C : N model of plant-microbial interactions. *Plant and Soil.* 287:95-116.
- Loranger-Merciris G, Barthes L, Gastine A, Leadley P. 2006. Rapid effects of plant species diversity and identity on soil microbial communities in experimental grassland ecosystems. *Soil Biol. Biochem.* 38:2336-2343.
- Barnard R, Leadley PW, Hungate BA. 2005. Global change, nitrification and denitrification: a review. *Global Biogeochemical Cycles*, 19:GB1007.
- Barnard R, Leadley PW, Lensi R, Barthes L. 2005. Plant, soil microbial and soil inorganic nitrogen responses to elevated CO<sub>2</sub>: a study in microcosms of *Holcus lanatus*. *Acta Oecologica.*
- Raynaud X, Leadley PW. 2005. Symmetry of belowground competition in a spatially explicit model of nutrient competition. *Ecol. Model.* 189:447-453.
- Spehn EM ... Leadley PW ... Lawton JH (39 authors). 2005. Ecosystem effects of biodiversity manipulations in European grasslands. *Ecological Monographs.* 75:37-63
- Barnard R, Barthes L, Le Roux X, Leadley PW. 2004. Dynamics of nitrifying activities, denitrifying activities and nitrogen in the plant-soil system grassland mesocosms as altered by elevated CO<sub>2</sub>. *New Phytologist.* 162:365-376
- Barnard R, Barthes L, Le Roux X, Harmens H, Raschi A, Soussana J.-F, Winkler B, Leadley PW. 2004. Atmospheric CO<sub>2</sub> elevation has little effect on nitrification and denitrification enzyme activity in European grasslands. *Global Change Biology.* 10:1-10
- Raynaud X, Leadley PW. 2004. Soil characteristics play a key role in modeling nutrient competition in plant communities. *Ecology.* 85:2200-2214.
- Mouquet N, Leadley P, Meriguet J, Loreau M. 2004. Immigration and local competition in herbaceous plant communities: a three-year seed-sowing experiment. *Oikos* 104:77-90
- Gastine A, Scherer-Lorenzen M, Leadley P. 2003. No consistent effects of plant diversity on root biomass, soil biota and soil abiotic conditions in temperate grassland communities. *Applied Soil Ecology* 24:101-111.
- Gastine A, Roy J, Leadley PW. 2003. Plant biomass production and soil nitrogen in mixtures and monocultures of old field Mediterranean annuals. *Acta Oecologica.* 24:65-75
- Schmid B, Hector A, Huston M, Inchausti P, Nijs I, Leadley P, Tilman D. 2002. *The design and analysis of biodiversity experiments.* In: *Biodiversity and Ecosystem Functioning: Synthesis and Perspectives.* pp 61-78. Loreau M, Naeem S., Inchausti P. (eds). Oxford University Press.
- Price DT, Zimmermann NE, van der Meer PJ, Lexer MJ, Leadley PW, Jorritsma IT, Schaber J, Clark DF, Lasch PL, McNulty S, Wu J, Smith B. 2001. Regeneration in gap models: priority issues for studying forest responses to climate change. *Climatic Change* 51:475-508.
- Niklaus PA, Leadley PW, Schmid B, Körner Ch. 2001. A long-term field study of biodiversity x elevated CO<sub>2</sub> interactions in a grassland. *Ecological Monographs.* 71:341-356.

- Niklaus PA, Kandeler E, Leadley PW, Schmid B, Tscherko D, Körner Ch. 2001. A functional link between plant diversity, elevated CO<sub>2</sub> and soil nitrate. *Oecologia*, 127:540-548.
- Hector A, ... Leadley PW, ... Lawton JH. 2000. No consistent effect of plant diversity on productivity - Response. *Science*, 289 : 1255a.
- Hector A, ... Leadley PW, ... Lawton JH. 2000. Biodiversity and the functioning of grassland ecosystems: multisite studies. In: "Functional Consequences of Biodiversity: Experimental Progress and Theoretical Extensions", A. Kinzig, D. Tilman & S. Pacala, Eds., Princeton University Press, Princeton, USA.
- Niklaus PA, Stocker R, Korner C, Leadley PW. 2000. CO<sub>2</sub> flux estimates tend to overestimate ecosystem C sequestration at elevated CO<sub>2</sub>. *Functional Ecology* 14:546-559.
- Hector A, Schmid B, Beierkuhnlein C, Caldeira MC, Diemer M, Dimitrakopoulos PG, Finn J, Freitas H, Giller PS, Good, J, Harris R, Högborg P, Huss-Danell K, Joshi J, Jumpponen A, Körner C, Leadley PW, Loreau M, Minns A, Mulder C, O'Donovan G, Otway SJ, Pereira JS, Prinz A, Read DJ, Scherer-Lorenzen M, Schulze E-D, Siamantziouras A-S, Spehn E, Terry AC, Troumbis AY, Woodward FI, Yachi, S, Lawton JH. 1999. Plant diversity and productivity experiments in European grasslands. *Science*. 286: 1123-1127
- Leadley PW, Niklaus P, Stocker R, Koerner Ch. 1999. A field study of the effects of elevated CO<sub>2</sub> on plant biomass and community structure in a calcareous grassland. *Oecologia*. 118:39-49.
- Stocker R, Schmid B, Niklaus PA, Koerner Ch, Leadley PW. 1999. A field study of the effects of elevated CO<sub>2</sub> and plant species diversity on ecosystem level gas exchange in a planted calcareous grassland. *Global Change Biology*. 5:97-108
- Kempf H, Roy J, Barbault R, Leadley P, Lefeuvre JC, Loreau M. 1998. Bac to basics: The ecosystem. *La Recherche* 88-91.
- Ledergerber S, Leadley PW, Stocklin J, Baur B. 1998. Feeding behaviour of juvenile snails (*Helix pomatia*) to four plant species grown at elevated atmospheric CO<sub>2</sub>. *Acta Oecologica*. 19:89-95.
- Niklaus PA, Leadley PW, Stocklin J, Korner C. 1998. Nutrient relations in calcareous grassland under elevated CO<sub>2</sub>. *Oecologia*. 116:67-75.
- Leadley PW, Niklaus P, Stocker R, Korner C. 1997. Screen-aided CO<sub>2</sub> control (SACC): a middle ground between FACE and open-top chambers. *Acta Oecologica*. 18:207-219.
- Rotzel C, Leadley PW, Korner C. 1997. Non-destructive assessment of the effects of elevated CO<sub>2</sub> on plant community structure in a calcareous grassland. *Acta Oecologica*. 18:231-239.
- Stocker R, Leadley PW, Korner C. 1997. Carbon and water fluxes in a calcareous grassland under elevated CO<sub>2</sub>. *Functional Ecology*. 11:222-230.
- Stocklin J, Leadley PW, Korner C. 1997. Community and species level responses to elevate CO<sub>2</sub> in designed calcareous grassland communities. *Acta Oecologica*. 18:241-248.
- Leadley PW, Reynolds JF, Chapin FS. 1997. A model of nitrogen uptake by *Eriophorum vaginatum* roots in the field: Ecological implications. *Ecological Monographs*. 67:1-22.
- Leadley PW, Koerner Ch. 1996. Effects of elevated CO<sub>2</sub> on plant species dominance in a highly diverse calcareous grassland. In: *Carbon Dioxide, Communities, and Populations*. Koerner Ch, Bazzaz FA (eds.), Physiological Ecology Series, Academic Press, San Diego, p. 159-174.
- Leadley PW, Li H, Ostendorf B, Reynolds JF. 1996. Road-related disturbances in an arctic watershed: analysis by a spatially explicit model of vegetation and ecosystem processes. In: *Landscape Function in an Arctic Watershed*. Reynolds JF, Tenhunen JD (eds.). Ecological Studies Series, Springer-Verlag, Berlin. p. 387-415.
- Reynolds JF, Tenhunen JD, Leadley PW, Li H, Moorhead DL, Ostendorf B, Chapin FS III. 1996. Patch and landscape models of arctic tundra: potentials and limitations. In: *Landscape Function in an Arctic Watershed*. Reynolds JF, Tenhunen JD (eds.). Ecological Studies Series, Springer-Verlag, Berlin, p. 293-324.
- Leadley PW, Stocklin J. 1996. Effects of elevated CO<sub>2</sub> on model calcareous grasslands: Community, species, and genotype level responses. *Glob. Change Biol*. 2:389-397.
- Arnone JA, Blot M, Leadley P, Matthies D, Sanders I. 1994. Biodiversity in Switzerland (response). *Nature*. 370:500-500.
- Leadley PW, Drake BG. 1993. Open top chambers for exposing plant canopies to elevated CO<sub>2</sub> concentration and for measuring net gas exchange. *Vegetatio*. 104:3-15.
- Leadley PW, Reynolds JF. 1992 Long-term response of an arctic sedge to climate change - a simulation study. *Ecological Applications*. 2:323-340.
- Drake BG, Leadley PW. 1991. Canopy photosynthesis of crops and native plant communities exposed to long-term elevated CO<sub>2</sub>. *Plant Cell and Environment*. 14:853-860.
- Leadley PW, Reynolds JF, Flagler R, Heagle AS. 1990. Radiation utilization efficiency and the growth of soybeans exposed to ozone - a comparative analysis. *Agricultural and Forest Meteorology*. 51:293-308.
- Curtis PS, Drake BG, Leadley PW, Arp WJ, Whigham DF. 1989. Growth and senescence in plant communities exposed to elevated CO<sub>2</sub> concentrations on an estuarine marsh. *Oecologia*. 78:20-26.

Drake BG, Leadley PW, Arp WJ, Nassiry D, Curtis PS. 1989. An open top chamber for field studies of elevated atmospheric CO<sub>2</sub> concentration on saltmarsh vegetation. *Functional Ecology*. 3:363-371.

Leadley PW, Reynolds JF. 1989. Effect of carbon-dioxide enrichment on development of the 1<sup>st</sup> six mainstem leaves in soybean. *American Journal of Botany*. 76:1551-1555.

Leadley PW, Reynolds JF. 1988. Effects of elevated carbon-dioxide on estimation of leaf area and leaf dry weight of soybean. *American Journal of Botany*. 75:1771-1774.

Leadley PW, Reynolds JA, Thomas JF, Reynolds JF. 1987. Effects of CO<sub>2</sub> enrichment on internal leaf surface area in soybeans. *Botanical Gazette*. 148:137-140.

## **Scientific, Administrative, and Teaching Activities** (2000-present only)

### ***International***

- Member of IPBES MEP. Co-chair of group preparing the Work Program and Responses to Requests for the 2<sup>nd</sup> IPBES plenary in Antalya, Turkey. Currently responsible for the group on Scenarios (deliverable 3c) and participant in preparation of the guide for assessments (deliverable 2a) and the scoping of the regional assessments (deliverable 2b). End of first term Jan 2015
- Chair the bioDISCOVERY core project of DIVERSITAS (an international program of biodiversity science) and now Future Earth (the new international program of integrated global change science), 2006-present. Co-author of science plan
- Member of the Scientific Steering Committee of the "Global Land Project" (GLP). The GLP is a project of the IIGBP et I'HDP, focusing on human-environment interactions in terrestrial ecosystems. 2005-2007. Co-author of science plan.
- Liaison between DIVERSITAS and the GLP (and its precursor), 2002-2007.

### ***National***

- Member of the Scientific Steering Committee of the French Foundation for Research on Biodiversity (FRB), 2009-2012. Co-author of science plan.
- President of the FRB's flagship program on biodiversity modeling and scenarios. 2009-present
- Member of the scientific evaluation committee of the French Institute for Biodiversity (IFB) and ANR "Biodiversité", 2006-2008
- Member of the Scientific Committee of the GICC program of the minister of environment, 2005-present
- Member of the Scientific Committee of the " Evolution et variabilité du climat à l'échelle globale" (EVE) committee of the LEFE programme 2005-2007
- Member of the CNRS "Motive" committee of the PEVS, 1998-2002
- Member of the CNRS "Zone Ateliers" committee, 2000-2002
- President of the French Ecotrons (Montpellier and Foljuif) committee, 2010-
- Member of the Organizing committee of the Journées d'Ecologie Fonctionnelle (JEF) 2004-2008
- President of the AERES evaluation committee for the EEF Laboratory, Nancy, 2/2008.
- Member of CNRS evaluation committee for the CEFE Laboratory, Montpellier 12/2005

### ***Local***

- Director of the "Ecologie, Systématique et Evolution" Laboratory (ca. 70 permanent staff + ca. 50 postdocs and thesis students), 2006-present
- Director (elected) of the Population and Community Ecology group (ca. 30 researchers, engineers, technicians and graduate students) in the ESE laboratory 2000-2005.
- Member of the Orientation Committee of the GIS "Climat, Environnement et Société", 2008-present.
- Member of the steering committee of the federation IDEV "Institute de Diversité et Evolution du Vivant" (ESE, LEGS et Moulon Laboratories at Orsay and Gif-sur-Yvette), 2009-present.
- Member of the steering committee of the I'IFR 87 "La Plante et son Environnement", 2006-present.

- Member of the "Commission de Spécialistes 66-67", Université Paris-Sud 11, 1998-2003 & 2007-2009.
- President of the Scientific Council of the university botanical garden "Jardin Botanique de Launay" (Université Paris-Sud 11), 2003-present

### **Research Grants** (2005-present only)

- Coordinating PI – Labex BASC "Biodiversity, Agroecosystems, Society, Climate". A 13 laboratory consortium funded for the period 2012-2019. 5 Million €.
- President (= coordinating PI) - EU COST Action HARMBIO "Harmonizing Global Biodiversity Modelling". 2011-2014. Budget ca. 125,000 per year
- Coordinating PI - HumboldtCES "Human Impacts on Biodiversity, Ocean Environment and Climate in the Anthropocene : Linking environmental and biodiversity research" GIS "Climat, Environment et Society". 2010-2012. 450,000 €
- Co-PI (Coordinating PI - L Doyen, CNRS, Paris) - MOBILIS "Modeling for scenarios and sustainable management of terrestrial biodiversity and farming". FRB Biodiversity Scenarios Program. 2011-2012. Budget under negotiation.
- Participant (Coordinating PI - P Choler, CNRS, Grenoble) - DIVGRASS "Plant Functional DIVERSity of GRASSlands". FRB CESAB program. 2011-2013. Budget under negotiation
- Participant (Coordinating PI - X Raynaud, UPMC, Paris) - NITRICOMP "Conséquences de la compétition pour le nitrite sur le cycle de l'azote dans le sol" INSU, EC2CO program. 2009-2011. 25 k€.
- PI - UNESCO grant for workshops on "Novel modeling approaches for simulating the impact of global change on terrestrial biodiversity and ecosystem services". 2010. 10 k\$
- Coordinating PI - "Biodiversity Scenarios for the 21st century: Contribution to the Global Biodiversity Outlook 3" for the Convention on Biological Diversity. 2009-2010. 67 k€
- Co-PI (Co-ordinating PI - I Chuine, CNRS Montpellier) - SCION "Scenarios of global change impacts on biodiversity based on innovative modelling approaches". Funding from the IFB and French National Agency for Research (ANR). 2010-2012. 470 000 k€
- Coordinating PI - QDiv "Quantifying the effects of global environmental change on terrestrial plant diversity". Funding from the IFB and French National Agency for Research (ANR). 2005-09. 770 k€
- Participant (Coordinating PI - JF Soussana, INRA Clermont-Ferrand) - DISCOVER, IFB/ANR Biodiversité, 2006-2008.
- Co-PI (Coordinator - L Barthes, Université Paris-Sud 11) - Scientific exchange program with Stanford University and Northern Arizona University. CNRS/NSF, 32 k€, 2006-2008.
- Participant (Coordinating PI - JF Soussana, INRA Clermont-Ferrand) - IMAGINE (Funded by the program GICC-IFB 'Biodiversité et changement global'). 2003-2006

### **Invited Talks** (2010-present only)

July 2014. CBD SBSTTA Plenary presentation "Global Biodiversity Outlook 4 An assessment of the progress towards the Aichi Biodiversity Targets and the 2050 Vision". Montreal, Canada.

October 2013 – "Addressing the CBD Aichi Target 5 on Habitat Loss." 20/20 Talks on Biodiversity. McGill University, Montreal, Canada.

October 2013. CBD SBSTTA Plenary presentation: "Global Biodiversity Outlook-4 of the CBD: Update from the 'scenarios consortium". Montreal, Canada.

April 2013 – "Scenarios for large scale restoration efforts". Alter-Net conference. Ghent, Belgium.

May 2013. - "Systems ecology and the identification of safe ecological limits at different scales." The seventh Trondheim Conference on Biodiversity: Ecology and Economy for a Sustainable Society. Trondheim, Norway

March 2012. - Planet Under Pressure, London, GB

- Session "Staying away from the edge: avoiding biophysical, ecological and social tipping points" Session co-organized by P. Leadley, with T. Lenton (Climate), & P. Olsson (Society) - GBO3 tipping points - presented by P. Leadley
- Session "Biodiversity and ecosystem services science for a sustainable planet: Scientific priorities for the decade 2012-20 from the DIVERSITAS community" - biodiversity scenarios - presented by P. Leadley
- Session "Putting the concept of ecosystem services into practice: science, assessment and policy" - New approaches to the development of socio-economic scenarios for global change assessments - presented by P. Leadley.

March 2012 - "Tipping Points" workshop in Berlin, Germany. March (joint organization by DIVERSITAS and NEFO Germany). Keynote introductory talk

November 2011 - Presentation of climate change impacts on forests at the RMT AFORCE meeting. This conference attracted more than 100 forest researchers, managers and government representatives and more than 20 journalists (journal article in Liberation)

March 2011 - Testimony for the French "Conseil Economique, Social et Environnemental" concerning national implications of the "Aichi Targets" agreed to at the CBD COP-10 in Nagoya, Japan.

March 2011 - "Changement global, biodiversité et services écosystémiques : Sciences, prévision, prospective". Colloque Le Savant, Le Politique et le Citoyen. Cité des Sciences et de la Technologie. Paris, France.

February 2011 - "Résumé des résultats de la 10ème réunion de la Conférence des Parties de la Convention sur la Biodiversité à Nagoya, Japon". Académie des Sciences. Paris, France.

December 2010 - "Impacts du changement climatique sur les forêts : quelles stratégies d'adaptation ?". Annual meeting of the GIS "Climat, Environnement, Société". Paris, France.

November 2010 - "Scénarios du devenir de la biodiversité à l'échelle mondiale". "Les Rencontres FRB". Paris, France.

October 2010 - Presentation at side event for Global Biodiversity Outlook 3 (GBO3), CBD COP-10, Nagoya, Japan.

October 2010 - Presentation (co-authored by H. Mooney) to launch the "Rio Conventions' Ecosystems and Climate Change Pavilion" with A. Djoghla (Exec Sec CBD), R. Matsumoto (Japanese Minister of Environment) & I. Noble (World Bank). CBD COP-10, Nagoya, Japan.

September 2010 - "Projections des impacts du changement climatique sur les forêts : quelles stratégies d'adaptation face à des incertitudes considérables ?". "Adaptation au Changement Climatique : Forêts, Espaces Naturels et Biodiversité." Co-organized by the GIS "Climat, Environnement, Société". Paris, France.

Septembre 2010 - Talk synthesizing of two days of presentations and discussions for the workshop "Forêts et enjeux d'avenir". Sponsored by the French Senate, Université Paris-Sud, GIS "Climat, Environnement, Société", GIP Ecofor, FRB, APT. Paris, France.

September 2010 - "Effets du changement climatique sur la biodiversité : état des lieux : Milieu terrestre". CCBio: Connaissances des impacts du changement climatique sur la biodiversité en France" (GIP Ecofor, MEEDDM). Paris, France

September 2010 - "L'avenir de la biodiversité: le rôle des scénarios comme outil d'interface entre la science et la politique". Ecologie 2010. Montpellier, France.

August 2010 - "Eco-evolutionary approaches to understanding and predicting the response of species range to climate change". Overview of objectives for a workshop with the same title. Fukuoka, Japan.

May 2010 - Presentations at side events to 1) launch the Global Biodiversity Outlook 3 (GBO3) and 2) present scientific objectives of IPBES. Presentation of GBO3 at press conference with A. Steiner (Exec Dir UNEP), A. Djoghla & T. Lovejoy. CBD SBSTTA, Nairobi, Kenya.

March 2010 - Global Biodiversity Outlook 3: Scenarios Synthesis. Pre-COP 10 meeting of the CBD. Nagoya, Japan.

March 2010 - "Scénarios de l'impact des changements globaux sur la biodiversité". "11ème colloque pluridisciplinaire d'Orsay, Biodiversité : de la Molécule à l'Ecosystème." Orsay, France.

Feb 2010 - "Global Biodiversity Outlook 3 study on Biodiversity futures for the 21st century." Trondheim Conference on Biodiversity, an encounter between CBD delegates and scientists. - co-presented with H. Pereira. Trondheim, Norway.

Feb 2010 - "Disappearing coral reefs - in light of large scale changes." Trondheim Conference on Biodiversity. Trondheim, Norway.

Jan 2010 - "Biodiversity Scenarios for the 21st century: contribution to the Global Biodiversity Outlook 3". Presentation to UNESCO delegates. Paris, France

Jan 2010 - "Genetic evolution and Climate Change". UNESCO International Year of Biodiversity, Science - Policy Conference. 2010. Paris, France.

Nov 2009 - "L'impact de la biodiversité sur le climat". "Le Colloque Orée : Biodiversité et climat avant et après Copenhague - Rencontres d'experts." Paris, France.

### **Organization of symposia and workshops** (2005-present only)

#### ***International***

March 2011 - Co-organizer of an international workshop on joint workshop on "Plant Traits and Biome Boundary Shifts". Support from DIVERSITAS, FRB and GIS "Climat", ca. 50 participants. Paris, France

March 2011 - "Changement global, biodiversité et services écosystémiques :Sciences, prévision, prospective". Colloque : Le Savant, Le Politique, Le Citoyen. Cité des Sciences et de l'Industrie, Paris, France.

September 2010 - Co-organizer of the conference "Forêts et enjeux d'avenir". Sponsored by the French Senate, Université Paris-Sud, GIS "Climat, Environnement, Société", GIP Ecofor, FRB, APT. Paris, France.

August 2010 - Co-organizer of an international workshop on "Eco-evolutionary approaches to understanding and predicting the response of species and ecosystems to climate change". Support from DIVERSITAS and the Japanese Environmental Ministry, ca. 25 participants. Kyushu, Japan

Oct 2009 - Co-organizer (and chair) of a symposium "Projecting 21st century biodiversity change". DIVERSITAS Open Science Conference. Cape Town, South Africa

Oct 2009 - Co-organizer of an international workshop on joint workshop on "Plant Traits and Biome Boundary Shifts". Support from DIVERSITAS, UK-QUEST, MPI-Jena, UNESCO and GIS "Climat", ca. 35 participants. Cape Town, South Africa

Aug 2009 - Co-organizer of an international workshop on "Eco-evolutionary approaches to understanding and predicting the response of species and ecosystems to climate change". Support from DIVERSITAS and the EU-Evoltree program, ca. 25 participants. Paris, France

March 2009 - Co-organizer of a session on "Biodiversity: Enhancement of Resilience or Facilitating Transformation?". IARU International Scientific Congress on Climate Change. Copenhagen, Denmark.

March 2008 - Co-organizer of an international workshop on "Biome Boundary Shifts". Support from DIVERSITAS, Japanese Ministry of the Environment, and GLP. ca. 40 participants. Yokohama, Japan

March 2008 - Co-organizer of an international workshop "IGBP - Plant Functional Traits Fast Track Initiative". Support from IGBP, DIVERSITAS and UK-QUEST, ca. 35 participants. Paris, France

November 2006 - Organizer of a symposium entitled "Climate change and rising CO2: How serious is the future threat to biodiversity?" at the Earth System Science Partnership open science conference (ESSP). Beijing, China.

May 2005 - Organizer of an international workshop on "Global Environmental Change and Biodiversity". Sponsored by DIVERSITAS, UK-QUEST and US-TERACC. Dourdan, France. ca. 35 participants.

November 2005 - Organizer of a symposium entitled "Global change and Biodiversity" for the open-science conference of DIVERSITAS. Oaxaca, Mexico.

***National***

- Co-organizer of the national workshop series "Journées d'Ecologie Fonctionnelle" (JEF) at Nouan-le-Fuzelier in 2006
- Co-organizer of the national workshop series "Journées d'Ecologie Fonctionnelle" (JEF) at La Londe-les-Maures in 2000

**Teaching**

- I teach the equivalent of ca. three 3 credit courses per year (196 hours/year of teaching in the French system). Primary subjects: human impacts on biogeochemical cycles, biodiversity and ecosystem functioning and geomatics for ecologists (4th & 5th year courses for Masters students) and community ecology (3rd year courses)
- Coordinator of the course "Ecologie Fonctionnelle" of the Master "Ecologie, Biodiversité et Evolution" (EBE) since 2003
- Co-coordinator of the course "Biodiversité et Fonctionnement des Ecosystèmes" of the Master EBE since 2003
- Co-coordinator of the Master "Ecologie, Biodiversité et Evolution" (P11, P6, INA-PG, MNHN), 2003-2006
- Director of the DESS (Masters program) "Génie Ecologique", Université Paris-Sud 11, 1998-2000
- Direction of theses for which I had at least 50% responsibility: Reto Stocker 2/1993-10/1996 (Ch Korner was director), Alexandra Gastine 10/1997-12/2002, Romain Barnard 10/2000-11/2003, Xavier Raynaud 10/2001-12/2004, Audrey Niboyet 10/2005 - 12/2009, Sandrine Fontaine (IE CNRS) 10/2005-present
- Member of HDR and thesis juries: typically 6-10 per year
- Thesis direction committees: currently member of 3 committees.

## CURRICULUM VITAE

### Dr Marie Roué

Laboratory of Eco-anthropology and Ethnobiology  
National Museum of Natural History (MNHN)  
57 rue Cuvier 75005 Paris FRANCE  
**roue@mnhn.fr**  
+33 1 40 79 36 68

### Nationalities

French, Canadian  
Born 8/7/1949 in Saint Mandé, France

### Education

Ph.D. in Anthropology, University of Paris V, Sorbonne, Paris (1975)

### Current Position

Senior Research Director (DR1), National Scientific Research Centre (CNRS)

- Director, Research Teams 'Ecological anthropology of conservation', and 'Eco-anthropology and ethnobiology'
- Director, Book Series « Indisciplines », Natures Sciences Sociétés/Quae Publishing
- Director, Master Degree « Evolution, Natural Heritage and Societies (EDTS) ».- Speciality : EDTS, Environment, Development, Territory and Society, MNHN, Paris. Since 2004.

### Previous Position

1997-2002     Director, CNRS Research Team 8575 APSONAT « Appropriation and Socialisation of Nature »  
1980-97       Researcher, CNRS Research Team 8575 APSONAT « Appropriation and Socialisation of Nature »

### Principal Areas of Research

Anthropology of the environment, local knowledge of nature, epistemology of relations between indigenous and scientific knowledge, knowledge and governance  
Interdisciplinarity - theory, practice and innovation.

*My field research focuses on observations of changes in the management of species and spaces in the context of globalization, framed by an in-depth understanding of social organization, and systems of knowledge, know-how and representations amongst the Sami (Norway and Sweden), Cree First Nations and Inuit (Canada). I have organized in september 2012 an international workshop at the National Museum of Natural History of Paris about co-production of Knowledge (IK/science) in the arctic.*

### Selected Keynotes, Memberships

2011-2012     Invited Professor at the National Museum of Ethnology (MINPAKU), Osaka, Japan  
Oct. 2010       Member of the French Delegation, , Convention on Biological Diversity (CBD), COP10, Nagoya  
June 2010       Keynote speaker at the International Conference "Cultural and biological diversity", CBD, Montréal

- Jan. 2010      Member of the recommendations drafting committee, International Conference on Biodiversity, Science and Policies, Launch of the International Year of Biodiversity, UNESCO, Paris
- March 2004      Keynote speaker at the International Millennium Assessment Conference - Bridging Scales and Epistemologies, Alexandria
- 1996 to 2001    Invited Professor at University of Montréal (UdM) and Université du Québec à Montréal (UQUAM), lecturer at McGill University, consultant on Inuit Education for Makivik Corporation.

### **Publications**

A total of **101 publications** (11 books authored or directed scientifically, 19 book chapters, 45 peer-reviewed articles, 12 reviews, 10 proceedings, 4 articles without peer-review)

### **Books (a choice of)**

Collectif Nunavik Educational Task Force, groupe de travail sur l'éducation au Nunavik, Le Chemin de la Sagesse - Silatunirmut - The Pathway to Wisdom, 265 p., Montréal, 1992

Chants lapons, en coll. avec Y. Delaporte, Editions Peeters/SELAF, collection « Arctique », 256 p., Paris, 1989

Une communauté d'éleveurs de rennes - Vie sociale des Lapons de Kautokeino, en collaboration avec Y. Delaporte, Editions de l'Institut d'Ethnologie, Musée de l'Homme, 200 p., Paris, 1986

Le vêtement des Lapons de Kautokeino, thèse de 3ème cycle, micro-édition de l'Institut d'Ethnologie, 270 p., Paris, 1976

Les relations sociales chez les lapons de Kautokeino, micro-édition de l'Institut d'Ethnologie, 70 p., Paris, 1971

### **Scientific Direction ((a choice of)**

« L'imaginaire écologique » (ecological utopias), Manceron et Roué (dir. by), Terrain 60, Paris MSH 2013

" Les Animaux de la Discorde" (animals and conflicts), Manceron et Roué (dir. by), l' Ethnologie française, tome XXXIX, Paris PUF, 2009

«Cultural Diversity and Biodiversity: Epistemologies of knowledge and cultural landscapes, the economics of localised knowledge, Indigenous youth and cultural diversity”, scientific direction of a special issue of International Social Science Journal published in 6 language edition, ISSJ 187, Paris, UNESCO/ 2006, <http://www.unesco.org/new/en/social-and-human-sciences/resources/periodicals/issj-social-science/past-issues/issj-n-187/#topPage>

« Gestion durable de la faune sauvage » (sustainable management of wildlife), P. Migot, M. Roué (éditeurs) Numéro spécial de Natures Sciences Sociétés, vo. 14, 2006

Dossier de quatre articles ” Le naturel et la qualité “ (Natural/organic and quality), Lamine, C., Roué, M. (éditeurs) Natures Sciences Sociétés. Vol. 13 (4), 2005

« NGOs in the Governance of Biodiversity », scientific direction of a special issue of International Social Science Journal, published in 6 language edition, ISSJ 178, 125 p., Paris, UNESCO/Erès, 2003, [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SHS/pdf/178\\_contents\\_eng.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SHS/pdf/178_contents_eng.pdf)

### **Book chapters (a choice of)**

« Les peuples autochtones de l'Arctique menacés par le réchauffement climatique et par les mesures d'atténuation », *Changements climatiques et biodiversité*. R. Barbault et A. Foucault (ed.). pp. 257-276, éd. Vuibert, 2010

Parmesan, Skevington, Guégan, Jutro, Kellet, Mazumder, Roué and Sharma, « Biodiversity and Human Health : the decision-making process » in *Biodiversity Change and Human Health – From Ecosystem Services to Spread of Disease*, sous la direction de Sala, Meyerson and Parmesan, pp. 61-82, Island Press, 2009

« Discours sur l'énergie hydroélectrique » (Discourses analysis about hydroelectric power) in *Energie et Société – Sciences, gouvernances et usages* sous la direction de Menozzi M.-J., Flipo F., Pécaud D., Coll. Écologie Humaine, Edisud, Aix en Provence, 245 p, 2008

« Coping with change in a world heritage site : Laponia and the Sami » in *Links between biological and cultural diversity*, report of the International workshop 2007, 2008

« Le désert, le wilderness et la forêt : Ethique protestante et naissance de l'écologisme » (origins of environmentalism : desert, wilderness and forest), in C. Beck et Y. Luginbuhl (éd.), *La crise écologique*, Collection Indisciplines éd. Quae, 2006

M. Roué, D. Nakashima, «Biological diversity, cultural diversity: the role of local knowledge », in R. Barbault, Le Duc (éd.) *Biodiversity, Science and Governance*, 2005

« Indigenous knowledge, Peoples and sustainable Practice », with D. Nakashima, Vol. 5, Social and Economic dimensions of global environmental change, pp. 314-324, edited by P. Timmerman in *Encyclopedia of Global Environmental Change*, 2002

« The discourse of ecological correctness : of dam builders rescuing biodiversity for the Cree », en coll. avec D. Nakashima, in D. Posey (ed.) *Cultural and Spiritual Values of Biodiversity*, Cambridge University Press, 1999

« Les Indiens Cris de la baie James : chronique d'une dépossession » (James Bay Cree and James Bay), p. 59-96, in *Taïga- Toundra*, Editions Autrement, Paris, 1999

« Novas perspectivas em etnoecologia : saberes tradicionais e gestão dos recursos naturais » (portugues : new perspectives in ethnoecology : traditional knowledge and natural resources management), in Castro et Pinton, (éds.), *Faces do Tropico Umido - conceitos e questoes sobre desenvolvimento e meio ambiente*, Editions Cejup et EHESS, Para et Sao Paulo, 14 p., 1997

### **Papers in in peer-reviewed Journals (a choice of)**

S. Roturier, M. Roué, «Of forest, snow and lichen : Sami reindeer herders' knowledge of winter pastures in northern Sweden », *Forest Ecology and Management*, 2009, doi:10.1016/j.foreco.2009.07.045

« Une oie qui traverse les frontières - La Bernache du Canada » ( A migratory goose – Branta canadensis), *Ethnologie française* 2009

« Introduction : between cultures and natures », *International Social Science Journal* ISSJ 187, (éd. Roué) Paris, UNESCO/ 2006

« Healing the wounds of school by returning to the land : Cree elders come to the rescue of a lost

generation », International Social Science Journal ISSJ 187, (éd. Roué) Paris, UNESCO/2006

Introduction, en collaboration avec P. Migot, du numéro spécial « Gestion durable des animaux sauvages », Natures Sciences Sociétés . N°14 (suppl.) In Gestions durables de la faune sauvage / Pierre Migot et Marie Roué (Eds.), 2006

Barbault, R., Migot, P., Roué, M. “Robert Barbault ou de l'écologie à la gestion de la biodiversité” (Barbault – from ecology to biodiversity management), In Natures Sciences Sociétés N°14 (suppl.) In Gestions durables de la faune sauvage / Pierre Migot et Marie Roué (Eds.), 2006

« Une réunion de la Confédération crie à Chisasibi (Baie James) : réunion politique, lieu de mémoire ou naissance d'un musée? », Anthropologie et Sociétés, volume 28, numéro 2- Musées et Premières nations, 2004

« US environmental NGOs and Cree Indians : An unnatural alliance for the preservation of nature ? », International Social Science Journal ISSJ 178, décembre 2003

« Savoirs locaux : l'expertise écologique des Indiens », Sciences Humaines N°137, Numéro spécial Les savoirs invisibles : de l'ethnoscience aux savoirs ordinaires, 2003

« ONG, peuples autochtones et savoirs autochtones », Natures Sciences Sociétés N°11, pp.97-98, 2003

« Des savoirs traditionnels pour évaluer les impacts environnementaux du développement moderne et occidental », Revue Internationale des Sciences Sociales RISS 173, publié en 7 langues, 2002

« Du sport perçu comme un phénomène de sous-culture délinquante. Les jeunes Inuit à la recherche d'un impossible compromis », Techniques et Culture N° 39, p. 249-252, 2002

« Humanité, animalité et lien social. L'éternel miroir » dans Dossier De l'homme et de l'animal, Natures Sciences Sociétés vol. 10 N° 1, pp. 37-44, 2002

« Anthropologie du vêtement. De la sémiologie à l'ethnoscience chez les Samis et les rockers parisiens », Bulletin d'histoire politique (Montréal), Vol.10, no.2, p-47-57, 2002

« Anthropologie et environmentalism », Natures Sciences Sociétés vol. 6 n° 2, 5 p., 1998

«An economy of sharing », in UNESCO Courier, special issue about Frugality : a way to a better life ? 4 p., Paris, 1998, <http://unesdoc.unesco.org/images/0011/001104/110425eo.pdf#110427>

« Lapp fur coats : adaptation of clothing in a pastoral society », en coll. avec Y. Delaporte, Arctic Anthropology XVII : 1, 11 p., Madison, 1980

Prof. James G. Wilson, BSc, PhD, MA, MIEEM, CEnv, FTCD.

Prof. James G. Wilson is a Professor in Zoology and Environmental Science at Trinity College, University of Dublin (TCD).

Prof. Wilson graduated from the University of Glasgow in 1976 with a PhD in Zoology (Marine Biology) before moving to TCD. There, he devised two synoptic indices of estuarine quality, the BQI and the PLI, which have now been applied in Ireland, France and the US as well as the Black Sea.

Prof. Wilson main research interests centred on the fitness (in the Darwinian sense) of ecosystems and organisms which is a key concept to understanding the value of natural systems and anthropogenic impacts on them. From this arises his work in bioenergetics, biomarkers and indices and in the network analysis of ecosystems.

Prof. Wilson has written or edited 6 books and over 120 peer-reviewed papers covering the whole range of his research interests. These have been supported by national and international funding and have included collaborations with colleagues throughout the EC as well as Russia, Ukraine, Georgia, USA and Australia. He is an Associate Editor of *Estuarine, Coastal and Shelf Science* and an Editor-in-chief for both Springer and Elsevier series. The most recent of these was an edited volume on *System functioning and natural goods and services of estuaries and lagoons* (Estuarine, Coastal and Shelf Science vol. 132).

In addition to his duties in the University, including 5 years as Head of Department, Prof. Wilson has been an active member of, and held executive posts in many outside organizations, such as the Irish Marine Sciences Association, the Institute of Ecology and Environmental Management, the Environmental Sciences Association of Ireland, the Life Sciences Committee of the Royal Irish Academy and the Estuarine and Coastal Sciences Association.

## PUBLICATIONS

1. 1976 Ph.D. Thesis "*Abundance and Distribution of British Tellinidae*". Glasgow University, 226 pp.
2. 1976 "Dispersion of *Tellina tenuis* Da Costa from Kames Bay, Millport, Scotland". *Marine Biology*, 37, 371-6.
3. 1976 "The fauna of the soft substrates adjacent to the coast of Lundy. *Lundy Field Society Report*, 27, 53-8. (with R. Hoare).
4. 1977 "The distribution of two closely related species of *Tellina* *T. tenuis* and *T. fabula*". *Progress in Underwater Science*, 2, 35-46.
5. 1978 "Upper temperature tolerances of *Tellina tenuis* and *Tellina fabula*". *Marine Biology*, 45, 123-8.
6. 1979 "What is the function of the striae of *Tellina fabula* Gmelin?". *Malacologia*, 18, 291-6.
7. 1979 "The burrowing of *Tellina tenuis* Da Costa and *Tellina fabula* Gmelin in relation to sediment characteristics". *J. Life Sci. R. Dubl. Soc.* 1, 91-98.
8. 1980 "The microfaunal communities of the sediments off the coast of Lundy". *Progress in Underwater Science*, (N.S.), 5, 119- 128 (with C.R. Harris).
9. 1979 "Studies on the pollution status of Irish estuaries". *Bull. estuar. & Brackish-wat. Sci. Ass.* 23, 2-6 (with C.R. Harris, D.L. Tomlinson, and D.W. Jeffrey).
10. 1980 "Heavy metals in the estuarine macrofauna of the east coast of Ireland". *J. Life Sci. R. Dubl. Soc.*, 1, 183-189.
11. 1980 "Problems in the assessment of heavy metal levels in estuaries and the formation of a pollution index". *Helgolander Meeresunters.*, 33, 566-75. (with D.L. Tomlinson, C.R. Harris and D.W. Jeffrey).
12. 1981 "Effects of high environmental copper concentration on the oxygen consumption, condition and shell morphology of natural populations of *Mytilus edulis* L. and *Littorina rudis* Maton". *Comp. Biochem. Physiol.*, 70C, 139-147. (with R.F. McMahon).
13. 1981 "Effects of temperature and hypoxia on the oxygen consumption of three species of intertidal bivalve molluscs from Dublin Bay, Ireland". *J. therm. Biol.*, 6, 267-77. (with R.F. McMahon).

14. 1981 "Temperature tolerance of circatidal bivalves in relation to their distribution". *J. therm. Biol.*, 6, 279-286.
15. 1981 "The Marine Fauna of Lundy: Bivalvia". *Rep. Lundy Fld. Soc.* 32, 29-37.
16. 1982 "Heavy metals in *Littorina rudis* Maton along a Cu pollution gradient". *J. Life Sci. R. Dubl. Soc.* 4, 27-35.
17. 1982 "Distribution, biomass and production of bivalves in Dublin Bay". *Malacologia* 22, 377-384.
18. 1982 "A Manual for the estimation of estuarine quality". NBST, Dublin, 201 pp. (with D.W. Jeffrey, C.R. Harris and D.L. Tomlinson).
19. 1983 "The uptake and accumulation of Ni by *Cerastoderma edule* and its effects on mortality, body condition and respiration rate". *Mar. Environ. Res.* 8, 129 - 148.
20. 1983 "The population structure and ecology of *Nucula turgida* (Leckenby and Marshall) in Dublin Bay". *Prog. Underwat. Sci. (N.S.)* 8, 53-60. (with J.P. Davis).
21. 1983 "The littoral fauna of Dublin Bay". *Ir. Fish. Investig. Ser. B.* 26, 20pp
22. 1984 "The effect of environmental variables on the oxygen consumption of the protobranch bivalve *Nucula turgida* (Leckenby and Marshall)". *J. Moll. Stud.* 50, 73-77. (with J.P. Davis).
23. 1983 "Seasonal changes in tissue weight and biochemical composition of the bivalve *Nucula turgida* in Dublin Bay". *Neth. J. Sea Res.* 17, 39-51. (with J.P. Davis).
24. 1984 "Assessment of the effects of short term salinity changes on the oxygen consumption of *Cerastoderma edule*, *Macoma balthica*, and *Tellina tenuis* from Dublin Bay, Ireland". *J. Life Sci. R. Dubl. Soc.* 5, 57-63.
25. 1985 "The application of two simple indices to Irish Estuary pollution status". In *Estuarine Management and Quality Assessment*, pp. 147-162. Plenum Press (with D.W. Jeffrey, C.R. Harris and D.L. Tomlinson).
26. 1985 "*Estuarine Management and Quality Assessment*". Plenum Press, London. 228 pp. (Ed. with W. Halcrow).

27. 1985 "The energy budget and population structure of *Nucula turgida* (Bivalvia : Protobranchia) in Dublin Bay". *J. Anim. Ecol.* 54, 557-72 (with J.P. Davis).
28. 1985 "The respiratory response of *Tellina fabula* Gmelin to temperature and low oxygen stress". *Soosiana*, 13, 27-32.
29. 1985 "Pollution induced enhancement of the oxyregulatory response of *"Littorina rudis Maton"*. *J. Life Sci. R. Dubl. Soc.* 5, 81-86
30. 1985 "A manual for the estimation of estuarine quality". 2nd edition, NBST, Dublin, 210pp (with D.W. Jeffrey)
31. 1987 "The Dublin Bay ecosystem" in *Managing Dublin Bay*, Bruton, M., Convery, F. and Janson, A. (Eds) REPC, UCD, Dublin 21 - 26.
32. 1986 "The distribution of *Nucula turgida* (Bivalvia Protobranchia from Dublin Bay, Ireland and the effect of sediment organic content. "*J. mar.biol. Ass. U.K.* 66, 119-130 (with C. Shelley)
33. 1986 "Pesticide and PCB levels in the eggs of shag (*Phalacrocorax aristotelis*) and cormorant (*P. carbo*) from Ireland". *Envir. Pollut. Ser. B.*, 12,15-26 (with J.J. Earley).
34. 1987 "Application d'indices de qualite ecologique des estuaires en Manche Centrale et Orientale: comparaison de la Seine et de la Somme". *Vie Milieu* 37, 1-11. (with M. Desprez; J.-P. Ducrottoy; E.B. Elkaim).
35. 1986 "A survey of the pollution status of the Liffey estuary". *Ir.J.EnvIRON.Sci.*,3., 15-20, (with N.Allott, F.Bailey and N.Gray)
36. 1987 "Europe-wide indices for monitoring estuarine quality". In "*Biological Indicators of Pollution*", ed. Richardson, D.H.S., 225-242. RIA, Dublin (with D.W. Jeffrey).
37. 1988 "Resource partitioning and predation as a limit to size in *Nucula turgida* (Leckenby and Marshall). *Functional Ecology* 2, 63-6.
38. 1988 "*Biology of Estuarine Management*". Croom Helm, London, 210 pp.
39. 1989 "Biological impacts of organic and industrial discharges". In "*The Irish Sea* : a resource at risk" ed. Sweeney, J.C. *Geog. Soc. Ire. Special Publ.* No. 3, 116-123.
40. 1989 "Levels of heavy metals along the Libyan coastline". *Mar. Poll. Bull.* 20, 621-4. (with M. Hamouda).

41. 1990 "Effects of temperature changes on infaunal circalittoral bivalves, particularly *T. tenuis* and *T. fabula*". In "*Expected Effects of Climatic Changes on Marine Coastal Ecosystems*", ed. Beukema, J.J. et al., 93-97. Kluwer Academic, Amsterdam.
42. 1990 "Bivalve individual variability in oxygen consumption and its effect on the response to environmental variables". In "*Phenotypic Responses and Individuality*". ed. Aldrich, J.C.A., 139 - 146. Japaga, Ashford, Co. Wicklow.
43. 1990 "Pollution levels and the effects on the Dublin Bay ecosystem". In "*Estuarine Toxicology*" ed. Chambers, P.L. and Chambers, C.P. 63 -71. Japaga, Ashford, Co. Wicklow. (With B. Brennan and B. Rafferty).
44. 1990 "*Irish Sea Study Group B: Waste Inputs and Pollution*". Liverpool University Press, Liverpool, 165 + ix pp. (With R. Boelens et al.)
45. 1990 "Gill and palp morphology of *Tellina tenuis* and *Tellina fabula* in relation to feeding". In "*The Bivalvia. Proceedings of a symposium in memory of Sir Charles Maurice Yonge*". Edinburgh 1986. ed Morton, B., 141 - 150. Hong Kong University Press, Hong Kong.
46. 1991 "A comparison of the pollution status of 12 Irish and French estuaries". In "*Estuaries and coasts - spatial and temporal intercomparisons*" ed. Elliott, M. and Ducrotoy, J.P. 317 - 322. Olssen & Olssen, Denmark. (With B. Elkaim)
47. 1991 "A comparison of the population dynamics of the cockle (*Cerastoderma edule*) within north-west Europe". In "*Estuaries and Coasts - spatial and temporal comparisons*" ed. Elliott, M. and Ducrotoy, J.-P. 173 - 184. Olssen & Olssen, Denmark. (With J.-P. Ducrotoy et al.).
48. 1991 "Dynamique des populations de *Macoma balthica* dans les estuaires du nord-oest de l'Europe". In "*Estuaries and Coasts - spatial and temporal comparisons*" ed. Elliott, M. and Ducrotoy, J.-P. 159 - 166. Olssen & Olssen, Denmark. (with M. Desprez et al.).
49. 1991 "Temperature tolerances of infaunal bivalves and the effect of geographical distribution, position on the shore and season". *J. mar. Biol. Ass. U.K.* 71, 169 - 178. (with B. Elkaim).
50. 1990 "*Biogeochemical cycles in two major european estuaries: the Shanelbe project.*" CEC Water Pollution Research Report 15, 229 pp. (Ed. with H. Kausch and H. Barth).

51. 1991 "Feral mink (*Mustela vison*) and their potential as disease vectors in Ireland: an investigation in Co. Wicklow". *Ir. Vet. J.* 44, 71-74. (with K. O'Crowley)
52. 1991 "The toxicity of freshwater - estuarine bioindicators". In "*Bioindicators and Environmental Management*" ed. Jeffrey, D.W. and Madden, B., 311 - 322. Academic Press, London. (with B. Elkaim).
53. 1991 "Indicator organisms as a guide to estuarine management". In "*6th International Bioindicators Symposium*" ed. Jeffrey, D.W. 55 - 64. (with D.W. Jeffrey et al.)
54. 1991 "The state of the Irish Sea". *Technol. Ire.*, April 1991, 40 - 41.
55. 1991 "The state of the Irish Sea". *Health & Safety*, May 1991, 33 - 37.
56. 1993 The future for the cockle *Cerastoderma edule* in Dublin Bay – an exercise in prediction modeling.. *Occ. Publ. Ir. Biogeog. Soc.* 2, 141-9.
57. 1993 "Horizontal and vertical gradients in sediment nutrients on mudflats in the Shannon estuary, Ireland". *Neth. J. Aquat. Ecol.* 27, 173-180. (with B. Brennan and M. Brennan).
58. 1992 "Estuarine Bioindicators - a case for caution" *Acta Oecologia* 13, 345-358. (with B. Elkaim)
59. 1994 "The role of bioindicators in estuarine management". *Estuaries* 17, 94-101.
60. 1992 "L'evaluation et le suivi de la qualite biologique des estuaires" *Bull. Ecol.* 23, 185-200. (with B. Elkaim, M. Desprez, J.-P. Ducrottoy, J.-P. Dupont and H. Rybarczyk)
61. 1992 "Biological impact of eutrophication in the Bay of Somme and the induction and impact of anoxia" *Neth. J. Sea Res.*, 30, 149-159. (with M. Desprez et al.)
62. 1993 "Age specific energetics of reproduction in *Nucula turgida* (Leckenby and Marshall). *Invert. Rep. Dev.* 22, 275.-280.
63. 1993 "Nutrient interchange between the sediment and the overlying water on the intertidal mudflats of the Shannon estuary" *Arch. Hydrobiol.* 75, 423-450 (with M. Brennan)

64. 1993 "Spatial and temporal variation in sediments and their nutrient concentrations in the unpolluted Shannon estuary, Ireland". *Archiv. Hydrobiol.* 75, 451-486 (with B. Brennan).
65. 1994 "Irish marine habitats". in "*The Conservation of Aquatic Systems*", ed. Reynolds, J.D. Royal Irish Academy, Dublin, 47 -55. (with I. Lawler)
66. 1994 "Benthic Biological Pollution Indices in Estuaries" in "*Biomonitoring of coastal waters and estuaries*" ed. Kramer, K.J.M. pp 1 - 18. CRC Press, Baton Rouge. (with D.W. Jeffrey)
67. 1994 "HPLC determination of the triphenylmethane dye, malachite green, using amperometric detection at a carbon fibre microelectrode" *J. Chromatog. A*, 659, 329 - 336. (with K. Sagar, M.R. Smyth and K. McLoughlin)
68. 1996 "L'eutrophisation en Baie de Somme: mortalites des peuplements benthiques par anoxie". *Oceanol. Acta* 19, 131 - 140. (With H. Rybarczyk, B. Elkaim and N. Louquet)
69. 1997 "Long-term changes in density, population structure and growth rate of *Tellina tenuis* from Dublin Bay, Ireland. *Oceanol Acta*, 20, 267 - 274.
70. 1995 "Nutrient sources for nuisance macroalgae: the Dublin Bay case". *Ophelia* 42, 147-161. (with D.W. Jeffrey, M.B. Brennan, E. Jennings and B. Madden).
71. 1996 "Population dynamics, growth and energy budget of *Tellina tenuis* in Dublin Bay". In "*Irish Marine Science, 1995*" ed. Keegan, B.M. and O'Connor, R., Galway University Press, Galway, 159 - 174.
72. 1992 "Oxygen consumption by *Margaritifera margaritifera* and *Sphaerium corneum* in relation to temperature and low oxygen conditions". In "*Abstracts XI Malacological Congress Siena 1992*" eds Giusti, F. & Manganelli, G., 42 - 45. University of Siena, Siena. (with E. Moorkens).
73. 1996 "Renewable natural resources - estuaries". in "*Assessing Sustainability in Ireland*" eds Convery, F. and Feehan, J., Environmental Institute, UCD, Dublin, 118 - 121.
74. 1997 "Science for management in coastal and estuarine waters". *Estuar. Cstl. Shelf Sci.* 44A (ed. with M. Costello, C. Emblow and K. Kelly)
75. 1997 "Estuaries and Coastal Waters: Research and Management" *Journal of Coastal Conservation* Vol. 2. Opulus Press, Uppsala. (ed. with M. Costello, C. Emblow and K. Kelly).

76. 1997 "Seasonal and geographical differences in oxygen consumption with temperature of *Cerastoderma glaucum* (Poiret) and a comparison with *C. edule* (L.)". *Estuar. Cstl. Mar. Sci.* 45, 571 - 576. (with B. Elkaim).
77. 1998 "Eutrophication in Irish Waters". Royal Irish Academy, Dublin. (ed.)
78. 1998 "The impact of nutrients in an estuarine system". In "Eutrophication in Irish Waters", ed. Wilson, J. G., 115 - 125. Royal Irish Academy, Dublin. (with Brennan M. T., Khan, J., Jeffrey, D. W. and Jennings, E.).
79. 1997 "Seasonal effects on biochemical composition and condition of *Macoma balthica* and the effect of shore height on reproduction and survival". In "The Responses of Marine Organisms to their Environment", ed. Hawkins, L. E. and Hutchison, S., 67 - 76. University of Southampton, Southampton.
80. 1997 "Influence of macrofauna on nutrient fluxes across the sediment-water interface" *Journal de Recherche Océanographique* 22, 143 - 148. (with A. Parsons).
81. 1997 "Functional analysis by trophic guilds of macrobenthic community structure in Dublin Bay, Ireland". *J. Exp. Mar. biol. Ecol.* 222, 195 - 217. (with S. Roth).
82. 1998 The distribution of hydrocarbons on the east and south-west Irish coasts and in the Liffey estuary. *Biol. Environ.* 98B, 75 – 86. (With V. Choiseul and E. Nixon).
83. 1999 Population dynamics and energy budget for a population of *Donax variabilis* (Say) on an exposed South Carolina beach. *J. Exp. Mar. Biol. Ecol.* 239, 61-83.
84. 1998 The NOWESP research data base. *Dt. Hydrogr. Z.*, 48, 241 - 260. (with G. Radach, J. Gekeler, G. Becker, P. Bot, P. Castaing, F. Colijn, P. Damm, D. Danelssen, L. Foyn, J. Gamble, R. Laane, J.-P. Mommaerts, D. Nehring, K. Pegler & W. van Raaphorst).
85. 1999 Network analysis of the energy flow through the Dublin Bay ecosystem. *Biol. Environ.* 98B, 179 – 190. (with A. Parkes).
86. 2000 Long-term changes in Sevastopol Bay (the Black Sea) with particular reference to the Ichthyoplankton and Zooplankton. *Estuar. Cstl. Mar. Sci.* 52, 1 – 13. (With A.D. Gordina, E.V. Pavlova, E. I. Ovsyany, R. B. Kemp and A. S. Romanov).

87. 2001 Benthic Biodiversity of the southern Irish Sea. In *An Environmental review of the Irish Sea* Davies, H. (ed.) 113. Liverpool University Press, Liverpool. (With A.Y. Mackie, E.I.S. Rees, and B. O'Connor).
88. 2002 Particulate Inputs to Dublin Bay and to the South lagoon, Bull Island. *Hydrobiologia* **475/476**, 195-204. (With M. Brennan & A. Murray)
89. 2001 *Benthic Biodiversity in the Southern Irish Sea. 2. The South West Irish Sea Survey*. National Museum of Wales, Cardiff. (With A.Y. Mackie, E.I.S. Rees, B. O'Connor and T. Darbyshire).
90. 2001 Long-term studies of bivalves in Dublin Bay, Ireland. *Porcupine Mar. Nat. Hist. Soc. Newsl.* **7**, 27 – 31.
91. 2002 The South-West Irish Sea Survey (SWISS) of benthic biodiversity. In *Marine Biodiversity of Ireland* Nunn, J. (ed.), 166-170. Ulster Museum, Belfast. (with A. S. Y. Mackie and E. I. S. Rees).
92. 2002 Biodiversity of macrofauna on sandy and muddy shores in Ireland. In *Marine Biodiversity of Ireland* Nunn, J. (ed.), 5-14. Ulster Museum, Belfast. (with C. Emblow).
93. 2002 Productivity, fisheries and aquaculture in temperate estuaries. *Estuar. Cstl. Shelf Sci* **55**, 953 - 967
94. 2003 Evaluation of estuarine quality status at system level with the Biological Quality Index (BQI) and the Pollution Load Index (PLI). *Biol. Environ.* **103B**, 47-59.
95. 2004 "Population dynamics, biomass and productivity of *Limapontia depressa* (Gastropoda, Opisthobranchia) at Bull Island, Dublin, Ireland." *Aquat. Ecol.* **38**, 375-385. (With N. Forrest).
96. 2004 "Spatial and temporal variability in nutrient fluxes from the unpolluted Shannon estuary, Ireland, and the implications for microphytobenthic productivity. *Estuar. Cstl. Shelf Sci.* **60**, 193-202.
97. 2004 "The endocrine disrupting effect of municipal plant effluent on the zebra mussel (*Dreissena polymorpha*)". *Aquat. Toxicol.* **66**, 279 – 292. (With B. Quinn, F. Gagné, M. Costello, C. McKenzie & C. Mothersill)
98. 2003 "Dublin Bay". *Encyclopaedia of Ireland*, Dublin, Gill & McMillan, 320.

99. 2004 “Diffuse inputs of nutrients to Dublin bay”. *Wat. Sci. Technol.* **51** 231 -237.
100. 2005 “Genetic variability and phylogeography of the invasive zebra mussel, *Dreissena polymorpha* (Pallas). *Mol. Ecol.* **14**, 1655 – 1666. (With I. Astanei, E. Gosling and E. Powell).
101. 2005 Impact of the River Liffey discharge on nutrient and chlorophyll concentrations in the Liffey estuary and Dublin bay (Irish Sea). *Estuar. Cstl. Shelf. Sci.* **64**, 323-334.(With T. O’Higgins)
102. 2005 *The Intertidal Ecosystem*. Royal Irish Academy, Dublin.
103. 2005 The intertidal system: sustainability and long-term indicators of system status. In *The Intertidal Ecosystem* Wilson, J. (ed.). Royal Irish Academy, Dublin, 171 – 189.
104. 2006 *Benthic Biodiversity in the Southern Irish Sea. 2. The South West Irish Sea Survey. Volume 2. Species’ Distribution*. National Museum of Wales, Cardiff. (With A.Y. Mackie, E.I.S. Rees, B. O’Connor and T. Darbyshire). (in press)
105. 2006 *Benthic Biodiversity in the Southern Irish Sea. 2. The South West Irish Sea Survey. Volume 3. Community Analyses*. National Museum of Wales, Cardiff. (With A.Y. Mackie, E.I.S. Rees, B. O’Connor and T. Darbyshire).
106. 2006 Long-term changes in Dublin Bay; implications for climate change. *Cstl. Zone Topics* (in press)
107. 2007 A comparison of energy flow through the Dublin Bay and Baie de Somme intertidal ecosystems and their network analysis. *Hydrobiologia* **588**, 231 - 243. (With H. Rybarczyk and B. Elkaim).
108. 2006 The pollution status of north Dublin Bay . *Proc. ESAI Environ2005*, 38-45. University of Limerick, Limerick. (With F. McBreen).
109. 2007 The fish assemblage of the intertidal salt marsh creeks in North Bull Island, Dublin Bay: seasonal and tidal changes in composition, distribution and abundance. *Hydrobiologia* **588**, 213-224. (With V. Koutsogiannopoulou).
110. 2005 Phytoplankton spring bloom decay in the Liffey estuary. *Proc. ESAI Environ2005*, 5-7. University of Limerick, Limerick. (With T. O’Higgins & S.A. Ward).

111. 2007 Evaluating ecological quality in the north-eastern Black Sea coastal zone. *Marine Pollution Bulletin* **57/1-5**, 202-207 (With A. Komakhidze, T. Osadchaya, S. Alyomov, A. Romanov and M. Tediashvili).
112. 2007 Seabed mapping in the southern Irish Sea: predicting benthic biological communities based on sediment characteristics. *Hydrobiologia* **606**, 99-103. (With F. McBreen, C. Nic Aonghusa and A.S.Y. Mackie)
- 113 2008 Verification of the Heterotrophic–Photoautotrophic Index in Sevastopol Bay, Black Sea. *Oceanography* **423A**, 1520–1524. (with A. S. Lopukhin, I. V. Sysoeva, J. V. Bryantseva, O. A. Rylkova & R. B. Kemp)
- 114 2008 Adaptations to life in estuaries. In *Fisheries and Aquaculture* ed. Safran, P., 166-182. UNESCO, Eolss Publishers, Oxford.
- 115 2009 Development of an *in vitro* culture method for cells and tissues from the zebra mussel (*Dreissena polymorpha*). *Cytotechnology* **59**, 121-134. (With B. Quinn, M.J. Costello, G. Dorange & C. Mothersill).
- 116 2011 Fishery discards in the Irish Sea exhibit temporal oscillations and trends reflecting underlying processes at an annual scale. (with Mafalda Viana, Norman Graham and Andrew L. Jackson) *ICES Journal of Marine Science* **68**, 221–227.
- 111 2011 Irish estuaries: Water quality status and monitoring implications under the water framework directive. *Marine Policy* **35**, 810–818. (With M. Hartnett and S. Nash)
- 112 2012 A Bayesian framework for the detection of *Nephrops* burrows for seabed video analysis. *Proceedings of the IEEE International Conference on Image Processing*, Brussels, September 11-14, 2012. (in press: With Sooknanan, K., Kokaram, A., Corrigan, D., Baugh, G., Harte, N. & Pan, K.)
- 113 2012 Luczkovich, J. & Wilson, J.G. (Eds) 2012. Trophic Relationships of Coastal and Estuarine Ecosystems. Treatise on estuarine and coastal science, Vol.6 E. Wolanski & D. McLusky (Eds.), Elsevier, Amsterdam.
- 114 2012 Wilson, J.G. & Luczkovich, J. 2012. Introduction to Food Webs in Coastal and Estuarine Ecosystems. In: *Trophic Relationships of Coastal and Estuarine Ecosystems*, J. Wilson and J. Luczkovich (Eds) Treatise on estuarine and coastal science, Vol.6 E. Wolanski & D. McLusky (eds.), Elsevier, Amsterdam. pp 1-6.
- 115 2012 Wilson, J.G. & Devlin, M. (Eds) Nutrients, Feeding Processes and Trophodynamics of Estuarine and Coastal Systems. *Estuarine, Coastal and Shelf Science* **135**, 1-4.

- 116    2012    Wilson, J.G. & Fleeger, J. 2012. Estuarine Benthos. In Day, J. W., Kemp, W.M., Yanez-Arancibia, A. & Crump, B.C. (Eds) *Estuarine Ecology*, 303-325. Wiley –Blackwell, London.
- 117    2012    Wilson, J.G. 2012. Ecosystem Studies: Sandy Coastal Ecosystems In: Trophic Relationships of Coastal and Estuarine Ecosystems, J. Wilson and J. Luczkovich (Eds) Treatise on estuarine and coastal science, Vol.6 E. Wolanski & D. McLusky (Eds.), Elsevier, Amsterdam. pp 251-259
- 118    2013    Wilson, J.G., Bassett, A., & West, R. (Eds) 2013. System functioning and services of estuaries and lagoons. *Estuarine, Coastal and Shelf Science* 132, 1-4.
- 119    Giltrap, M., J. Ronan, S. Hardenberg, G. Parkes , B. McHugh, E. McGovern, J.G. Wilson 2012. Assessment of biomarkers in *Mytilus edulis* to determine Good Environmental Status for implementation of MSFD in Ireland. Marine Pollution Bulletin 71, 240-249
- 120    2014    Giltrap, M., B. McHugh, J. Ronan, E. McGovern & J.G. Wilson 2014. Biological effects and chemical measurements of pollution in Irish marine waters. Marine Institute, Galway. 110pp.
- 121    2014    Wilson, J.G. McHugh, B. & Giltrap, M. 2014. Biomarkers: are realism and control mutually exclusive in integrated pollution assessment? Marine Environmental Research (in press).

## OTHER PUBLISHED WORKS

- 1 1976 "A sublittoral survey of Loch Eriboll and surrounding waters". Glas. Univ. Explor. Soc. Report of the Durness Expedition 1975, 25-38.
- 2 1977 Marine biology articles (3) in "Scottish Diver"
- 3 1978 "The use of organisms and sediments in monitoring estuarine quality". in Coastal Pollution, National Board of Science and Technology, Dublin, 137-146. (with D.W. Jeffrey, C.R. Harris, M. Lyes and D.L. Tomlinson).
- 4 1978 "Thermal survey of Dublin Port. Section IV Biological Survey". in Thermal Survey of Dublin Port for the Electricity Supply Board by the Applied Research and Consultancy Group, T.C.D., Project 8/14.
- 5 1979 "Communities and sediments off Lundy". Report to the Nature Conservancy Council, Huntingdon, 55pp.
- 6 1980 "Distribution, biomass and productivity of bivalves in Dublin Bay". *Haliotis*, 1), 153.
- 7 1980 "Effect of high Cu on M.edulis and L.rudis". Poster of paper, Society for Experimental Biology, Aberdeen, 1980.
- 8 1984 "An investigation into the spacing and distribution of the bivalve *Nucula turgida* in Dublin Bay." Cruise Report 1/84, NBST, Dublin, 7pp.
- 9 1984 "Impacts of pollution on the biology of the Bay". In Dublin Bay - an outstanding natural resource at risk, DBEG, Dublin, pp. 47-64 (with B. Magennis)
- 10 1985 "Effect of sediment organic content on Nucula and Abra distribution". Cruise Report 23/84, NBST, Dublin, 6pp
- 11 1985 "The effect of sediment organic content on the abundance and distribution of bivalves". Cruise Report 8/85, NBST, Dublin, 6pp.
- 12 1985 "Benthic studies off the east coast of Ireland" In Lough Beltra 1984, NBST, Dublin, pp 60-67.
- 13 1985 "Water and sediment quality in Dublin Bay". Cruise Report 32/85, NBST, Dublin 7pp.
- 14 1986 "Water, sediment and fauna monitoring in Dublin Bay". Cruise Report 9/86, NBST Dublin, 6pp.
- 15 1986 "Pollution status of the Slaney Estuary". Report to Wexford County Council, Contract No.4/86, 10pp
- 16 1987 "Water and sediment quality in Dublin Bay" Cruise Report 2/87, NBST, Dublin 6pp
- 17 1987 "Water and sediment quality in Dublin Bay". Cruise Report 35/87, NBST, Dublin, 5pp.
- 18 1987 Book review in J. Coastal Mgt.
- 19 1988 "Dublin Bay Environmental Studies", 4th Lough Beltra Annual Symposium, Dublin.
- 20 1988 "Sediment infauna and water quality in Inner Dublin Bay". Cruise report 20/88, Dept. Marine, Dublin, 5pp.
- 21 1988 "Environmental aspects of marine treatment". In "Marine Treatment", IWEM, Dublin 151-62.
- 22 1989 "Sediments and fauna off Arklow and Dublin". Cruise report 30/88, Dept. Marine, Dublin 5pp.

- 23 1989 "Comparison of fish diseases between Ireland and Libya". in Combat of pollution and conservation of marine wealth, Libya. (with M. Latewesh and J. McArdle).
- 24 1989 "COST 647 - Ecologie Benthique Cotiere". In "Exelsom - une sacree programme", Abbeville, France, 1-6.
- 25 1989 Book review Bulletin Estuarine and Coastal Sciences Assoc.
- 26 1989 "Shanelbe - Summary Report". In "Biogeochemical cycles in two major European estuaries". EEC, Brussels,.
- 27 1989 "Telluric pollution - urban input". CEC Environment and Local Planning Committee, Strasbourg.
- 28 1989 "Dublin Bay water quality management plan: algal growth and foreshore water quality study. Report No. 1. Quality Indices and general progress". Report to Management Committee, ERDO, 1989. 44pp. (with D.W. Jeffrey *et al.*)
- 29 1990 Shanelbe - Summary Report and Outlook". In "Shanelbe meeting, Galway, 1990". ESU, Dublin, 1-4.
- 30 1990 "Dublin Bay Water Quality Management Plan: algal growth and foreshore Water Quality study. Report No. 2. Summer conditions". Report to Managment Committee, ERDO, 1990. 44pp. (with D.W. Jeffrey *et al.*)
- 31 1990 "Dublin Bay water quality management plan: algal growth and foreshore water quality. Final Report". Report to Management Committee, ERDO, 1990. 177 + xxvii pp. (with D.W. Jeffrey *et al.*)
- 32 1991 "The Shannon estuary and the Shanelbe project". JEEP 92, No. 2, 13.
- 33 1991 "Red Menace" Diver, Feb 1991, 16.
- 34 1990 "Shanelbe summary report May 1988 - March 1989" In "Biogeochemical cycles in two major european estuaries: the Shanelbe project". CEC Water Pollution research Report 15, eds. Kausch, H., Wilson J.G. and Barth, H., 154 - 159.
- 35 1992 "The Shannon estuary - a summary of the available data". JEEP92, No. 3.
- 36 1992 "AQ.2.503 - Environmental effects of Malachite Green: Progress Report No. 1". Report to EC DG XIV, Brussels.
- 37 1992 "Oxygen consumption by intertidal bivalves in relation to temperature". Abstracts SEBS, Lancaster 5-10 April 1992, p48.
- 38 1992 Studies on the macrozoobenthos in Dublin bay. In *COST 647 Coastal Benthic Ecology Activity Report 1988-91*, Keegan, B.K. (ed.), 269. CEC, Brussels.
- 39 1992 Progress on *Tellina tenuis* and *Tellina fabula*. In *COST 647 Coastal Benthic Ecology Activity Report 1988-91*, Keegan, B.K. (ed.), 271-2. CEC, Brussels.
- 38 1993 "Hydrology, nutrient and biological status of the Shannon estuary" JEEP92, No. 4.
- 39 1983-92 MCS column in "Subsea", "Badger".
- 40 1993 "Ecosystems of the World, Vol 24: Intertidal and Littoral Ecosystems". Book Review, J. Exp. mar. Biol. Ecol. 168, 286-287.
- 41 1993 "An analysis of communities in Dublin Bay, Ireland by trophic type". Abstract, XII ERF Conference, "Science and Management of Coastal Systems", Nov 14-18, 1993. (with S. Roth).

- 42 1993 "AQ.2.503 - Environmental effects of Malachite Green: Progress Report No. 2". Report to EC DG XIV, Brussels
- 43 1993 "Particulate nutrient inputs and their role in macro-algal development in Dublin Bay". First quarterly report, DoE, Dublin, March 1993. (With M. Brennan, D.W. Jeffrey and A. Dowley).
- 44 1993 "Particulate nutrient inputs and their role in macro-algal development in Dublin Bay". Second quarterly report, DoE, Dublin, June 1993. (With M. Bennan, D.W. Jeffrey and A. Dowley).
- 45 1993 "Particulate nutrient inputs and their role in macro-algal development in Dublin Bay". Third quarterly report, DoE, Dublin, September 1993. (With M. Bennan, D.W. Jeffrey and A. Dowley).
- 46 1993 "Ecosystems of the World, Vol 2A. Dry Coastal Ecosystems: Polar regions and Europe". Book Review, J. Exp. mar. Biol. Ecol. 173, 295-296.
- 47 1993 "Discrimination of the macrofaunal communities of Dublin Bay and their characteristics". Abstract, "The Science and management of Coastal Systems", ERF, Hilton Head island, SC, November 1993.
- 48 1994 "Particulate nutrient inputs and their role in macro-algal development in Dublin Bay". Final Report, DoE, Dublin, September 1993. 215pp. (With M. Bennan, D.W. Jeffrey and A. Dowley).
- 49 1994 "AQ.2.503 - Environmental effects of Malachite Green: Progress Report No. 3". Report to EC DG XIV, Brussels
- 50 1995 "Strategies and methods in Coastal and Estuarine Management". Programme and Abstracts of ECSA 25, TCD, Dublin 1995. 132 pp. (Ed. with M. J. Costello et al.)
- 51 1995 "Renewable natural resources - estuaries". In "Assessing Sustainability in Ireland" ed Convery, F. and Feegan, J. 118 - 121. Env. Inst., UCD, Dublin.
- 52 1995 "Potential of shellfish farming in the monitoring of coastal water quality". In "Conference Conchyliculture et Developpement Integre des Zones Cotieres", EC DG XIV, Brussels (with M. J. Costello) (in press).
- 53 1995 "AQ.2.503 - Environmental effects of Malachite Green: Final Report". Report to EC DG XIV, Brussels.
- 54 1995 "Barnacles. Structure, function, development and evolution". Anderson, D. T. Book review, J. Fish. Biol.
- 55 1995 "Nutrient studies in the Irish Sea". In NOWESP 2nd Annual Progress Report, 153-156. (EC MAST MAS2-CT93-0067).
- 56 1996 "Marine Protected Areas. Principles and Techniques for Management" Ed. Gubbay, S. Book review, J. exp. Mar. Biol. Ecol. 194, 283-4.
- 57 1996 "Handbook of the Marine Fauna of North-West Europe". Hayward, P. J. and Ryland, J. S. Book Review, J. Exp. Mar. Biol. Ecol. , 196, 381 - 382.
- 58 1996 "Biomass in Dublin Bay". Cruise report 3/96, Dept. Marine, Dublin 5pp.
- 59 1996 "Data bases from Ireland". In NOWESP 3rd Annual Progress Report, 174 -179. (EC MAST MAS2-CT93-0067).
- 60 1997 "Estuaries and Coastal waters: Research and Management. Introduction". J. Cstl. Conserv. 2, 101 -2.

- 61/1996 "Biomass in Dublin Bay". Cruise report 8/96, Dept. Marine,  
Dublin 5pp.
- 62 1996 "Biomass in Dublin Bay". Cruise report 11/96, Dept. Marine,  
Dublin 5pp.
- 63 1997 "Coasts and Seas of the United Kingdom" Ed. Hiscock, K. Book  
review, J. Exp. Mar. Biol. Ecol. 210, 275-6.
- 64 1997 "South-West Irish Sea Project". Report No. I, Department of the  
Marine, Dublin.
- 65 1997 "South-West Irish Sea Project". Report No. II, Department of the  
Marine, Dublin.
- 66 1997 "South-West Irish Sea Project". Report No. III, Department of the  
Marine, Dublin.
- 67 1997 "South-West Irish Sea Project". Annual Report, Department of the  
Marine, Dublin.
- 68 1998 "Marine Pollution", Clark, R.B. Book review, J. Exp. Mar. Biol.  
Ecol. 218, 290-1.
- 69 1998 "Non-native marine species in British waters: a review and  
directory" N. Clare Eno, R. A. Clark and W. G. Sanderson (eds.). Book Review, J. Exp.  
Mar. Biol. Ecol. 221, 303-4.
- 70 1998 "Eutrophication in Irish Waters: Preface". In *Eutrophication in  
Irish Waters* ed. Wilson, J.G., xi-xii. RIA, Dublin.
- 71 1998 "Distribution and population cycle of *Limapontia depressa* at Bull  
Island, Co. Dublin, Ireland". Abstract, ECSA 29, Port Elizabeth. (with N. Forrest).
- 72/1998 "Estuarine and Coastal Sciences Association. Bulletin No. 28 May  
1998". Wood & Woods, Norwich. 16pp.
- 73/1998 "Estuarine and Coastal Sciences Association. Bulletin No. 29 Sept.  
1998". Wood & Woods, Norwich. 68pp.
- 74 1998 "Distribution and population cycle of *Limapontia depressa* at Bull  
Island, Co. Dublin, Ireland". Bull. Estuar. Cstl. Sci. Ass. 29, 45. (with N. Forrest)
- 75/1998 "Evaluation of estuarine quality status at system level". Bull.  
Estuar. Cstl. Sci. Ass. 29, 36-7.
- 76/1999 "Estuarine and Coastal Sciences Association. Bulletin No. 30 Jan.  
1999". Wood & Woods, Norwich. 36pp.
- 77/1999 "South-West Irish Sea Survey (SWISS). In *Marine Institute  
Interreg Seminar June 1998* 6 – 7. Marine Institute, Dublin.
- 78 1999 "Estuarine and Coastal Sciences Association. Bulletin No. 31 June.  
1999". Wood & Woods, Norwich. 35pp.
- 79/1999 "Encyclopaedia of Marine Sciences", Baretta-Bekker, J.G.,  
Duursma, E. & Kuipers, B.R. (eds). Book review, J. Exp. Mar. Biol. Ecol. 238, 155-6.
- 80 1999 "Ecosystems of the World, Vol. 2C: Dry Coastal Ecosystems:  
General Aspects", van der Marel, E. (ed.). Book review, J. Exp. Mar. Biol. Ecol. 238,  
157.
- 81 1999 "Estuarine and Coastal Sciences Association. Bulletin No. 32  
September 1999". Wood & Woods, Norwich. 36pp.
- 82 1999 "Oceanography", Garrison, T.. (3<sup>rd</sup> ed.). Book review, Bull. Estuar.  
Cstl. Sci. Ass. 32, 31-2.

- 83 2000 "Estuarine and Coastal Sciences Association. Bulletin No. 33 January 2000". Wood & Woods, Norwich. 20pp.
- 84 2000 "Estuarine and Coastal Sciences Association. Bulletin No. 34 June 2000". Wood & Woods, Norwich. 32pp.
- 85 2000 "Estuarine and Coastal Sciences Association. Bulletin No. 35 September 2000". Wood & Woods, Norwich. 71pp.
- 86 2000 "South West Irish Sea Survey (SWISS)". In "Protection of the Marine and Coastal Environment and Marine Emergency Planning" Eds O'Sullivan, G., Maye, K. and Ni Shuilleabhan, S., 7-9. Department of the Marine, Dublin.
- 872000 "The state of the plankton community as an indicator of environmental conditions." (Abstract) Academy of Sciences, Moscow. (with Gordina A.D., Pavlova E.V., Ovsyany E.I., Romanov A.S., Kemp R.B. and Repetin L.N.).
- 88 2000 "South West Irish Sea Survey (SWISS)". (Poster) "Irish Sea Conference 2000" Isle of Man, October 2000. (With E.I.S. Rees, A.Y. Mackie and B. O'Connor).
- 89 2000 "South West Irish Sea Survey (SWISS)". (Abstract & Poster) "Biodiversity – a Natural National Resource" Eds Iremonger, S. & Embrow, C. ESAI, Dublin. (With E.I.S. Rees, A.Y. Mackie and B. O'Connor)
- 90 2000 Biodiversity and Management Implications. Bioassessment E-Conference, [www.gencat.es/mediamb/bioassess](http://www.gencat.es/mediamb/bioassess)
- 91 2000 Invasive Species as Indicators. Bioassessment E-Conference, [www.gencat.es/mediamb/bioassess](http://www.gencat.es/mediamb/bioassess).
- 92 2000 "South West Irish Sea Survey (SWISS)". *Bull. Estuar. Cstl. Sci. Ass.* 34, 21. (With E.I.S. Rees, A.Y. Mackie and B. O'Connor)
- 93 2000 "Estuarine and Coastal Sciences Association. Bulletin No. 36 January 2001". Wood & Woods, Norwich. 40pp.
- 94 2000 "Benthic Ecology Network for the southern Irish Sea – BENSIS". *Special Report. Directory of INTERREG II Projects*, 83-4. Department of the Marine, Dublin. (With E.I.S. Rees and A.Y. Mackie)
- 95 2001 "Climatic influences on the reproduction of the Sphaeriidae". *Environ 2001. Water and Environment*, 75. DCU, Dublin. (with C. O'Toole)
- 96 2001 "The importance of intertidal saltmarsh channels in the conservation and ecology of estuarine fish.". *Environ 2001. Water and Environment*, 75. DCU, Dublin. (With V. Koutsagiannopoupou)
- 97 2001 "The energy transfer from intertidal sediment at Bull Island to *Hydrobia ulvae*, a primary consumer". *Environ 2001. Water and Environment*, 84. DCU, Dublin. (with M. Hayes).
- 982001 "Estuarine and Coastal Sciences Association. Bulletin No. 37 June 2001". Wood & Woods, Norwich. 33pp.
- 99 2001 "Population dynamics of *Musculium lacustre* in Ireland's temperate climate." *Bull. Malac. Soc. Lond.* **37**, 9. (with C. O'Toole).
- 1002001 "Estuarine and Coastal Sciences Association. Bulletin No. 38 September 2001". Wood & Woods, Norwich. 36pp
- 101 2002 "Estuarine and Coastal Sciences Association. Bulletin No. 39 January 2002". Wood & Woods, Norwich. 25pp

- 102 2000 “The state of the plankton community as an indicator of environmental conditions”. In *3rd INTAS Interdisciplinary Symposium on general biochemistry, biotechnology and environment*. Moscow, 23-24. (with Gordina A.D., Pavlova E.V., Ovsyany E.I., Romanov A.S., Kemp R.B., & Repetin L.N.)
- 103 2002 “Estuarine and Coastal Sciences Association. Bulletin No. 40 June 2002”. Wood & Woods, Norwich. 31pp
- 104 2002 “Estuarine and Coastal Sciences Association. Bulletin No. 41 October 2002”. Wood & Woods, Norwich. 55pp
- 105 2003 “Estuarine and Coastal Sciences Association. Bulletin No. 42 February 2003”. Wood & Woods, Norwich. 70pp
- 106 2003 “Estuarine and Coastal Sciences Association. Bulletin No. 43 June 2003”. Wood & Woods, Norwich. 40pp
- 107 2003 “Diffuse inputs of nutrients to Dublin Bay” DipCon, UCD, Dublin July 2003, 6-105 – 6-110.
- 108 2003 “Estuarine and Coastal Sciences Association. Bulletin No. 44 October 2003”. Wood & Woods, Norwich. 54pp
- 109 2003 “Modelling and network analysis of the Dublin bay system”. Abstract, ERF03, Seattle 14-19 Sept.
- 110 2004 “Estuarine and Coastal Sciences Association. Bulletin No. 45 January 2004”. Wood & Woods, Norwich. 40pp
- 111 2004 “Estuarine and Coastal Sciences Association. Bulletin No. 46 July 2004”. Wood & Woods, Norwich. *NEW FORMAT* 16pp
- 112 2004 “Quality Status of Sevastopol Bay (Black Sea) measured by the biological quality index and the pollution load index”. Abstract, ESCA37 *Estuaries and Change*, Ballina, NSW 20-25 June.
- 113 2004 “Microbial contamination in the Georgian coastal zone of the Black Sea”. Abstract, ESCA37 *Estuaries and Change*, Ballina, NSW 20-25 June.
- 114 2004 “Assessment of the stability and resilience in the Dublin Bay intertidal ecosystem”. Abstract, ESCA37 *Estuaries and Change*, Ballina, NSW 20-25 June.
- 115 2005 “Reference metal levels for European estuaries and coastal waters: a comparison of North Atlantic data with the Black Sea. Abstract, ECSA40, Edinburgh 1-3 Sept.
- 116 2005 “Estuarine and Coastal Sciences Association. Bulletin No. 47 January 2005”. Wood & Woods, Norwich. *NEW FORMAT* 16pp
- 117 2005 “Indices to Evaluate Estuarine Health”. Abstract, ERF05 Norfolk, Va., 10-18 Sept.
- 118 2010 Gilrap, M., McHugh, B. & Wilson, J.G. 2010. Biological Effects of Pollution. Report to the Marine Institute, Galway. 17pp.
- 119 2011 Gilrap, M., McHugh, B. & Wilson, J.G. 2011. Biological Effects of Pollution. Report to the Marine Institute, Galway. 16pp.
- 120 2012 Gilrap, M., McHugh, B. & Wilson, J.G. 2012. Biological Effects of Pollution. Report to the Marine Institute, Galway. 17pp.

121 2012 Sooknanan, K., Kokaram, A., Corrigan, D., Baugh, G., Wilson, J.G. & Harte, N. 2012. Improving underwater visibility using vignetting correction. In SPIE Visual Information Processing and Communication II. Burlingame, California, USA, January 2012. (Abstract)

122 2012 Sooknanan, K., Kokaram, A., Corrigan, D., Baugh, G., Harte, N. & Wilson, J. 2012. Indexing and selection of well-lit details in underwater video mosaics using vignetting estimation. In IEEE International OCEANS Conference. Yeosu, South Korea, May 2012. (Abstract)

123 2012 Laurand S., Riera P. & Wilson J.G. 2012. Seasonal impact of a green macroalgal bloom on the benthic food web of an intertidal lagoon (Dublin Bay, Ireland). ISOECOL 8<sup>th</sup> International Conference on the Application of Stable Isotope Techniques to Ecological Studies, Brest, France, August 20<sup>th</sup>-24<sup>th</sup> 2012. (Abstract).

124 Sooknanan, K., Kokaram, A., Wilson, J.G. Corrigan, D., Baugh, G., Harte, N. & Pan, K. 2012. A Bayesian framework for the detection of Nephrops burrows for seabed video analysis. Proceedings of the IEEE International Conference on Image Processing, Brussels, September 11-14, 2012. (Abstract)

## Format Curriculum Vitae DMG

### Personalia

SURNAME, NAME [TITLE] : Mulder, Christian [Dr]

DEPARTMENT M&E (DMG) RIVM

FUNCTION Senior scientist: Numerical ecologist (trait ecology, macroecology)

HOMEPAGE [https://www.researchgate.net/profile/Christian\\_Mulder2?ev=hdr\\_xprf](https://www.researchgate.net/profile/Christian_Mulder2?ev=hdr_xprf)

### EDUCATION

| Education                                                                                                                                             | Years         | Location                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------|
| National PhD candidate (VIII Cycle, Botanical Sciences) within the DESERTIFICATION EU Programme for vegetation science in southern Europe             | 1993-1996     | Plant Biology Department of the First University of Rome "La Sapienza". |
| Majored in Geobotany, Historical Plant Geography and Environmental Science in 1984, graduated with highest marks (Laurea 110/110 vecchio ordinamento) | June 19, 1990 | Earth Sciences at the First University of Rome "La Sapienza".           |
| High School (60/60), my O-level (Maturità Scientifica) obtained with Honors                                                                           | 1973-1981     | "San Giuseppe Calasanzio", Roma (Scuola media + Liceo-ß).               |

### WORK

| Position                                                                                                  | Years        | Location                                                                                   |
|-----------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------|
| Numerical ecologist                                                                                       | 2000-ongoing | RIVM (Bilthoven)                                                                           |
| PostDoc for NWO-supported Kalahari Desertification cluster and for the ENVIRONMENT EU Programme EV5V-0027 | 1997-2000    | Utrecht University                                                                         |
| Professional core palynologist                                                                            | 1996-1997    | SHELL (Brunei)                                                                             |
| Elected scientific-staff Official                                                                         | 1993-1995    | Senatus Academicus of the First University of Rome "La Sapienza"                           |
| Fellowship in the framework of the ENVIRONMENT Programme "Timing, Natural Trends and Human Impact"        | 1991-1993    | First University of Rome "La Sapienza" / MURST grant from Ministero Agricoltura e Foreste. |
| Assistant Curator in the Herbarium Romanum                                                                | 1988-1990    | First University of Rome "La Sapienza"                                                     |
| Traduttore giurato affari esteri, Rota Romana                                                             | 1984-1993    | Cancelleria Vaticana (Città del Vaticano)                                                  |

**Peer-reviewed publications (in English):**

74. POSTHUMA, L., BJØRN, A., ZIJP, M.C., BIRKVED, M., DIAMOND, M.L., HAUSCHILD, M.Z., HUIJBREGTS, M.A.J., MULDER, C., VAN DE MEENT, D., 2014. Beyond Safe Operating Space: Finding chemical footprinting feasible. – *Environmental Science and Technology* 38: 6057-6059 (doi: 10.1021/es501961k).
73. COHEN, J.E., MULDER, C., 2014. Soil invertebrates, chemistry, weather, human management, and edaphic food webs at 135 sites in The Netherlands: SIZEWEB. – *Ecology* 95: 578 (doi: 10.1890/13-1337.1).
72. VERVOORT, M.T.W., VONK, J.A., BROLSMA, K.M., SCHÜTZE W., QUIST, C.W., DE GOEDE, R.G.M.4, HOFFLAND, E., BAKKER, J., MULDER, C., HALLMANN, J., HELDER, J., 2014. Release of isothiocyanates does not explain the effects of biofumigation with Indian mustard cultivars on nematode assemblages. – *Soil Biology and Biochemistry* 68: 200–207 (doi: 10.1016/j.soilbio.2013.10.008).
71. MULDER, C., AHRESTANI, F.S., BAHN, M., BOHAN, D.A., BONKOWSKI, M., GRIFFITHS, B.S., GUICHARNAUD, R.A., KATTGE, J., KROGH, P.H., LAVOREL, S., LEWIS, O.T., MANCINELLI, G., NAEEM, S., PEÑUELAS, J., POORTER, H., REICH, P.B., ROSSI, L., RUSCH, G.M., SARDANS, J., WRIGHT, I.J., 2013. Connecting the green and brown worlds: Allometric and stoichiometric predictability of aboveground and belowground networks. – *Advances in Ecological Research* 49: 69–175 (doi: 10.1016/B978-0-12-420002-9.00002-9).
70. BOHAN, D.A., RAYBOULD, A., MULDER, C., WOODWARD, G., TAMADDONI-NEZHAD, A., BLUTHGEN, N., POCOCK, M.J.O., MUGGLETON, S., EVANS, D.M., ASTEGIANO, J., MASSOL, F., LOEUILLE, N., PETIT, S., MACFADYEN, S., 2013. Networking agroecology: Integrating the diversity of agroecosystem interactions. – *Advances in Ecological Research* 49: 1–67 (doi: 10.1016/B978-0-12-420002-9.00001-9).
69. STEWART, R.I.A., DOSSENA, M., BOHAN, D.A., JEPPESEN, E., KORDAS, R.L., LEDGER, M.E., MEERHOFF, M., MOSS, B., MULDER, C., SHURIN, J.B., SUTTLE, B., THOMPSON, R., TRIMMER, M., WOODWARD, G., 2013. Mesocosm experiments as a tool for ecological climate-change research. – *Advances in Ecological Research* 48: 71–181 (doi: 10.1016/B978-0-12-417199-2.00002-1). [COVER PAPER].
68. VONK, J.A., BREURE, A.M., MULDER, C., 2013. Environmentally-driven dissimilarity of trait-based indices of nematodes under different agricultural management and soil types. – *Agriculture, Ecosystems and Environment* 179: 133–138 (doi: 10.1016/j.agee.2013.08.007).
67. LAVOREL, S., STORKEY, J., BARDGETT, R.D., DE BELLO, F., BERG, M.P., LE ROUX, X., MORETTI, M., MULDER, C., PAKEMAN, R.J., DÍAZ, S., HARRINGTON, R., 2013. A novel framework for linking functional diversity of plants and other trophic levels for the quantification of ecosystem services. – *Journal of Vegetation Science* 22: 942–948 (doi: 10.1111/jvs.12083).
66. MULDER, C., HENDRIKS, A.J., 2013. Half-saturation constants in functional responses. – *arXiv:1305.5533* [q-bio.PE]. <http://arxiv.org/abs/1305.5533>
65. VONK, J.A., MULDER, C., 2013. Contrasting influence of soil nutrients and microbial community on differently sized basal consumers. – *Naturwissenschaften* 100: 611–620 (doi: 10.1007/s00114-013-1058-x).
64. HUNTING, E.R., MULDER, C., KRAAK, M.H.S., BREURE, A.M., ADMIRAAL, W., 2013. Effects of copper on invertebrate-sediment interactions. – *Environmental Pollution* 180: 131–135 (doi: 10.1016/j.envpol.2013.05.027).
63. FABER, J.H., CREAMER, R.E., MULDER, C., RÖMBKE, J., RUTGERS, M., SOUSA, J.P., STONE, D., GRIFFITHS, B.S., 2013. The practicalities and pitfalls of establishing a policy-relevant and cost-effective soil biological monitoring scheme. – *Integrated Environmental Assessment and Management* 9: 276–284 (doi: 10.1002/ieam.1398).
62. VERVOORT, M.T.W., VONK, J.A., MOOIJMAN, P.J.W., VAN DEN ELSEN, S.J.J., VAN MEGEN, H.H.B., VEENHUIZEN, P., LANDEWEERT, R., BAKKER, J., MULDER, C., HELDER, J., 2012. SSU ribosomal DNA-based monitoring of nematode assemblages reveals distinct seasonal fluctuations within evolutionary heterogeneous feeding guilds. – *PLoS ONE* 7: e47555 (doi: 10.1371/journal.pone.0047555).

61. MULDER, C., BOIT, A., MORI, S., VONK, J.A., DYER, S.D., FAGGIANO, L., GEISEN, S., GONZÁLEZ, A.L., KASPARI, M., LAVOREL, S., MARQUET, P.A., ROSSBERG, A.G., STERNER, R.W., VOIGT, W., WALL, D.H., 2012. Distributional (in)congruence of Biodiversity-Ecosystem Functioning. – *Advances in Ecological Research* 46: 1–88 (doi: 10.1016/B978-0-12-396992-7.00001-0).
60. KAMPFRAATH, A.A., HUNTING, E.R., MULDER, C., BREURE, A.M., GESSNER, M.O., KRAAK, M.H.S., ADMIRAAL, W., 2012. DECOTAB: a multipurpose standard substrate to assess effects of litter quality on microbial decomposition and invertebrate consumption. – *Freshwater Science* 31: 1156–1162 (doi: 10.1899/12-075.1).
59. HUNTING, E.R., WHATLEY, M.H., VAN DER GEEST, H.G., MULDER, C., KRAAK, M.H.S., BREURE, A.M., ADMIRAAL, W., 2012. Invertebrate footprints on detritus processing, bacterial community structure and spatio-temporal redox profiles. – *Freshwater Science* 31: 724–732 (doi: 10.1899/11-134.1).
58. MULDER, C., 2012. Ecology and eScience. – *Ecological Processes* 1 (1): 1-5 (doi: 10.1186/2192-1709-1-1), Open Access [\[COVER PAPER\]](#).
57. HENDRIKS, A.J., MULDER, C., 2012. Delayed logistic and Rosenzweig–MacArthur models with allometric parameter setting estimate population cycles at lower trophic levels well. – *Ecological Complexity* 9: 43–54 (doi: 10.1016/j.ecocom.2011.12.001).
56. VAN WIJNEN, H.J., RUTGERS, M., SCHOUTEN, T., MULDER, C., DE ZWART, D., BREURE, T., 2012. How to calculate the spatial distribution of ecosystem services - Natural attenuation as example from The Netherlands. – *Science of the Total Environment* 415: 49–55 (doi: 10.1016/j.scitotenv.2011.05.058).
55. RUTGERS, M., VAN WIJNEN, H.J., SCHOUTEN, A.J., MULDER, C., KUITEN, A.M.P., BRUSSAARD, L., BREURE, A.M., 2012. A method to assess ecosystem services developed from soil attributes with stakeholders and data of four arable farms. – *Science of the Total Environment* 415: 39–48 (doi: 10.1016/j.scitotenv.2011.04.04).
54. MULDER, C., BOIT, A., BONKOWSKI, M., DE RUITER, P.C., MANCINELLI, G., VAN DER HEIJDEN, M.G.A. VAN WIJNEN, H.J., VONK, J.A., RUTGERS, M., 2011. A belowground perspective on Dutch agroecosystems: How soil organisms interact to support ecosystem services. – *Advances in Ecological Research* 44: 277-357 (doi: 10.1016/B978-0-12-374794-5.00005-5).
53. MULDER, C., HELDER, J., VERVOORT, M.T.W., VONK, J.A., 2011. Gender matters more than intraspecific trait variation. – *Ecology and Evolution* 1: 386–391 (doi: 10.1002/ece3.36), Open Access.
52. MULDER, C., VONK, J.A., 2011. Nematode traits and environmental constraints in 200 soil systems: Scaling within the 60–6,000 µm body size range. – *Ecology* 92: 2004A (doi: 10.1890/11-0546.1), Open Access.
51. MULDER, C., VONK, J.A., DEN HOLLANDER, H.A., HENDRIKS, A.J., BREURE, A.M., 2011. How allometric scaling relates to soil abiotics. – *Oikos* 120: 529-536 (doi: 10.1111/j.1600-0706.2011.18869.x), Open Access.
50. MULDER, C., 2011. World Wide Food Webs: Power to Feed Ecologists. – *Ambio* 40: 335-337 (doi: 10.1007/s13280-010-0069-5).
49. MULDER, C., 2010. Soil fertility controls the size-specific distribution of eukaryotes. – *Annals of the New York Academy of Sciences* 1195: E74-E81 (doi: 10.1111/j.1749-6632.2009.05404.x).
48. MULDER, C., ELSER, J.J., 2009. Soil acidity, ecological stoichiometry and allometric scaling in grassland food webs. – *Global Change Biology* 15: 2730-2738 (doi: 10.1111/j.1365-2486.2009.01899.x), Open Access [\[COVER PAPER\]](#).
47. RUTGERS, M., SCHOUTEN, A.J., BLOEM, J., VAN EEKEREN, N., DE GOEDE, R.G.M., JAGERS OP AKKERHUIS, G.A.J.M., VAN DER WAL, A., MULDER, C., BRUSSAARD, L., BREURE, A.M., 2009. Biological measurements in a nationwide soil monitoring network. – *European Journal of Soil Science* 60: 820-832 (doi: 10.1111/j.1365-2389.2009.01163.x).
46. GARDI, C., MONTANARELLA, L., ARROUAYS, D., BISPO, A., LEMANCEAU, P., RANJARD, L., MULDER, C., RÖMBKE, J., RUTGERS, M., MENTA, C., 2009. Soil Biodiversity Monitoring: ongoing activities and challenges. – *European Journal of Soil Science* 60: 807-819 (doi: 10.1111/j.1365-2389.2009.01177.x).

45. REUMAN, D.C., COHEN, J.E., MULDER, C., 2009. Human and environmental factors influence soil faunal abundance–mass allometry and structure. – *Advances in Ecological Research* 41: 45-85 (doi: 10.1016/S0065-2504(09)00402-4) [reprinted Summer 2009].
44. REUMAN, D.C., MULDER, C., BANAŠEK-RICHTER, C., CATTIN BLANDENIER, M.-F., BREURE, A.M., DEN HOLLANDER, H., KNEITEL, J.M., RAFFAELLI, D., WOODWARD, G., COHEN, J.E., 2009. Allometry of body size and abundance in 166 food webs. – *Advances in Ecological Research* 41: 1-44 (doi: 10.1016/S0065-2504(09)00401-2) [reprinted Summer 2009].
43. MULDER, C., DEN HOLLANDER, H.A., VONK, A.J., ROSSBERG, A.G., JAGERS OP AKKERHUIS, G.A.J.M., YEATES, G.W., 2009. Soil resource supply influences faunal size-specific distributions in natural food webs. – *Naturwissenschaften* 96: 813-826 (doi: 10.1007/s00114-009-0539-4), Open Access.
42. MULDER, C., LOTZ, L.A.P., 2009. Biotechnology, environmental forcing, and unintended trophic cascades. – *Arthropod–Plant Interactions* 3: 131-139 (doi: 10.1007/s11829-009-9063-x).
41. VAN DER WAL, A., GEERTS, R.H.E.M., KOREVAAR, H., SCHOUTEN, A.J., JAGERS OP AKKERHUIS, G.A.J.M., RUTGERS, M., MULDER, C., 2009. Dissimilar response of plant and soil biota communities to long-term nutrient addition in grasslands. – *Biology and Fertility of Soils* 45: 663–667 (doi: 10.1007/s00374-009-0371-1).
40. VAN DER WAL, A., BLOEM, J., MULDER, C., DE BOER, W., 2009. Relative abundance and activity of melanized hyphae in different soil systems. – *Soil Biology and Biochemistry* 41: 417-419 (doi: 10.1016/j.soilbio.2008.10.031).
39. REUMAN, D.C., MULDER, C., RAFFAELLI, D., COHEN, J.E., 2008. Three allometric relations of population density to body mass: theoretical integration and empirical tests in 149 food webs. – *Ecology Letters* 11: 1216-1228 (doi: 10.1111/j.1461-0248.2008.01236.x).
38. MULDER, C., DEN HOLLANDER, H.A., HENDRIKS, A.J., 2008. Aboveground herbivory shapes the biomass distribution and flux of soil invertebrates. – *PLoS ONE* 3 (10) e3573 (doi: 10.1371/journal.pone.0003573), Open Access.
37. HENDRIKS, A.J., MULDER, C., 2008. Scaling of offspring number and mass to plant and animal size: model and meta-analysis. – *Oecologia* 155: 705-716 (doi: 10.1007/s00442-007-0952-3), Open Access.
36. MULDER, C., HENDRIKS, J., BAERSELMAN, R., POSTHUMA, L., 2007. Age structure and senescence in long-term cohorts of *Eisenia andrei* (Oligochaeta: Lumbricidae). – *Journal of Gerontology Series A (Biological Sciences)* 62: 1361-1363.
35. MULDER, C., BAERSELMAN, R., POSTHUMA, L., 2007. Empirical maximum lifespan of earthworms is twice that of mice. – *Age* 29: 229-231 (doi: 10.1007/s11357-007-9037-9).
34. MULDER, C., WOUTERSE, M., RUTGERS, M., POSTHUMA, L., 2007. Transgenic maize containing the Cry1Ab protein ephemerally enhances soil bacterial communities. – *Ambio* 36: 359-361 (doi: 10.1579/0044-7447).
33. MULDER, C., WOUTERSE, M., RAUBUCH, M., ROELOFS, W., RUTGERS, M., 2006. Can transgenic maize affect soil microbial communities? – *PLoS Computational Biology* 2: 1165–1172 (doi: 10.1371/journal.pcbi.0020128), Open Access.
32. MULDER, C., DEN HOLLANDER, H., SCHOUTEN, T., RUTGERS, M., 2006. Allometry, biocomplexity, and web topology of hundred agro-environments in The Netherlands. – *Ecological Complexity* 3: 219–230 (doi: 10.1016/j.ecocom.2006.05.004).
31. MULDER, C., 2006. Driving forces from soil invertebrates to ecosystem functioning: the allometric perspective. – *Naturwissenschaften* 93: 467–479 (doi: 10.1007/s00114-006-0130-1) [COVER PAPER].
30. MULDER, C., BREURE, A.M., 2006. Impact of heavy metal pollution on plants and leaf-miners. – *Environmental Chemistry Letters* 4: 83-86 (doi: 10.1007/s10311-006-0038-1).
29. BROSE, U., PAVAO-ZUCKERMAN, M., EKLÖF, A., BENGTSSON, J., BERG, M., COUSINS, S.H., MULDER, C., VERHOEF, H.A., WOLTERS, V., 2006. Spatial aspects of food webs. - In: P.C. De Ruiter, V. Wolters & J.C.

- Moore (eds.) *Dynamic Food Webs: Multispecies Assemblages, Ecosystem Development, and Environmental Change*. Academic Press: San Diego, pp. 463-469.
28. BECK, L., RÖMBKE, J., BREURE, A.M., MULDER, C., 2005. Considerations for the use of soil ecological classification and assessment concepts in soil protection. – *Ecotoxicology and Environmental Safety (Environmental Research Section B)* 62: 189-200 (doi: 10.1016/j.ecoenv.2005.03.024).
  27. RÖMBKE, J., BREURE, A.M., MULDER, C., RUTGERS, M., 2005. Legislation and ecological quality assessment of soil. Implementation of ecological indication systems in Europe. – *Ecotoxicology and Environmental Safety (Environmental Research Section B)* 62: 201-210 (doi: 10.1016/j.ecoenv.2005.03.023).
  26. BREURE, A.M., MULDER, C., RÖMBKE, J., RUF, A., 2005. Ecological classification and assessment concepts in soil protection. – *Ecotoxicology and Environmental Safety (Environmental Research Section B)* 62: 211-229 (doi: 10.1016/j.ecoenv.2005.03.025).
  25. MULDER, C., SCHOUTEN, A.J., HUND-RINKE, K., BREURE, A.M., 2005. The use of nematodes in ecological soil classification and assessment concepts. – *Ecotoxicology and Environmental Safety (Environmental Research Section B)* 62: 278-289 (doi: 10.1016/j.ecoenv.2005.03.028).
  24. MULDER, C., VAN WIJNEN, H.J., VAN WEZEL, A.P., 2005. Numerical abundance and biodiversity of below-ground taxocenes along a pH gradient across the Netherlands. – *Journal of Biogeography* 32: 1775-1790 (doi: 10.1111/j.1365-2699.2005.01321.x).
  23. MULDER, C., VAN WEZEL, A.P., VAN WIJNEN, H.J., 2005. Embedding soil quality in the planning and management of land use. – *International Journal of Biodiversity Science and Management* 1: 77-84 (ISSN: 1745-1590).
  22. MULDER, C., DIJKSTRA, J.B., SETÄLÄ, H., 2005. Nonparasitic Nematoda provide evidence for a linear response of functionally important soil biota to increasing livestock density. – *Naturwissenschaften* 92: 314-318 (doi: 10.1007/s00114-005-0634).
  21. MULDER, C., COHEN, J.E., 2005. Response to Reuman. – *Ecology Letters* 8: 575-577 (doi: 10.1111/j.1461-0248.2005.00770.x).
  20. MULDER, C., BREURE, A.M., 2005. Modelling soil properties and organisms' diversity and interactions by food webs. – *Geophysical Research Abstracts* 7: 1607-7962/gra/EGU05-A-02040 (ISSN: 1029-7006).
  19. MULDER, C., ALDENBERG, T., DE ZWART, D., VAN WIJNEN, H.J., BREURE, A.M., 2005. Evaluating the impact of pollution on plant-Lepidoptera relationships. – *Environmetrics* 16: 357-373 (doi: 10.1002/env.706).
  18. MULDER, C., COHEN, J.E., SETÄLÄ, H., BLOEM, J., BREURE, A.M., 2005. Bacterial traits, organism mass, and numerical abundance in the detrital soil food web of Dutch agricultural grasslands. – *Ecology Letters* 8: 80-90 (doi: 10.1046/j1461-0248.2005.00704.x) [COVER PAPER].
  17. BREURE, A.M., MULDER, C., RUTGERS, M., SCHOUTEN, T., DE ZWART, D., BLOEM, J., 2004. A Biological Indicator for Soil Quality. – *Proceedings OECD Expert Meeting on Soil Erosion and Soil Biodiversity indicators*, 25-28 March 2003, Rome, pp. 485-494.
  16. SCHOUTEN, T., BREURE, A.M., MULDER, C., RUTGERS, M., 2004. Nematode diversity in Dutch soils, from Rio to a Biological Indicator for Soil Quality. – *Nematology Monographs and Perspectives* 2: 469-482.
  15. MULDER, C., DE ZWART, D., VAN WIJNEN, H.J., SCHOUTEN, A.J., BREURE, A.M., 2003. Observational and simulated evidence of ecological shifts within the soil nematode community of agroecosystems under conventional and organic farming. – *Functional Ecology* 17: 516-525.
  14. MULDER, C., DE ZWART, D., 2003. Assessing fungal species sensitivity to environmental gradients by the Ellenberg indicator values of above-ground vegetation. – *Basic and Applied Ecology* 4: 557-568.
  13. MULDER, C., BREURE, A.M., JOOSTEN, J.H.J., 2003. Fungal functional diversity inferred along Ellenberg's abiotic gradients: Palynological evidence from different soil microbiota. – *Grana* 42: 55-64 (doi: 10.1080/00173130310008599).
  12. MULDER, C., 2003. The Northwest European Pollen Flora: Aizoaceae. – *Review of Palaeobotany and Palynology* 123: 41-45.

## Curriculum Vitae DMG

11. MULDER, C., 2003. The Northwest European Pollen Flora: Aristolochiaceae. – *Review of Palaeobotany and Palynology* 123: 47-55.
10. MULDER, C., BREURE, A.M., 2003. Plant biodiversity and environmental stress. – *Trace Metals and other Contaminants in the Environment* 9: 501-525 [reprinted as book in 2003].
9. BREURE, A.M., VAN BEELEN, P., JAGER, D.T., VAN DE MEENT, D., MULDER, C., PEIJNENBURG, W.J.G.M., POSTHUMA, L., RUTGERS, M., SCHOUTEN, A.J., STERKENBURG, A., STRUIJS, J., VONK, M., DE ZWART, D., 2003. Ecological Risk Assessment of Environmental Stress. – *Encyclopedia of Life-Support Systems* E1-08.
8. MULDER, C., 2001. Quantitative correlations between mycoflora and landscape ecological parameters from a contemporary wet heathland in the Netherlands. – In: D.K. Goodman & R.T. Clarke (eds.) *Proceedings of the IX International Palynological Congress (Houston)*: pp. 549-555.
7. MULDER, C., SAKORAFI, V., BURRAGATO, F., VISSCHER, H., 2000. Ecohydrological perspective of phytogenic organic and inorganic components in Greek lignites: A quantitative reinterpretation. – *Earth and Planetary Science Letters* 179: 167-181.
6. MULDER, C., ELLIS, R.P., 2000. Ecological significance of South-West African grass leaf phytoliths: A climatic response of vegetation biomes to modern aridification trends. – In: S.W.L. Jacobs & J. Everett (eds.) *Grasses - Systematics and Evolution*. Proceedings 2<sup>nd</sup> International Conference on the Comparative Biology of the Monocotyledons, Sydney 2: pp. 246-256, CSIRO, Melbourne.
5. MULDER, C., 1999. Biogeographic re-appraisal of the Chenopodiaceae of Mediterranean drylands: A quantitative outline of their general ecological significance in the Holocene. – *Palaeoecology of Africa* 26: 161-188.
4. MULDER, C., JANSSEN, C.R., 1999. Occurrence of pollen and spores in relation to present-day vegetation in a Dutch heathland area. – *Journal of Vegetation Science* 10: 87-100.
3. MULDER, C., JANSSEN, C.R., 1998. Application of Chernobyl Caesium-137 fallout and naturally occurring Lead-210 for standardization of time in moss samples: recent pollen-flora relationships in the Allgäuer Alpen, Germany. – *Review of Palaeobotany and Palynology* 103: 23-40.
2. MULDER, C., 1997. Actinopalynology and Mediterranean vegetation patterns along the littoral of southern Latium (Italy). – *Mededelingen Nederlands Instituut voor Toegepaste Geowetenschappen TNO* 58: 285-292.
1. JUNG, S., MULDER, C., STUUT, J.-B., TARGARONA, J., VAN DER WATEREN, D., 1997. The NSG-NIOZ-GeoB Cooperation Project. – *Geophysical Research Abstracts* 1 (2): Hydrology, Oceans and Atmosphere: "Studies of past climates", OA32.03 NSG Annual Report. – 1997: 13-17.

### Other peer-reviewed publications (not in English):

- VI MULDER, C., 2007. Ökologische Forschung in den Niederlanden. – *Nachrichten der Gesellschaft für Ökologie* 36: 7-8.
- V BIANCHI, R., GINESI, M., MULDER, C., TRIGILA, R., 1995. Una nuova integrazione tra immagini TIMS di emissività spettrale e cartografia etnea. – *Rivista Italiana di Telerilevamento CNR* 4: 35-44.
- IV ARNOLDUS HUYZENDVELD, A., DI LORETO, E., GISOTTI, G., MULDER, C., RUSTICI, L., ZARLENGA, F., 1994. I paesaggi geologici italiani. 2. Il litorale e le dune costiere. – *Verde Ambiente* 10 (3 Suppl.): 81-96.
- III MULDER, C., 1994. Sinusie del paesaggio vulcanico peritirrenico. – *Verde Ambiente* 10 (1): 32-39.
- II MULDER, C., 1993. Le aree permanenti e la geologia ambientale: il caso di Torre Paola. – *Notiziario della Società Italiana di Geologia Ambientale* 1 (3): 5-9.
- I MULDER, C., 1993. Ecologia del paesaggio dunale mediotirrenico. – *Verde Ambiente* 9 (3): 25-38.

### PhD Thesis (in Italian and English):

0. MULDER, C., 1996. Analisi comparata della struttura della vegetazione attuale con lo studio palinologico di campioni di superficie in differenti regioni europee. – *Dottorato di Ricerca Nazionale in Scienze Botaniche VIII Ciclo. Biblioteche Nazionali di Roma e Firenze, CF000000417 (BN 97-1040T)*.

# curriculum vitae

Urbano Fra.Paleo, PhD

University of Extremadura  
Campus universitario  
10071 Caceres  
Spain

upaleo@unex.es

<http://webspersoais.usc.es/persoais/urbano.fra/>

tel: +34 927257000 ext 57756

## Position

Professor. University of Extremadura. Spain

Visiting Professor. United Nations-mandated University for Peace. Costa Rica

## Fields of interest

Risk governance. Natural hazards. Disasters. Sustainability. Evaluation

## EDUCATION

1984. BA in Applied Geography. University of Santiago de Compostela. Spain

1985. Honors Degree in Geography. University of Santiago de Compostela. Spain

1989. Council of Europe Postgraduate Program in Coastal ecology of the Mediterranean Sea. Autonomous University of Barcelona. Spain

1991. Diploma in Environmental Engineering. School for Industrial Organization. Ministry of Industry. Spain

1996. PhD in Applied Geography. University of Santiago de Compostela. Spain

## CERTIFICATION

1985. Postgraduate Certificate in Education/Teaching Certificate. University of Santiago de Compostela. Spain

2003. Geomatics Specialist (GIS/LIS). Canadian Institute of Geomatics

## PROFESSIONAL EXPERIENCE

### Teaching

1998-2001. Associate Professor. Department of Geography and Spatial Planning. University of Extremadura. Spain

2001-2004. Assistant Professor. Department of Geography and Spatial Planning. University of Extremadura. Spain

2004-2007. Professor. Department of Geography and Spatial Planning. University of Extremadura. Spain

2007-2013 [on leave]. Professor. Department of Agricultural Engineering. University of Santiago de Compostela. Spain

2013-. Professor. Department of Geography and Spatial Planning. University of Extremadura. Spain

### Research

1995. Assistant for Geographic Information System. US Geological Survey. Denver. United States

1996-1997. Research Associate. The Environment Institute. University of Denver. United States

1997-1998. Research Associate. Department of Agricultural Engineering. University of Santiago de Compostela. Spain

### Visiting professor

1997. Erasmus visiting lecturer. Fachhochschule Neubrandenburg. Neubrandenburg, Germany

2001. Erasmus visiting lecturer. Department of Geology and Geography. University of Iceland. Iceland

2002. Erasmus visiting lecturer. Department of Geography. University of Marburg. Germany

2003. Erasmus visiting lecturer. Department of Geography. University of Köln. Germany

2011-present. Department of Environment, Peace and Security. University for Peace. Costa Rica

### Visiting scientist

July-August, 1999. US Geological Survey. Hawaii Volcano Observatory. Hawaii. United States

August-September 2001. Volcano Observatory, University of Colima. Mexico

August 2005. American Geographical Society Library. University of Wisconsin-Milwaukee. United States

### FELLOWSHIPS

2005. Helen and John S. Best Research Fellow. American Geographical Society Library. University of Wisconsin-Milwaukee. United States

### AWARDS AND PRIZES

1997. Doctoral Dissertation Award. University of Santiago de Compostela. Spain

2008. Honorific Award in recognition of the INITIA Programme in Science and Technology. Spanish Research Council, Royal Spanish Society of Physics, Royal Spanish Society of Mathematics, Spanish Open University. Spain

2009. Sustainable Actions in Social Entrepreneurship Award. University of Santiago de Compostela and the Jaime Vera Foundation. Spain

2009. Innovation Award. University of Santiago de Compostela. Spain

### MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS AND LEARNED SOCIETIES

#### Honor societies

Sigma Xi. The Scientific Research Society (1997)

#### Membership in Societies

The New York Academy of Sciences (2011)

American Geophysical Union. Focus Group on Natural Hazards. (2011)

The Association of American Geographers (1993)

Association of Spanish Geographers (1989)

#### International Committees and Programmes

Urbanization and Global Environmental Change (UIGEC) International Human

Dimensions Programme on Global Environmental Change (IHDP). 2008-.

President. Iberian Chapter. Sigma Xi The Scientific Society. 2006-.

Disaster Risk Reduction Thematic Group. Commission on Ecosystem Management. International Union for Conservation of Nature (IUCN) 2011-

Scientific Steering Committee. Integrated Risk Governance (IRG) Project. International Human Dimensions Programme on Global Environmental Change (IHDP). 2011-

Adviser. International Foundation for Science (IFS). 2006-.

Senior Research Fellow. Earth System Governance. International Human Dimensions Programme on Global Environmental Change (IHDP). 2012-.

Study Group New Technologies for Disaster Monitoring and Management. International Association of Geodesy (IAG). 2012-.

### National Committees and Programmes

Spanish National Committee. International Human Dimensions Programme on Global Environmental Change (IHDP). 2007-present.

Committee of Experts. Galician School of Landscape. Fundación Juana de Vega. Spain. 2009-

Committee of Experts. Programme Akademia. Fundación Bankinter. Spain. 2011-

### Journal Advisory Board

Chinese Geographical Science. Springer.

QScience Connect. Bloomsbury Qatar Foundation.

## TEACHING

P4111203. Management of natural and technological hazards. Master in Sustainable land planning. University of Santiago de Compostela. Spain

P4111209. Introduction to research. Master in Sustainable land planning. University of Santiago de Compostela. Spain

P4111106. Spatial analysis. Master in Sustainable land planning. University of Santiago de Compostela. Spain

P4081121. Sustainable development. Master in Industrial Engineering. University of

Santiago de Compostela. Spain

Global change. Master in Oceanography. University of Vigo. Spain

SUGP-6010. Introduction to urban risk and resilience. MA Programme on Sustainable Urban Governance and Peace. University for Peace. Costa Rica.

### **SUPERVISOR PhD STUDENTS (completed)**

Silvia Calvo Iglesias. Characterization and dynamics of the cultural landscapes in Galicia with GIS and Remote Sensing for planning and management. University of Santiago de Compostela. 2005.

Paulo Manuel Pires Aguas. Sustainability of management practices with agricultural bioresidues. University of Extremadura. 2010.

Willem Timmermans. Innovative land use and green planning in relation to complexity theory. University of Santiago de Compostela. 2013.

### **MENTOR**

Mentorship Program. University of Carleton. Ottawa, Canada. First semester 2002-2003.

### **ACADEMIC SERVICE**

1997-1998. Coordinator of GIS Unit. University of Santiago de Compostela. Spain

2003-2004. Coordinator. Postgraduate Programme on Natural Hazards and Spatial Planning. University of Extremadura. Spain

2001-2007. Coordinator. University of Extremadura. European Virtual Seminar on Sustainable Development. Spain.

2005-2014. Coordinator. Research Group on Natural Hazards and Vulnerability. University of Extremadura. Spain

2007-2010. Manager. REDIX. The Research Network in Geographic Information Systems. University of Santiago de Compostela. Spain

### **EVALUATION**

2007. Seventh Framework Programme (FP7). Research Directorate General. European Commission

2007. Slovak Research and Development Agency. Agentúra Na Podporu Výskumu Avývoja.

2008. Seventh Framework Programme (FP7). Research Directorate General

#### European Commission

2009. Evaluation of environmental sustainability of the School of Sciences. University of Santiago de Compostela. Spain

2009. Evaluation of environmental sustainability of the School of Engineering. University of Santiago de Compostela. Spain

2011. Natural Environment Research Council (NERC). United Kingdom

2012. Evaluation of environmental sustainability of the School of Veterinary. University of Santiago de Compostela. Spain

2012. Screening of applications for the 2012 Land for Life Award. United Nations Convention to Combat Desertification (UNCCD)

#### RESEARCH GRANTS

1998-1999. European Union. FEDER Study Program on European Spatial Planning. Researcher.

1999-2000. Junta de Extremadura. Pilot Project to optimize selective collection routes of urban solid waste. Principal investigator.

1999-2000. Xunta de Galicia. Development based on GIS of a methodology to select areas for land consolidation in Galicia. Researcher.

2000-2001. Ministry of Education and Science. Design of a GIS application to develop land consolidation projects. Researcher.

2000-2001. Ministry of Education and Science. Research Project on GIS application for private forest lands inventory and districting. Researcher.

2001-2003. Extremadura Regional Government. Suitability models for the vegetation of Extremadura and its application to natural resource conservation and management. Researcher.

2000-2002. NATO CCMS Pilot Study on Regional/Transboundary Transport of Air Pollution. Researcher.

2002-2003. NATO CCMS Pilot Study on Integrated Water Management. Researcher.

2003-2004. International Science and Technology Center (ISTC). Russia. Geoinformation System to Ensure Ekaterinburg's Environmental Safety. Researcher.

2003. Centre National d'Etudes Spatiales (CNES) - SPOT Image. High Resolution Stereoscopic (HRS) Scientific Assessment Program. Researcher.

2003. IUGS-UNESCO - International Geological Correlation Program - Natural History Museum, London. Metallogeny of Central Asia: A GIS-based synthesis on a modern geodynamic background. Researcher.

2003-2005. Ministry of Education and Science. Ecological assessment of Dehesa landscape and change prediction of land coverage for spatial planning. Researcher.

2004. Spanish Agency for International Cooperation - Ecole Nationale Forestière d'Ingénieurs, Sale, Morocco. Research Project on Integrated Water Management in the Bouregreg Basin. Opportunities and Limitations. Principal investigator.

2005-2007. Ministry of Education and Science. Volcanological and structural analysis of the NE and NW rifts of the Tenerife Island (Canary Islands). Researcher.

2008-2012. COST. European Cooperation in the field of Scientific and Technical Research. Semantic enrichment of 3D city models for sustainable urban development. Researcher.

2008-2010. Galician Regional Government. Geographic information systems for urban and regional planning applying optimization techniques by using multicore processors. Researcher.

2009-2011. Spanish Ministry of Science and Innovation. Present and potential scenarios of exposure and vulnerability to natural hazards. Principal investigator.

2009-2011. Science and Technology Center in Ukraine (STCU). The first step to creation of real time geotechnical telemetric monitoring system of large dams: the case of the Enguri Dam International Test Area. Researcher.

2009-2011. Fundación Biodiversidad. Spanish Ministry for the Environment. Activation of resources in the Biosphere Reserve Terras do Miño to promote a better quality of life. Principal investigator.

## OTHER GRANTS

1989. Council of Europe Postgraduate Program in Coastal Ecology of the Mediterranean Sea. Council of Europe.

1996. Internationalization Small Grants Program. University of Denver. United States

1997. Small Grants Program for the Environment Institute. University of Denver. United States

1999. Junta de Extremadura. Visiting grant at the Hawaiian Volcano Observatory, US Geological Survey. Hawaii.

2000-2002. NATO Fellowship. CCMS Pilot Study on Regional/Transboundary Transport of Air Pollution.

2000. NATO Science Program. Advanced Study Institute. Nonlinear Dynamics in Life and Social Sciences. Moscow (Russia).

2000. Participation in the Investing in Europe's Human Research Potential. European Commission - Greek Ministry of Development - Marie Curie Fellowships Association

Crete (Greece).

2001. NATO Science Program. NATO Advanced Research Workshop on GIS for Emergency Preparedness and Health Risk Reduction. Budapest (Hungary).

2001. Visiting Research Grant at the Volcano Observatory. University of Colima. Secretary of Foreign Affairs Fellowship. United States of Mexico.

2001. Visiting Research Grant at the Volcano Observatory. University of Colima, Mexico. Extremadura Regional Government.

2002. NATO Science Program. NATO Advanced Research Workshop on Air Pollution Processes in Regional Scale. Halkidiki (Greece).

2008. NATO Grant to organize the Advanced Training Course on Spatial Planning as a Strategy for Mitigation and Adaptation to Natural Hazards. Santiago de Compostela, Spain.

## PUBLICATIONS

### Books

Fra, U. 1988. Rural Geography of the western Mariña lucense. Diputación Provincial de Lugo. Lugo.

Fra, U. 1996. Geographic models of environmental areas in Galicia. Universidad de Santiago de Compostela. Santiago.

Fra, U. 1997. An educational unit on solar photovoltaic energy. University of Denver. Denver.

Fra, U. et al. 1998. Geographic Information Systems and winery management. Universidad de Santiago, Lugo.

Fra, U. et al. 1998. Exercises with Geographic Information Systems: Idrisi. Universidad de Santiago, Lugo.

Crecente, R., C. Álvarez and U. Fra. 2001. Land consolidation in Galicia. Consellería de Agricultura. Santiago.

Miranda, D., Fra, U. and Crecente, R. (eds.). 2004. Techniques of Spatial Analysis with ArcView, Geomedia and Idrisi. Unicopia. Lugo.

Melas, D. and Fra, U. (eds.) 2008. Regional Transboundary Transport of Air Pollution. An Introductory Science Review. University of Extremadura, Caceres.

Fra, U. (editor). 2009. Building safer communities. Risk governance, spatial planning, and responses to natural hazards. Amsterdam, IOS Press.

Fra, U. (editor). 2010. Natural hazards in Galicia. The encounter between nature and

society. Santiago de Compostela: Consorcio de Compensación de Seguros-University of Santiago de Compostela.

Fra, U. and R. Crecente (ed.). 2011. Biosphere reserves as a spatial strategy towards sustainability (in Spanish). Santiago de Compostela: University of Santiago de Compostela Press.

Fra, U. 2011. Dictionary of Photogrammetry. Barcelona, Institut Cartografic de Catalunya.

Crecente R. and U. Fra. (ed.). 2012. Essays in spatial planning (in Spanish). Santiago de Compostela: University of Santiago de Compostela Press.

Crecente R. and U. Fra. (ed.). 2013. Essays in spatial planning II (in Spanish). Santiago de Compostela: University of Santiago de Compostela Press.

Fra, U. (contributor). 2013. Global Assessment Report on Disaster Risk Reduction 2013. From Shared Risk to Shared Value: the Business Case for Disaster Risk Reduction. United Nations International Strategy for Disaster Reduction (UNISDR).

Fra, U. (editor). 2014. Risk governance. The articulation of hazard, politics and ecology. Berlin: Springer.

### Book chapters

Fra, U. and J.L. Mosquera. 1988. The Pedrido Bridge: History of a frustration. Anuario Brigantino pp. 179-190.

Fra, U. 1991. Temporal pattern of pollutant inmission in Galicia. In Primer Congrès Català de Geografia. IIIb: 405-417. Societat Catalana de Geografia. Barcelona.

Fra, U. 1992. The measure of anthropization. In Actas del V Coloquio de Geografía Cuantitativa: 419-427. Universidad de Zaragoza. Zaragoza.

Fra, U. 1992. An index of water quality. In Actas del V Coloquio de Geografía Cuantitativa: 429-436 Universidad de Zaragoza. Zaragoza.

Fra, U. 1993. The Galician contribution to global atmospheric pollution. In Nuevos procesos territoriales. XIII Congreso Nacional de Geografía: 593-598. Universidad de Sevilla. Sevilla.

Fra, U. 1994. The weighted mean center of population settlements as a way of assessment of the main environmental impact in river and ria basins. In The Canadian Conference on Geographic Information Systems. Proceedings. Volume 2: 979-986. Natural Resources Canada. Ottawa.

Fra, U. 1994. Carrying capacity profiles in river basins. In Perfiles actuales de la geografía cuantitativa en España: 83-93. Universidad de Málaga. Málaga.

Fra, U. 1994. Human impact on river and ria basins in Galicia (Spain). In Looking

beyond the Golden Gate: Environment, Space and Place. Abstracts: 111. Association of American Geographers. San Francisco.

Fra, U. 1995. Water quality of the river Lagares. In *A Península Ibérica, um espaço em mutação II*: 953-957. Universidad de Porto. Porto.

Fra, U. 1997. Denver: a city in the mile race. In *Dinámica litoral-interior II*: 1155-1167. Universidad de Santiago de Compostela, Santiago.

Crecente, R.; López, J.; Miranda, D.; Fra, U. and Álvarez, C. 1998. Land use and accuracy: the need of contrasting information with reality. In *Eighteenth Annual ESRI International User Conference*. ESRI, Redlands.

Fra, U.; Álvarez, C.; Crecente, R.; Miranda, D. and Marey, M. 1998. Parcels and grids, how to introduce physical environment information for agricultural businesses management. In *Eighteenth Annual ESRI International User Conference*. ESRI, Redlands.

Crecente, R.; López, J.; Miranda, D.; Álvarez, C. and Fra, U. 1998. Study of the evolution of agroforestry land use and property structure with GIS techniques. In *International Conference on Agricultural Engineering*. AgEng, Oslo.

Various authors. 1999. Study Programme on European Spatial Planning 1998-1999 (SPESP). NORDREGIO.

Fra, U. and B. Mosquera. 2000. Landscape features in place names in Hawai'i. In *Homenaje a la profesora Carmen Perez Romero*: 311-319. Universidad de Extremadura, Cáceres.

Fra, U. 2001. Spatial structure. In *Gran Atlas de Lugo*. Progreso, Lugo. pp 156-195.

Fra, U. 2001. Spatial structure. In *Gran Atlas de Pontevedra*. Lerez, Pontevedra. pp 142-177.

López J., R. Crecente, and U. Fra. 2001. Territorial characterization and accurate identification of action areas as a key for rural development and the application of European initiatives. Instituto para el Desarrollo Económico de Galicia. [www.usc.es/idega/franciscol.doc](http://www.usc.es/idega/franciscol.doc) [20 September 2006].

Fra, U. and F. Trusdell. 2002. Volcanic risk assessment and spatial planning policies in the island of Hawai'i. Modelling lava flows from Mauna Loa Volcano. In *GIS for emergency preparedness and health risk reduction*. D.J. Briggs, P. Forer, L. Järup and R. Stern (eds). Dordrecht: Kluwer. pp 115-135.

Marey, M., R. Crecente, M.L. Chas, M.C. Lorenzo y U. Fra. 2002. Methodology for inventorying and characterizing non-industrial private forestry. XII FIG International Congress - ACSM-ASPRS Conference Proceedings JS9:1-11. The International Federation of Surveyors.

Marey, M., S. Paulo, U. Fra, C. Alvarez y R. Crecente. 2002. Comparative analysis of two methodologies for land use inventory with photointerpretation and remote sensing

in the district of Eastern Mariña (Spain). VI International Congress on Project Engineering. Proceedings. Universitat Politècnica de Catalunya.

Fra, U. 2002. Dynamics of population and human impact in the environment. In *Ambiente y Desarrollo Sostenible*. Universidad de Extremadura, Cáceres. pp. 897-900.

Marey, M., U. Fra and R. Crecente. 2003. Cost analysis of the application of various photointerpretation techniques to land use classification. In 2003 ACSM-APLS Conference-Congress on Surveying and Mapping.

Fra, U. 2003. Spatial Dependence and Horizontal Interpolation of Ozone Concentrations from Vertical Lidar Measurements in the Aegean Sea. In *Air Pollution Processes in Regional Scale*. D. Melas, and D. Syrakov (eds.). Kluwer, Dordrecht. pp. 55-63.

Fra, U. 2004. Network Analysis. In *Techniques of Spatial Analysis with ArcView, Geomedia and Idrisi*. Miranda, D., Fra, U. and Crecente, R. (eds.). Unicopia. Lugo. pp. 92-108.

Fra, U. 2005. Urban Forestry. In *Encyclopedia of the city* (Roger Caves, ed). Routledge, London. pp. 473-474.

Fra, U. 2005. Exurbia. In *Encyclopedia of the city* (Roger Caves, ed). Routledge, London. pp. 173.

Fra, U. 2005. High-Occupancy Vehicle Lane. In *Encyclopedia of the city* (Roger Caves, ed). Routledge, London. pp. 228.

Fra, U. 2005. Louis Isadore Kahn. In *Encyclopedia of the city* (Roger Caves, ed). Routledge, London. pp. 277.

Fra, U. 2005. Leon Battista Alberti. In *Encyclopedia of the city* (Roger Caves, ed). Routledge, London. pp. 8.

Fra, U. 2005. Cartesian City. In *Encyclopedia of the city* (Roger Caves, ed). Routledge, London. pp. 45-46.

Fra, U. 2005. Information and Spatial Data Processing in Risk Management. In *Data fusion for Situation Monitoring, Incident Detection, Alert and Response Management*. E. Shabazian, G. Rogova and P. Valin (eds.). IOS, Amsterdam. pp. 760-773.

Fra, U. 2006. Area Deprivation. In *Encyclopedia of World Poverty*. Mehmet Odekon, ed. Sage, Thousand Oaks. pp.48-49.

Fra, U. 2006. Living Standards Measurement Study (LSMS). In *Encyclopedia of World Poverty*. Mehmet Odekon, ed. Sage, Thousand Oaks. pp. 647-648.

Fra, U. 2006. Natural disaster. In *Encyclopedia of World Poverty*. Mehmet Odekon, ed. Sage, Thousand Oaks. pp. 755-757.

Fra, U. 2006. Environment in the European Union and Spain. In Territorial Planning and its Effects on Environmental Pollution. M. Prendez, ed. Santiago de Chile: University of Chile. pp. 193-200.

Carracedo, J.C., Rodríguez, E., Guillou, H., Scaillet, S., Paterne, M., Pérez, F.J., Paris, R., Fra, U., Hansen, A. 2006. Geocronología e historia volcánica del complejo volcánico del Teide y las dorsales de Tenerife. In Los volcanes del Parque Nacional del Teide. El Teide, Pico Viejo y las dorsales activas de Tenerife. J.C. Carracedo (ed.). Madrid: Ministerio de Medio Ambiente. pp. 69-97.

Paris, R., Fra, U., Hansen, A. 2006. Geomorfología del Teide y las dorsales activas. Parte I: Geomorfología volcánica. In Los volcanes del Parque Nacional del Teide. El Teide, Pico Viejo y las dorsales activas de Tenerife. J.C. Carracedo (ed.). Madrid: Ministerio de Medio Ambiente. pp. 241-256.

Carracedo, J.C., Fra, U., Rodríguez Badiola, E., Pérez Torrado, F.J., Paris, R., Guillou, H., Scaillet, S., Hansen Machín, A. 2006. Los peligros volcánicos asociados al complejo del Teide y los rifts activos de Tenerife. In Los volcanes del Parque Nacional del Teide. El Teide, Pico Viejo y las dorsales activas de Tenerife. Juan C. Carracedo (ed.). Madrid: Ministerio de Medio Ambiente. Pp. 361-388.

Fra, U. 2007. Commuting. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Age of Exploration. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Farming Systems. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Global Positioning Systems. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Hazards. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Latitude. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Longitude. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. George Perkins Marsh. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Lewis Mumford. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

Fra, U. 2007. Orographic Effect. In Encyclopedia of Environment and Society. Robbins, P. ed. Sage, Thousand Oaks.

- Fra, U. 2007. Satellites. In *Encyclopedia of Environment and Society*. Robbins, P. ed. Sage, Thousand Oaks.
- Fra, U. 2007. Tornadoes. In *Encyclopedia of Environment and Society*. Robbins, P. ed. Sage, Thousand Oaks.
- Calvo, S., Crecente, R., Díaz, R., Fra, U., y Ramil, P. 2008. Changes in Hedgerow Structures during 1957-2000 in the Northern Mountains of Galicia (NW Spain). In *Bocages et Sociétés*. Annie Antoine and Dominique Marguerie (eds.). Rennes: Presses Universitaires de Rennes.
- Fra, U. 2008. The application of geospatial technologies to the analysis of air pollution processes. In *Regional Transboundary Transport of Air Pollution. An Introductory Science Review*. D. Melas and U. Fra (eds.). Cáceres: University of Extremadura.
- Fra, U. 2008. Environmental History. In *Encyclopedia of Global Warming and Climate Change*. G. Philander. (ed.) Sage: Los Angeles. pp. 376-383.
- Fra, U. 2009. Surveying. In *Encyclopedia of Human Geography*. Sage, Thousand Oaks.
- Fra, U. 2009. Preface. In *Building safer communities. Risk governance, spatial planning and responses to natural hazards*. U. Fra (ed.). Amsterdam: IOS Press. pp. v-vi.
- Fra, U. 2009. On exposure to natural hazards. Revisiting a neglected primal action. In *Building safer communities. Risk governance, spatial planning and responses to natural hazards*. U. Fra (ed.). Amsterdam: IOS Press. pp. 61-87.
- Calvo, S., Díaz, R., Díaz, E., Fra, U. and Crecente, R. 2009. Agrads as a field system in Galicia, NW Spain. In *Cultural Landscapes of Europe*. Bremen: Aschenbeck media. pp. 92-93.
- Fra, U. 2010. Surveying the coverage and remains of cultural landscapes of Europe. In *Sustainable use of biological diversity in socio-ecological production landscapes*. Edited by C. Belair, K. Ichikawa, B.Y.L. Wong, and K.J. Mulongoy. Montreal: Secretariat of the Convention on Biological Diversity. Technical Series no. 52. pp. 39-44.
- Fra, U. 2010. The dehesa/montado landscape (Portugal/Spain). In *Sustainable use of biological diversity in socio-ecological production landscapes*. Edited by C. Belair, K. Ichikawa, B.Y. L. Wong, and K.J. Mulongoy. Montreal: Secretariat of the Convention on Biological Diversity. Technical Series no. 52. pp. 125-127.
- Fra, U. 2010. Uncertainty in the quite land. Natural hazards in Galicia. In *Natural hazards in Galicia*. U. Fra (ed.). Santiago de Compostela, Consorcio de Compensación de Seguros-University of Santiago de Compostela. pp. 1-12.
- Fra, U. 2010. The dimensions of historical floods in Galicia. Risk communication. In *Natural hazards in Galicia*. U. Fra (ed.). Santiago de Compostela, Consorcio de

Compensación de Seguros-University of Santiago de Compostela. pp. 47-63.

Fra, U. 2010. Tsunami, a sub estimated coastal natural hazard. In Natural hazards in Galicia. U. Fra (ed.). Santiago de Compostela, Consorcio de Compensación de Seguros-University of Santiago de Compostela. pp. 167-182.

Fra, U. 2010. El avance de la gestión hacia la gobernanza del riesgo en un contexto de complejidad e incertidumbre. In Recursos naturais, sistemas de informação geográfica e procesos sociais. J.A. Ferreira, C.J. Einloft, and R.L. Gonçalves (Eds.). Viçosa: Universidade Federal de Viçosa. pp. 43-57.

Fra, U. 2011. Viveiro. In 55 anos de historias urbanas. Evolución das vilas e cidades da provincia de Lugo dende 1656. Lugo: Colexio Oficial de Arquitectos de Galicia. Delegación de Lugo.

Fra, U. 2011. Información e incertidumbre en la planificación del riesgo. In Desenvolvemento rural, sustentabilidade e ordenamento territorial. J.A. Ferreira, C.J. Einloft y R.L. Gonçalves (eds.). Visconde do Río Branco: Suprema. pp. 51-60.

Guadagno, L. Depietri, Y. and Fra, U. 2013. Urban disaster risk reduction and ecosystem services. In The role of Ecosystem Services in Disaster Risk Reduction. F. Renaud, K. Sudmeier-Rieux, and M. Estrella (eds.). Bonn: United Nations University. pp. 389-415.

Fra, U. 2013. A functional risk society? Progressing from management to governance while learning from disasters. In World Social Science Report 2013: Changing Global Environments. UNESCO-ISSC. pp. 434-438.

Fra, U. 2014. Principles for the measurement and evaluation of risk governance. In M. Bostenaru, I. Armas, and A. Goretti (eds.). Earthquake Hazard Impact and Urban Planning. Berlin: Springer. pp. 171-194.

### Journal papers

Fra, U. 1990. Soil: characteristics. Afriga. 3:63-64.

Fra, U. 1990. Man-environment relationships: the discovering of slowness. Cadernos de Psicoloxía. 9:40-44. ISSN 0213-5973

Álvarez, C.; Crecente, U.; Fra, U. and Miranda, D. 1998. Education and GIS: the case of agriculture and forestry engineering in Spain. In First International Conference. Geospatial Information in Agriculture and Forestry I:284-287. ERIM, Lake Buena Vista.

Fra, U. 2001. Galicia: Between the periphery and the European Union. The Pennsylvania Geographer, 39(1) 63-78.

Fra, U. and Trusdell, F. 2000. Modeling lava flows for risk evaluation and spatial planning in Hawai'i. Boletín de la Asociación de Geógrafos Españoles. 30: 181-192

ISSN 0212-9426.

Fra, U., Crecente, R. and Miranda, D. 2001. Property structure and rural change in northwestern Spain. *Kart og Plan*, 61:176-183. ISSN 0047-3278.

Crecente, R., Álvarez, C. and Fra, U. 2002. Economic, Social and Environmental Impact of Land Consolidation. *Land Use Policy* 19: 135-147. doi:10.1016/S0264-8377(02)00006-6

Fra, U. et al. 2002. Optimization of municipal solid waste selective collection in Extremadura (I). *Mapping* 75:28-36. ISSN 11131-9100.

Fra, U. et al. 2002. Optimization of municipal solid waste selective collection in Extremadura (II). *Mapping* 76: 82-86. ISSN 11131-9100.

Fra, U. 2006. Site and Situation. Impossible but Inevitable Cities. *Space and Culture* 9(1):20-22.  
doi: 10.1177/1206331205283874

Calvo, S., R. Crecente and U. Fra. 2006. Exploring farmer's knowledge as a source of information on past and present cultural landscapes: A case study from NW Spain. *Landscape and Urban Planning* 78(4): 334-343.  
doi: 10.1016/j.landurbplan.2005.11.003

Calvo, S., U. Fra, R. Crecente and R. Díaz. 2007. Directions of change in land cover and landscape patterns from 1957 to 2000 in agricultural landscapes in NW Spain. *Environmental Management*.  
doi: 10.1007/s00267-005-0276-1

Carracedo, J.C., Rodríguez Badiola, E., Guillou, H., Paterne, M., Scaillet, S., Pérez Torrado, F.J., Paris, R., Fra, U., and Hansen, A. 2007. Eruptive and Structural History of Teide Volcano and Rift Zones of Tenerife, Canary Islands. *The Geological Society of America Bulletin* 119(9-10): 1027-1051. doi: 10.1130/B26087.1

Carracedo, J.C., Rodríguez Badiola, E., Pérez Torrado, F.J., Hansen, A., Rodríguez González, A., Scaillet, S., Guillou, H., Paterne, M., Fra, U., and Paris, R. 2007. La erupción que Cristóbal Colón vio en la Isla de Tenerife (Islas Canarias). *Geogaceta* 41: 39-42.

Translation of Abstracts. *The Photogrammetric Record*. 2004 through 2011. ISSN 0031-868X.

Calvo, S., U. Fra, and R. Díaz. 2009. Changes in farming system and population as drivers of land cover and landscape dynamics: The case of enclosed and semi-openfield systems in Northern Galicia (Spain), *Landscape and Urban Planning*, 90(3-4): 168-177.

Ferreira, J.A., M.C. de Oliveira, E. Carneiro, U. Fra and J.L. Lani. 2011. Aptidão Agrícola e algoritmos genéticos na organização espacial em projetos de reforma agrária. *Revista Brasileira de Ciência do Solo* 35(1): 255-261.

Fra, U. 2011. Riscos naturais e políticas proactivas. Cerna. Revista galega de ecoloxía e medio ambiente 64:29-31.

Matcharashvili, T., T. Chelidze, Z. Javakhishvili, N. Jorjiashvili and U. Fra Paleo. 2011. Non-extensive statistical analysis of seismicity in the area of Javakheti, Georgia. Computers & Geosciences. DOI: 10.1016/j.cageo.2010.12.008.

Matcharashvili, T., T. Chelidze, V. Abashidze, N. Zhukova, E. Mepharidze and U. Fra Paleo. 2011. Evidence for changes in the dynamics of Earth crust tilts caused by the large dam construction and reservoir filling at the Enguri dam international test area (Georgia). Nonlinear Dynamics. DOI: 10.1007/s11071-010-9930-0.

Ferreira Neto, J.A., E. Carneiro dos Santos, U. Fra Paleo, D. Miranda Barros, M. César de Oliveira Moreira. 2011. Optimal subdivision of land in agrarian reform projects: an analysis using genetic algorithms. Ciencia e investigación agraria. 38(2):169-178.

Calvo-Iglesias, S.; Diaz-Varela, R.; Mendez-Martinez, G.; Fra-Paleo, U. 2012. Using place names for mapping the distribution of vanishing historical landscape features: The agras field system in NW Spain. Landscape Research. doi: 10.1080/01426397.2011.604716.

J.A. Puppim and Fra, U. [in press]. Strengthening risk governance: How historical information was lost in translation to risk management practice in the case of Tohoku. Great Eastern Japan Earthquake. Land Use Policy.

Sudmeier-Rieux, K., Fra Paleo, U., Garschagen, M., Estrella, M., Renaud, F.G. and Jaboyedoff, M. [in press]. Opportunities, Incentives and Challenges to Risk Sensitive Land Use Planning: Lessons from Nepal, Spain and Vietnam. International Journal of Disaster Risk Reduction.

### Book reviews

Review of Mark Pelling, Editor, Natural disasters and development in a globalizing world, Routledge, London (2003) ISBN 0-415-27957-7 (hardback), 0-415-27958-5 (paperback) 250 pp., index. Political Geography, 24 (6): 765-768. doi:10.1016/j.polgeo.2004.09.013

### JOURNAL REVIEWER

IEEE Transactions on Geoscience and Remote Sensing

Remote Sensing of the Environment

Political Geography

Disasters. The Journal of Disaster Policy, Studies and Management

Landscape and Urban Planning

International Journal of Geographical Information Science

Journal of Agricultural Science and Technology

Journal of Hydrology

Journal of Agricultural Science and Technology

## DEVELOPMENT OF EVALUATION TOOLS

AISHE 2.0. Assessing Instrument for Sustainability in Higher Education. In partnership with Niko Roorda, Avans University for Applied Sciences, The Netherlands; Sylvia Waara, Halmstad University, Sweden; Christian Rammel, University of Vienna, Austria.

Evaluation Tool of Risk Governance.

## ORGANIZATION

Secretary of the summer course Perspectives for planning and development of the rural area. University of Santiago de Compostela. Spain. July 20-23, 1998.

Secretary of the summer course on rural development and planning. University of Santiago de Compostela. Spain. July 20-23, 1999.

Session Chair. Conference on Development of borders and limits to development. University of Extremadura. Spain. March 16-18, 1999.

Member of the Scientific Committee of the Workshop on the Applications of Geographic Information Systems in Agriculture and Forestry. University of Santiago de Compostela. Lugo. Spain. July 1-2, 1999.

Member of the Organizing Committee of the Congress on Evaluation of new technologies of spatial analysis by means of cartography and geographic information systems. University of Extremadura. Spain. December 1-3, 1999.

Member of the Technical Committee on the Analysis of flooding hazards in the Region of Extremadura. Government of the Autonomous Government of Extremadura. Spain. 2002.

Member of the Organizing Committee of the Latin American Conference on Geographic Information Systems. Cáceres, Spain. 24-26 September 2003.

Director. NATO Advanced Training Course on Spatial Planning as a Strategy for Mitigation and Adaptation to Natural Hazards. Santiago de Compostela, Spain. 3-8 March 2008.

Member of the Scientific Committee of the International ForestSAT 2010 Conference. Operational tools in forestry using remote sensing techniques. Lugo. Spain. 7-10

September 2010.

Member of the International Scientific Planning Committee. 1st International Conference on Urbanization and Global Environmental Change. Tempe, Arizona. 15-17 October 2010.

Member of the Organizing Committee of the Congress on Biosphere Reserves as a sustainable spatial strategy. Lugo, Spain. 3-4 September 2011.

Chair. Session on Risk Governance. Third Global Platform on Disaster Risk Reduction. United Nations International Strategy for Disaster Risk Reduction (UNISDR). Geneva. Switzerland. 8-13 May 2011.

Member of the Organizing Committee of the International Seminar Brazil-Spain-Portugal. Lugo, Spain. 5-7 June 2013.

Scientific Committee. 5th International Conference on Geoinformation Technologies for Natural Disaster Management (GiT4NDM 2013). Mississauga, Ontario, Canada, October 9-11, 2013.

### INVITED SPEAKER/PARTICIPANT

2000. NATO Science Program. Advanced Study Institute. Nonlinear Dynamics in Life and Social Sciences. Moscow, Russia.

2001. NATO Science Program. NATO Advanced Research Workshop on GIS for Emergency Preparedness and Health Risk Reduction. Budapest, Hungary.

2002. NATO Science Program. NATO Advanced Research Workshop on Air Pollution Processes in Regional Scale. Halkidiki, Greece.

2003. NATO Science Program. Advanced Study Institute on Data Fusion. Yerevan, Armenia.

2007. High-Level Advisory Board of the International Network on the Financial Management of Large-Scale Catastrophes. Organisation for Economic Cooperation and Development (OECD). Paris, France.

2010. First Brazil-Spain-Portugal Workshop on Natural resources, GIS and social processes. University of Viçosa. Brazil.

2010. Global Workshop on the Satoyama Initiative. United Nations University-Institute of Advanced Studies (IAS). UNESCO. Paris, France.

2010. International Conference on Urbanization and Global Environmental Change. Urbanization and Global Environmental Change (UGEC). Arizona State University. Tempe, Arizona.

2011. First Annual Sigma Xi European Regional Meeting and Research Conference. Aalto University. Helsinki, Finland.

2011. Second Brazil-Spain-Portugal Workshop on Rural development, sustainability and spatial planning. University of Viçosa. Brazil.

2014. Global Training of instructors on ecosystem-based disaster risk reduction and climate change adaptation (ecoDRR/CCA). United Nations Environmental Programme (UNEP), Indonesian Institute of Sciences (LIPI), United Nations University-Institute for Environment and Human Security (UNU-EHS), Center for Natural Resources and Development. Bogor, Indonesia.

## **Esteban Manrique Reol, Ph.D.**

Global Change Ecology Group, Dpt. Biogeography and Global Change  
National Museum of Natural Sciences (MNCN- CSIC)  
José Gutiérrez Abascal 2, E-28006 Madrid, Spain

Email: [e.manrique@csic.es](mailto:e.manrique@csic.es)  
Phone: +34-917452500 ext. 980607.  
Web: <http://www.mncn.csic.es/>

### **Academic Record**

- 1979 PhD Degree, Autonomous University of Madrid (UAM), Spain. Supervisor: Prof. Dr. G. Ramírez Ortiz.  
1975 MSc Degree in Biological Sciences, Complutense University of Madrid (UCM), Spain.

### **Professional Experience**

- Since 2011 Researcher Professor, Department of Biogeography and Global Change, National Museum of Natural Sciences (MNCN-CSIC).  
2009-2013 Director of the National Museum of Natural Sciences (MNCN-CSIC).  
2007-2011 Researcher Professor, Department of Plant Physiology and Ecology, Institute of Natural Resources (IRN-CSIC).  
2006-2007 Scientific and Technical Coordinator. Iberoamerican Program for Science and Technology (CYTED).  
2003-2006 Deputy Director General for International Programs and Organisms. Ministry of Science and Technology.  
2002-2003 Researcher Professor, Department of Plant Physiology and Ecology, Centre for Environmental Sciences (CCMA-CSIC)  
1985-2002 Tenured Professor. Department of Plant Biology II, Complutense University of Madrid (UCM).  
1982-1985 Tenured Professor Contracted. Department of General Biology. Arcos del Jalón High School of Biology. University Complutense of Madrid (UCM).  
1979-1982 Assistant Professor, Department of General Biology. "Arcos del Jalón" High School of Biology. University Complutense of Madrid (UCM).

### **Supervision of PhD theses**

1. ESTELA SERIÑÁ RAMÍREZ . "Estudio quimiotaxonómico en líquenes de la provincia de Madrid". Defense: Faculty of Biology. University Complutense of Madrid, 1990.
2. ROSARIO ARROYO CABEZA. "El género Ramalina Ach. en la Península Ibérica: química, quiotaxonomía, morfología, anatomía y distribución". Defense: Faculty of Biology. University Complutense of Madrid, 1991.
3. LUIS BALAGUER NÚÑEZ . "Alteraciones de los pigmentos fotosintéticos, de la fluorescencia de clorofilas y de la ultraestructura de líquenes expuestos a dióxido de

- azufre y nitrato". Defense: Faculty of Biology. University Complutense of Madrid, 1992.
4. MARÍA AMPARO SÁNCHEZ HOYOS. "Estudio de pigmentos en líquenes". Defense: Faculty of Biology. University Complutense of Madrid, 1995.
  5. SUSANA ELVIRA COZAR. "Efectos del ozono en la ultraestructura, pigmentos fotosintéticos e intercambio gaseoso de las acículas de *Pinus halepensis* Mill". Defense: Faculty of Pharmacy. University Complutense of Madrid, 1996.
  6. BENJAMÍN SÁNCHEZ GIMENO. "Efectos del ozono sobre cultivos en el levante español". Defense: Faculty of Biology. University Complutense of Madrid, 1997.
  7. ELSA MARTÍNEZ FERRI. "Definición de tipos funcionales en especies mediterráneas arbóreas sobre la base de su eficiencia en el uso de la luz". Defense: Faculty of Biology. University Complutense of Madrid, 1999.
  8. CARLOS RAÚL OCHOA HUESO. "Efectos de la deposición atmosférica de nitrógeno en ecosistemas mediterráneos". Defense: Autonomous University of Madrid, 2012

## Granted Projects

- |           |                                                                                                                                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1984-1986 | Estudio quimiotaxonómico de los macrolíquenes de la flora de Madrid. Comisión Asesora de Investigación Científica y Técnica (CAICYT). PI: E. Manrique                                                                                               |
| 1988-1992 | Comportamiento ecofisiológico de la simbiosis líquénica con la ultraestructura celular. Direction General for Scientific and Technical Research. Ministry of Education and Science (MEC). PI: Carmen Ascaso Ciria.                                  |
| 1994-1994 | Fotosíntesis de encinas y quejigos en condiciones de sequía: Fotoinhibición y efecto de temperaturas extremas. Ministry of Education and Science (MEC) Acciones Integradas Program. PI: E. Manrique                                                 |
| 1994-1997 | Estrategias adaptativas de dos especies líquénicas en regiones frías (Antártida, Andes Patagónicos y Montañas Mediterráneas). Interministerial Commission of Science and Technology (CICYT) PI: Leopoldo García Sancho.                             |
| 1995-1995 | Fotosíntesis de encinas y quejigos en condiciones de sequía: Fotoinhibición y efecto de temperaturas extremas. Ministry of Education and Science (MEC) Acciones Integradas Program. PI: E. Manrique                                                 |
| 1995-1995 | European Transect study on the interaction of UV-B radiation and temperature on oak forest ecosystem processes. ). Interministerial Commission of Science and Technology (CICYT) PI: E. Manrique                                                    |
| 1995-1996 | Impacto del cambio climático en los vegetales: Significado ecológico de la especificidad de la Rubisco y de los procesos Fotoprotectores en quercíneas mediterráneas. Interministerial Commission of Science and Technology (CICYT) PI: E. Manrique |
| 1995-1998 | ¿El cambio climático condiciona la supervivencia de la coscoja ( <i>Quercus coccifera</i> L.)? Interministerial Commission of Science and Technology (CICYT) PI: E. Manrique                                                                        |
| 1998-1998 | Ayuda a los Estudios de Biodiversidad y Conservación de la Flora y Vegetación Ibéricas. Interministerial Commission of Science and Technology (CICYT) PI: E. Manrique                                                                               |
| 1997-2000 | Plasticidad y competitividad de especies mediterráneas frente al cambio climático. Interministerial Commission of Science and Technology (CICYT) PI: E. Manrique                                                                                    |
| 1999-2000 | Seminario sobre magnitud y distribución de la biodiversidad, evolución y                                                                                                                                                                            |

- crisis (Madrid, 19 al 22 de Diciembre de 1999). Interministerial Commission of Science and Technology (CICYT) PI: A. Crespo de las Casas
- 2000-2002 Biodiversity in Herbaceous Semi-Natural Ecosystems under Stress by Global Change Components (BIOSTRESS). European Commission/5<sup>o</sup> Frame Work Program, Contract n<sup>o</sup> EVK2-CT-1999-00040. IP: B. Sanchez Gimeno and E. Manrique (Subcontracted)
- 2001-2004 Restauración ecológica en ambientes de alto estrés: afloramientos de yesos en condiciones semiáridas. Ministry of Science and Technology (MICYT). IP: E. Manrique
- 2001-2002 Variabilidad genética y plasticidad fenotípica de las poblaciones de coscoja (*Quercus coccifera* L.). Interministerial Commission of Science and Technology (CICYT) PI: Pablo Vargas Gómez
- 2001-2002 Variación fenotípica de las poblaciones de coscoja (*Quercus coccifera* L.). Interministerial Commission of Science and Technology (CICYT) PI: Luis Balaguer Núñez
- 2002-2004 Plasticidad fenotípica, heterogeneidad ambiental e inestabilidad en el desarrollo en *Olea europea* L. Ministry of Science and Technology (MICYT). IP: Luis Balaguer Núñez
- 2006-2008 Procesos y mecanismos evolutivos en acebuches (*Olea europaea* L.). Ministry of Science and Technology (MICYT). IP: Luis Balaguer Núñez
- 2006-2008 Leguminosas forrajeras con mayor tolerancia a estreses abióticos: genes implicados y obtención de plantas e inoculantes modificados genéticamente. Ministry of Science and Technology (MICYT). IP: J. J. Pueyo Dabad
- 2006-2008 Seguimiento adaptativo de la restauración ecológica del bosque de nieblas de las lomas de Atiquipa. Fundación BBVA. PI: Luis Balaguer Núñez
- 2006-2007 Caracterización de poblaciones de microorganismos simbiotes fijadores de nitrógeno de la Comunidad de Castilla-La Mancha. Comunidad Autónoma de Castilla La Mancha. José Javier Pueyo Dabad
- 2007-2009 Utilización de microorganismos para la evaluación de impacto ambiental y restauración del medio natural. Comunidad Autónoma de Madrid. IP: José Javier Pueyo Dabad
- 2007-2009 Potencial de la alfalfa en la fitoextracción de mercurio de suelos contaminados de Almadén. Comunidad Autónoma de Castilla la Mancha. PI: Mercedes Fernández
- 2008-2010 Aplicación de alfalfa en la fitoextracción de cadmio de suelos contaminados. Fundación Ramón Areces. PI: Mercedes Fernández
- 2010-2012 Consecuencias de la deposición de nitrógeno atmosférico en ecosistemas mediterráneos. Ministry of Science and Innovation (MICINN – Plan Nacional I+D+I). PI: E. Manrique
- 2014-2017 The role of living organisms as modulators of the response of arid ecosystems to climate change and N deposition (BIOMOD). Ministry of Economy and Competitiveness (MINECO). PI: Fernando Maestre.

## Publications

1. Crespo A., Manrique E., Barreno E. and Serin   E. (1977). Valoraci  n de la contaminaci  n atmosf  rica del   rea urbana de Madrid mediante bioindicadores

- (líquenes epífitos) *Anales Instituto Botánico A.J. Cavanilles* 34:71-94
2. Ramírez G., Manrique E., Barat A. and Villa S. (1980). Analysis of developmental interactions in reaggregated embrionic cell cultures In: "Tissue culture in neurobiology" Editores: E. Giacobini et al. Raven Press, New York, 129-143
  3. Villafruela M.J., Barat A., Manrique E., Villa S. and Ramírez G. (1981). Molecular forms of Acetilcholinesterase in the development chik visual system *Development Neuroscience* 4:25-36
  4. Ramírez G., Barat A., Gomez-Barrio-Canal J., Manrique E. and Batuecas A. (1983). Development of specific binding sites for [3H]kainic acid and [3H]muscimol in the chik optic tectum: modulation by early changes in visual input. In: "CNS Receptors - From molecular pharmacology to behavior" Editores: P. Mandel and F.V. Defeudis. Raven Press, New York, 187-197
  5. Manrique E. and Crespo A. (1984) Sobre *Melanelia acetabulum* (Neck) Essl. (*Parmelia acetabulum*) en la Península Ibérica: caracterización química y distribución. *Lazaroa* 6:267-268
  6. Manrique E. and Díaz-Guerra D. (1984). Sobre la variabilidad de metabolitos secundarios en taxones liquénicos españoles. I. *Anales de Biología* 1:249-252
  7. Díaz-Guerra D. and Manrique E. (1984) Sustancias liquénicas en taxones de la provincia de Madrid, I. *Evernia prunastri* (L.) Ach. y *Parmelia tiliacea* (Hoffm.) Hale *Lazaroa* 6:267:268 (1984)
  8. Manrique E., Balaguer L. and Valladares F. (1985) Sustancias liquénicas en taxones de la provincia de Madrid, II. Especies del grupo *Hypogymnia intestiniformis*. *Anales Jardín Botánico de Madrid* 42:81-86
  9. Manrique E. and Sancho L.G. (1987) Ecological discrimination of *Hypogymnia atrofusca* and *H. intestiniformis* in Sistema Central (Spain). *Biblioteca Lichenologica*, 25:433-441
  10. Arroyo R. and Manrique E. (1988) Estudios químicos en *Ramalina farinacea* (L.) Ach. del centro de España. *Anales del Jardín Botánico de Madrid*, 45:53-59
  11. Arroyo R. and Manrique E. (1989) Estudios químicos del género *Ramalina* Ach. en el centro de la Península Ibérica. *Anales del Jardín Botánico de Madrid*, 46:307-315
  12. Serriñá Ramírez E. and Manrique E. (1989) Datos químicos interesantes de algunos líquenes del Moncayo. *Anales del Jardín Botánico de Madrid*, 46:317-322
  13. López Redondo F. and Manrique E. (1989) *Pseudevernia furfuracea* (L.) Zopf: razas químicas y su distribución en la Península Ibérica. *Anales del Jardín Botánico de Madrid*, 46:307-315
  14. Manrique E. (1989) Aplicación de técnicas analíticas e interpretación de las variaciones químicas en líquenes. *Anales del Jardín Botánico de Madrid*, 46:307-315
  15. Manrique E., Redondo F.L., Serriñá E. and Izco J. (1989) Chlorophyll degradation into phaeophytin in *Anaptichia ciliaris* as a method to detect air pollution. *Lazaroa*, 11:141-148
  16. Rico V.J., Serriñá E. and Manrique E. (1989) El género *Xanthoparmelia* (Vainio) Hale (Lichenes) en la provincia de Madrid (España). *Actas del Simposi Internacional de Botánica*
  17. Balaguer L., Elvira S. and Manrique E. (1989) Estudio del efecto del dioxido de azufre en la degradación de pigmentos fotosintéticos. *Medio Ambiente RETEMA*, 9:89-96
  18. Manrique E. and López Redondo F. (1991) Intrathalline variation in concentration of lichen substances in *Pseudevernia furfuracea*. *The Bryologist*, 94:207-212
  19. Balaguer L. and Manrique E. (1991) Interaction between sulfur dioxide and nitrate in some lichens. *Environmental and Experimental Botany*, 31:223-227
  20. Arroyo R. Serriñá E. & Manrique E. (1991) Estudio químico y morfológico de

- Ramalina polymorpha grex en España. Acta Botánica Malacitana, 16 (1):165-174
21. Barnes J.D., Balaguer L., Manrique E., Elvira S. And Davison A.W. (1992) A reapraisal of the use of DMSO for the extraction and determination of chlorophyll a and b in lichens and higher plants. Environmental and Experimental Botany, 32:85-100
  22. Manrique E., Balaguer L., Barnes J.D. and Davison A.W. (1993) Photoinhibition in lichens using chlorophyll fluorescence analysis. The Bryologist, 96:443-449
  23. Egea J.M., Torrente P. and Manrique E. (1993) The Lecanactis grumulosa group (Opegraphaceae) in the Mediterranean región. Plant Systematic and Evolution 187:103-114
  24. Arroyo R., Serriñá E. and Manrique E. (1995) Ramalina elegans (Bagl. Et Car.) Stiz. A taxon which has been mistaken for Ramalina calicaris (L.) Fr. And Ramalina fastigiata (Pers.) Ach. In the Iberian Peninsula. Chryptogamic Botany, 5:22-27
  25. Egea J.M., Llimona X. And Manrique E (1995) Nuevos datos sobre Glyphopeltis ligustica (Lacanoraceae) y su área de distribución. Pp 183-192. In: Fred J.A. Daniels, Margot Schulz, and Jörg Peine (eds.), Geobotanical and Phytotaxonomical study Group. Botanical Institut, University of Cologne, Germany.
  26. Víctor J. Rico and Esteban Manrique (1995) Los géneros Melanelia Essl. Y Neofuscelia Essl. (Parmeliaceae, Ascomycotina) en el Centro de España, Península Ibérica. Pp, 301-316. In: Fred J.A. Daniels, Margot Schulz, and Jörg Peine (eds). Geobotanical and Phytotaxonomical study Group. Botanical Institut, University of Cologne, Germany
  27. Sánchez-Hoyos M.A. and Manrique E. (1995) Effect of nitrate and ammonium ions on the pigment content (xanthophylls and chlorophylls) of Ramalina capitata. Lichenologist, 27:155-160
  28. Balaguer L. and Manrique E. (1995) Factors which determine lichen response to chronic fumigations with sulphur dioxide. Chryptogamic Botany, 5:215-219
  29. Valladares F, Sanchez-Hoyos A, and Manrique E. (1995) Diurnal changes in photosynthetic efficiency and carotenoid composition of the lichen Anaptychia ciliaris: Effects of hydration and light intensity. The Bryologist 98(3):375-392
  30. Serriñá, E., Arroyo, C., Manrique E. and L.G. Sancho (1996) Lichen substances and their intraspecific variability within eleven Umbilicaria species in Spain. The Bryologist 99(3): 335-342
  31. Balaguer L, Valladares F, Ascaso C, Barnes JD, de los Rios A, Manrique E and Smith EC.(1996) Potential effects of rising tropospheric concentrations of CO<sub>2</sub> and O<sub>3</sub> on green-algal lichens. New Phytol, 132:641-652.
  32. Rico V.J. & Manrique E.(1996) Los géneros Melanelia Essl. Y Neofuscelia Essl. (Ascomycotina, Parmeliaceae) en el Centro de España: datos corológicos y clave de especies. Lazaroa 16:9-25.
  33. Valladares F, Sancho LG, Chico JM y Manrique E. (1997) Diferencias en la utilización fotosintética de radiaciones lumínicas elevadas por líquenes y plantas vasculares en la Antártida marítima. Boletín Real Sociedad de Historia Natural (Sec. Biol.), 93:119-125
  34. Balaguer L, Manrique E and Ascaso C (1997) Predictability of the combined effects of sulphur dioxide and nitrate on the green-algal lichen Ramalina farinacea. Can. J. Bot. 75:1836-1842
  35. L. Balaguer, E. Manrique, A. de los Rios, C. Ascaso, K. Palmqvist, M. Fordham, J. D. Barnes (1999) Long-term responses of the green-algal lichen Parmelia caperata to natural CO<sub>2</sub> enrichment. Oecologia, 119(2):166-174, 5/1999.
  36. Barnes J, Davison A, Balaguer L, and Manrique-Reol (1999) Resistance to air pollutants: From cell to community. In "Handbook of functional Plant Ecology" Ed.

- F. Pugnaire and F. Valladares. Marcel Dekker, Inc. New York.
37. Martínez-Ferri E, Balaguer L, Valladares F, Cicho JM and Manrique E. (2000) Energy dissipation in drought-avoiding and drought-tolerant tree species at midday during the Mediterranean summer. *Tree Physiology* 20:131-138
  38. Valladares F, Martínez-Ferri E, Balaguer L, Pérez-Corona E, and Manrique E. (2000) Low leaf-level response to light and nutrients in Mediterranean evergreen oaks: a conservative resource-use strategy?. *New Phytologist* 148:79-91
  39. Balaguer L., Martínez-Ferri E., Valladares F., Pérez-Corona M.E. Baquedano F.J., Castillo F.J. & Manrique. E. (2001) Population divergence in the plasticity of the response of *Quercus coccifera* to the light environment. *Functional Ecology* 15:124-135
  40. Balaguer L, Pugnaire FI, Martínez-Ferri E, Armas C, Valladares F, & Manrique. E. (2002) Ecophysiological significance of chlorophyll loss and reduced photochemical efficiency under extreme aridity in *Stipa tenacissima* L. *Plant and Soil* 240:343-352 (2002)
  41. Valladares F, Chico JM, Aranda I, Balaguer L, Dizengremel P, Manrique. E. and Dreyer E. (2002) The greater seedling high-light tolerance of *Quercus robur* over *Fagus sylvatica* is linked to a greater physiological plasticity. *Trees* 16:395-403 (2002)
  42. Valladares F, Balaguer L, Martínez-Ferri E, Pérez-Corona E and Manrique. (2002) Plasticity, instability and canalisation: is the phenotypic variation in seedlings of sclerophyll oaks consistent with the environmental unpredictability of Mediterranean ecosystems?. *New Phytologist* 156:457-467 (2002)
  43. Rubio de Casas, R., Balaguer, L., Manrique, E., Pérez-Corona, M. E. and Vargas, P. (2002) On the historical presence of the wild olive *Olea europaea* L. Var. *Sylvestris* (Miller) Lehr. In the Eurosiberian north of the Iberian Peninsula. - *Anales Jard. Bot. Madrid* 59: 342-344.
  44. Martínez-Ferri E, E Manrique, F Valladares and L Balaguer. (2004) Winter photoinhibition in the field involves different processes in four co-occurring Mediterranean tree species. *Tree Physiology* 24: 981-990 (2004)
  45. Susana Elvira, Victoria Bermejo, Esteban Manrique and Benjamín S. Gimeno (2004) On the response of two populations of *Quercus coccifera* to ozone and its relationship with ozone uptake. *Atmospheric Environment* 38: 2305-2311 (2004)
  46. Verdoy D, Lucas MM, Manrique E, Covarrubias AA, De Felipe MR, Pueyo JJ (2004) Differential organ-specific response to salt stress and water deficit in nodulated bean (*Phaseolus vulgaris*). *Plant Cell and Environment* 27 (6): 757-767 (2004)
  47. Rafael Rubio de Casas, Pablo Vargas, Esther Pérez Corona, Esteban Manrique, José Ramón Quintana, Carlos García Verdugo and Luis Balaguer (2007) Field patterns of leaf plasticity in adults of the long-lived evergreen *Quercus coccifera*. *Annals of Botany* 100: 325-334 (2007).
  48. Rafael Rubio de Casas, Emilio Cano, Luis Balaguer, Esther Pérez-Corona, Esteban Manrique, Carlos García-Verdugo, Pablo Vargas (2007) Taxonomic identity of *Quercus coccifera* L. in the Iberian Peninsula is maintained in spite of widespread hybridisation, as revealed by morphological, ISSR and ITS sequence data. *Flora* 202 (2007):488-499 (2007)
  49. A. Rincón & F. Arenal & I. González & E. Manrique & M. M. Lucas & J. J. Pueyo (2007) Diversity of Rhizobial Bacteria Isolated from Nodules of the Gypsophyte *Ononis tridentata* L. Growing in Spanish Soils. *Microbial Ecology* (2007) DOI 10.1007/s00248-007-9339-6
  50. Rafael Rubio de Casas; Pablo Vargas; Esther Pérez-Corona; Emilio Cano; Esteban Manrique; Carlos García-Verdugo and Luis Balaguer . (2008) Variation in sclerophylly among Iberian populations of *Quercus coccifera* L. is associated with

- genetic differentiation across contrasting environments. *Plant Biology* (2008) 11(3):464-472
51. Raquel Esteban, Luis Balaguer, Esteban Manrique, Rafael Rubio de Casas, Raúl Ochoa, Isabel Pleck, Marta Pinto-Marijuan, Isidre Casals, Domingo Morales, María Soledad Jiménez, Roberto Lorenzo, Unai Artetxe, José María Becerril and José Ignacio Plazaola. (2009). Alternative methods for sampling and preservation of photosynthetic pigments and todopherols in plant material from remote locations. *Photosynth Res* (2009) 101:77-88.
  52. Garcia-Verdugo C, Granado-Yela C, Manrique E, de Casas RR, Balaguer L. (2009) Phenotypic plasticity and integration across the canopy of *Olea europaea* subsp *guanchica* (Oleaceae) in populations with different wind exposures. *American Journal of Botany* (2009) 8:1454-1461
  53. Ochoa-Hueso, Raúl and Manrique, Esteban. (2010). Nitrogen fertilization and water supply affect germination and plant establishment of the soil seed bank present in a semi-arid Mediterranean scrubland. *Plant Ecology* DOI.: 10.1007/s11258-010-9755-4
  54. de la Pena TC, Redondo FJ, Manrique E, Lucas MM, Pueyo JJ. (2010) Nitrogen fixation persists under conditions of salt stress in transgenic *Medicago truncatula* plants expressing a cyanobacterial flavodoxin. *Plant Biotechnology Journal* (2010) 8:954-968
  55. Ochoa-Hueso R, Manrique E (2011). Effects of nitrogen deposition and soil fertility on cover and physiology of *Cladonia foliacea* (Huds.) Willd., a lichen of biological soil crusts from Mediterranean Spain. *Environmental Pollution* (2011)159(2):449-57.
  56. Ochoa-Hueso R, Allen EB, Branquinho C, Cruz C, Dias T, Feen ME, Manrique E, Pérez-Corona ME, Sheppard, LJ, Stock W. (2011). Nitrogen deposition effects on Mediterranean-type ecosystems: An ecological assessment (review). *Environmental Pollution* DOI: 10.1016/j.envpol.2010.12.019
  57. Ochoa-Hueso R, Hernandez RR, Pueyo JJ, Manrique E. (2011). Spatial distribution and physiology of biological soil crusts from semi-arid central Spain are related to soil chemistry and shrub cover. *Soil Biology and Biochemistry* (June 2011) doi:10.1016/j.soilbio.2011.05.010
  58. Rafael R. de Casas, Pablo Vargas, Esther Perez-Corona, Esteban Manrique, Carlos García-Verdugo and Luis Balaguer (2011). Sun and shade leaves of *Olea europaea* respond differently to plant size, light availability and genetic variation. *Functional Ecology* (2011) doi: 10.1111/j.1365-2435.2011.01851.x
  59. Luis Balaguer, Rosa Arroyo-Garcia, Percy Jimenez, Maria Dolores Jimenez, Luis Villegas, Irene Cordero, Rafael Rubio de Casas, Raul Fernandez-Delgado, Maria Eugenia Ron, Esteban Manrique, Pablo Vargas, Emilio Cano, Jose J. Pueyo, James Aronson (2011). Forest Restoration in a Fog Oasis: Evidence Indicates Need for Cultural Awareness in Constructing the Reference. *PLoS ONE* 6 (8):e23004 doi:10.1371/journal.pone.0023004
  60. M.A. Quiñones, T. Coba de la Peña, B. Ruiz-Díez, C.R. Ochoa-Hueso, V.S. García de la Torre, I. Cordero, F. Nonnoi, M.R. de Felipe, A. Rincón, E. Manrique, M. Fernández-Pascual, M.M. Lucas, J.A. Herrera-Cervera, and J.J. Pueyo (2012). Estrategias para mejorar la tolerancia a estreses abióticos de la simbiosis *Rhizobium-leguminosa*. En el libro: Fundamentos y aplicaciones agroambientales de las interacciones beneficiosas planta-microorganismo. Capítulo: 8, páginas: 111-116. Editorial: Sociedad Española de Fijación de Nitrógeno (SEFIN) (Editores: M. Megías, R. Rivilla, M.J. Soto, M.J. Delgado, E. González, P. Mateos y M. León). Lugar de publicación: Granada, España. ISBN: 978-84-614-7364-9
  61. Raúl Ochoa-Hueso, Esteban Manrique (2012). Nitrogen fertilization and water supply affect germination and plant establishment of the soil seed bank present in a

- semi-arid Mediterranean scrubland. *Plant Ecology* 04/2012; 210(2):263-273.
62. Ochoa-Hueso, R.; Manrique, E. (2013). Effects of nitrogen deposition on growth and physiology of *Pleurochaete squarrosa* (Brid.) Lindb., a terricolous moss from Mediterranean ecosystems. *Water, Air, and Soil Pollution* (2013) 224: 1492
  63. Ochoa-Hueso, R.; Maestre, F.T.; De Los Ríos, A.; Valea, S.; Theobald, M.R.; Vivanco, M.G.; Manrique, E.; Bowker, M.A. (2013). Nitrogen deposition alters nitrogen cycling and reduces soil carbon content in low-productivity semiarid Mediterranean ecosystems. *Environmental Pollution* (2013) 179:185-193
  64. Raúl Ochoa-Hueso, M. Esther Pérez-Corona, Esteban Manrique (2013) Impacts of simulated N deposition on plants and mycorrhizae from Spanish semiarid Mediterranean shrublands. *Ecosystems* (2013) 16:838-581
  65. Ochoa-Hueso, R.; Mejías-Sanz, V.; Pérez-Corona, M.E.; Manrique, E. (2013). Nitrogen deposition effects on tissue chemistry and phosphatase activity in *Cladonia foliacea* (Huds.) Willd., a common terricolous lichen of semi-arid Mediterranean shrublands. *Journal of Arid Environments* (2013) 88:78-71
  66. Ochoa-Hueso, R.; Stevens, C.J.; Ortiz-Llorente, M.J.; Manrique, E. (2013). Soil chemistry and fertility alterations in response to N application in a semiarid Mediterranean shrubland. *Science of the Total Environment* (2013) 452-453:78-86

## Conferences and Symposia

Comunidades líquénicas epífitas indicadoras de contaminación atmosférica en Madrid  
Madrid-Toledo. 20-23.11.1975. Sociedad Española de Botánica Criptogámica

Coaggregation of functionally-related groups of embryonic nerve cells: long-term metabolic changes associated to cell recognition and interaction in vitro. Copenhagen. Denmark. 21-26 Agosto 1977. International Society of Neurochemistry

Analysis of developmental interactions in reaggregated embryonic cell cultures. The Weizmann Institute of Science. Rehovot. Israel. 26-31 1979

Aparición de receptores para glutamato y GABA en el tectum óptico del pollo. Murcia, (Spain). 27-29 Sept. 1979. Sociedad Española de Bioquímica

Acetilcolinesterasa durante el desarrollo del sistema visual en el pollo: análisis de sedimentación de las diferentes formas moleculares. Murcia (Spain) 27-29 Sept. 1979. Sociedad Española de Bioquímica

Developmental regulation of glutamate-related excitatory transmitter receptors in the chick visual system. Estrasburgo, Francia. 10-11 Juio 1980. Satellite Symposium of the XXVIII International Congres of Physiological Sciences on Amno Acid Transmitters.

Development of binding sites for excitatory and inhibitory amino acid transmitters in the chick optic tectum. Ste. Odile (FRANCE) 1-3 Sept. 1982. "CNS Receptors - From molecular pharmacology to behaviour".

Sobre la variabilidad de metabolitos secundarios en taxones líquénicos españoles I  
Lugar: Murcia (Spain). 19-24 Sept. 1983. Sociedad Española de Bioquímica

Estudio morfológico y quimiotaxonómico del género *Cladonia* s.a. en el centro de España  
Lugar: Granada (Spain). 17-21 Dic 1985. VI Simposio Nacional de Botánica Criptogámica

Caracterización química de algunas especies de *Hypogymnia* del centro de España.  
Granada (Spain) 17-21 Dic 1985. VI Simposio Nacional de Botánica Criptogámica

Ecology, morphology, anatomy and chemistry in *Hypogymnia* (Nyl.) Nyl. in central Spain.  
Lugar: Muenster. (Germany) 16-21 Marzo 1986. Progress and Problems in Lichenology Int.  
Association of Lichenology

Estudios químicos del género *Ramalina* Ach. en la provincia de Madrid. Real Jardín  
Botánico de Madrid. Madrid (Spain) 23-26 Sept 1987. VII Simposion Nacional de Botánica  
Criptogámica

*Pseudevernia furfuracea* (L.) Zopf: razas químicas y su distribución en España. Real Jardín  
Botánico de Madrid. Madrid (Spain) 23-26 Sept 1987. VII Simposion Nacional de Botánica  
Criptogámica

Variabilidad morfológica, química y ecológica de *Cladonia furcata* (Huds.) Schrader en la  
península Ibérica. Real Jardín Botánico de Madrid. Madrid (Spain) 23-26 Sept 1987. VII  
Simposion Nacional de Botánica Criptogámica

Datos químicos interesantes de algunos líquenes del Moncayo. Real Jardín Botánico de  
Madrid. Madrid (Spain) 23-26 Sept 1987. VII Simposion Nacional de Botánica Criptogámica

*Parmelia* Ach. Subg. *Malanoparmelia* (Hue) Essl. en la provincia de Madrid. Análisis por  
TLC y HPLC. Real Jardín Botánico de Madrid. Madrid (Spain) 23-26 Sept 1987. VII  
Simposion Nacional de Botánica Criptogámica

Estudio comparado de la anatomía del talo en el género *Lasallia* Merat (Umbilicariaceae). 1-  
Especies Ibérica y taxones afines. Real Jardín Botánico de Madrid. Madrid (Spain) 23-26 Sept  
1987. VII Simposion Nacional de Botánica Criptogámica

El género *Xanthoparmelia* (Vainio) Hale en la provincia de Madrid. Morfología y análisis  
por TLC y HPLC. Lérida (Spain) 7-10 Sept 1988. Simposio Internacional de Botánica

Método de extracción con DMSO y evaluación de contenido de clorofilas en *Evernia*  
*prunastri* (L.) Ach. Melilla (Spain) 23-26 Sept 1989. VIII Simposio Ciencias Criptogámicas

Variaciones intratalinas de las sustancias liquénicas con la edad en *Lasallia pustulata* (L.)  
Merat. Melilla (Spain) 23-26 Sept 1989. VIII Simposio Ciencias Criptogámicas

Quimiotaxonomía de *Ramalina polymorpha* Grex en España. Melilla (Spain) 23-26 Sept  
1989. VIII Simposio Ciencias Criptogámicas

Química y distribución de *Umbilicaria hirsuta* (Sw.) Ach., *U. grisea* Hoffm. y *U. frey* Poelt,  
Codogno et Puntillo, en la Península Ibérica. Melilla (Spain) 23-26 Sept 1989. VIII Simposio  
Ciencias Criptogámicas

Estudios de fotoinhibición en líquenes utilizando fluorescencia de clorofilas. La Laguna

(Tenerife, Spain) 21-24 Sept 1993. Simposio Nacional de Botánica Criptogámica

Variaciones diurnas en el contenido de pigmentos fotosintéticos en líquenes. La Laguna (Tenerife, Spain) 21-24 Sept 1993. Simposio Nacional de Botánica Criptogámica

Differential field tolerance to excess light of coexisting landscape trees during the Mediterranean summer: implications for vegetation changes under future climate scenarios. Barcelona (Spain) 1 Jan 1998. The Earth's Changing Land GCTE-LUCC Open Science Conference no Global Change

Causas, tendencias e implicaciones para el cultivo en vivero y el éxito de las repoblaciones de la variabilidad fenotípica de las plantas leñosas: el caso de *Quercus ilex* y *Q. coccifera*. Valladares, F; L. Balaguer; E. Martinez-Ferri, E. Perez-Corona, E. Manrique. 2001 Actas del III Congreso Forestal Español. Junta de Andalucía. Granada. Páginas 298-304.

Preservation of photosynthetic pigments under limiting working conditions.. Glasgow (U.K.) 22-27 Julio 2007. 14th International Congress of Photosynthesis, 22nd - 27th July 2007, Glasgow. ISPR. International Society of Photosynthesis Research. Photosynthesis Research, 91(2-3): 280

### **Divuligation and outreach**

Manrique Reol, Esteban (1990).  
La investigación medioambiental en la comunidad europea.  
Política Científica, 22:53-56

Manrique Reol, Esteban (2000)  
La investigación en ecología terrestre: una oportunidad  
Ecosistemas 9(1):60-64

Manrique Reol, Esteban (2003)  
Los pigmentos fotosintéticos, algo más que la captación de luz para la fotosíntesis.  
Ecosistemas 12(1):60-64

Vargas, P. y Manrique, E. (2008)  
La botánica española en el contexto de la biología evolutiva: análisis histórico, productividad y financiación.  
eVolución, 3 (1): 37-50

Manrique Reol, Esteban (2010)  
Armonía, Zoología, Poesía. Prólogo al "Álbum de Zoología" en "El mar no tiene dioses".  
Homenaje a José Emilio Pacheco. Premio Cervantes 2009. Catálogo de la exposición.

### **Extra-curricular activities**

1998. Member of IGBP Spain. Ministry of Education and Science. 1998

1999-2000 Representative at the Interin Steering Committee of the Global Biodiversity Information Facility. Office for Science and Technology (OCYT) Ministerio

de la Presidencia del Gobierno

|           |                                                                                                                                             |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 2002-2006 | CSO Member of COST Programm.                                                                                                                |
| 1986-1990 | Spainsh representative at the Management Committee for Environment and Climate 2º Framework Programm EU,                                    |
| 1994-1998 | Spainsh representative at the Management Committee for Environment and Climate 4º Framework Programm EU                                     |
| 1994-2002 | Spanish Representative at International Group of Funding Agencies for Global Change Research (IGFA)                                         |
| 1999-2002 | Spainsh representative at the Management Committee for Environment and Sutable Development. 5º Framework Programm EU                        |
| 2001-2004 | Spanish representative at Governing Board of the Global Biodiversity Information Facility (GB-GBIF)                                         |
| 2001-2007 | European Platform for Biodiversity Research Strategy (EPBRS)                                                                                |
| 1997-2001 | Participation at “Discussion forum of European Biodiversity Strategy for the implementation of the Convention on Biological Diversity (CBD) |

### **Languages**

|         |                                                         |
|---------|---------------------------------------------------------|
| Spanish | Mother tongue                                           |
| English | Good usage, both orally and written                     |
| French  | Fair usage, both orally and written; fluency in reading |

### **Scientific and evaluation panels**

Member of the Spanish Committee of DIVERSITAS since November 2002.

Member of the European Platform for Biodiversity Research Strategy (EPBRS) since 2002.

## UNAI PASCUAL

---

### **Ikerbasque Research Professor**

*Basque Foundation for Science, Basque Centre for Climate Change (BC3),*

Alameda Urquijo 4–4a. 48008 Bilbao, Spain

Tel: +34 944 014 690 ext. 29

[unai.pascual@bc3research.org](mailto:unai.pascual@bc3research.org)

[http://www.bc3research.org/en/unai\\_pascual.html](http://www.bc3research.org/en/unai_pascual.html)

### **Senior Visiting Research Professor**

Department of Land Economy, University of Cambridge, 19 Silver Street, CB39EP UK

E-mail: [up211@cam.ac.uk](mailto:up211@cam.ac.uk)

## PROFESSIONAL PROFILE

Unai Pascual is an **environmental economist** with a PhD in environmental Economics (University of York, UK, 2002). Currently he is **Ikerbasque Research Professor** at the Basque Centre for Climate Change (BC3), Bilbao, Spain. Previously he was Senior Lecturer in environmental economics and policy at the University of Cambridge, Department of Land Economy (2002-2013). He also lectured on environmental economics at the School of Economics at the University of Manchester (2000-2002).

Prof. Pascual's main research involves **bridging economics and ecology** and has an active role as advisor to various international bodies on the economics of biodiversity and ecosystem services, including the European Commission, the United Nations Environmental Program (UNEP), the UN Food and Agricultural Organization (FAO), the International Institute for Environment and Development, UK (IIED) and the Consultative Group on (CGIAR) among others. He is also member of various scientific committees related to biodiversity conservation, such as *EcoSERVICES* (Future Earth), and the *Scientific Commission of the Great Ape Survival Partnership* GRASP (led by UNESCO & UNEP) and of the *United Nations' Sustainable Development Solutions Network's* (UNSDSN) on Biodiversity and Ecosystem Services.

Prof. Pascual has also been involved in **international initiatives on biodiversity and ecosystem services** such as the Economics of Ecosystem Services and Biodiversity as (TEEB) Coordinating Lead Author on the study of the economic valuation of biodiversity and ecosystem services, coordinating lead author in the economic study of the UK-National Ecosystem Assessment (UKNEA) and advisor Nippon Science Assessment Panel (NSAP) for the Sub-global Assessment of Satoyama and Satoumi.

Prof. Pascual has served in various **IPBES initiatives**. He was the Spanish delegate to the expert meeting to develop the conceptual framework of IPBES (August 2013, Cape Town) after participating at the UNESCO (Paris) meeting to develop the interim conceptual framework (Paris, October 2012). He also participated as observer to the 1st <sup>+</sup> Plenary of IPBES (Bonn, 21-26 January, 2013) as part of the International Council for Science (ICSU) delegation. Likewise he was invited by ICSU to participate in the 2<sup>nd</sup> Plennary of IPBES in Antalya (December 2013). He is currently CLA and member of the expert group tasked to develop the "guide and catalogue on policy support tools and methodologies" in the context of Deliverable 4(c) of the IPBES work programme.

Prof. Pascual's **research output** appears in many publications in international high impact journals such as: *Science*, *PNAS*, *BioScience*, *Global Change Biology*, *Conservation Biology*, *Ecological Indicators*, *Global Environmental Change*, *Conservation Letters*, *Environment and Resource Economics*, *Ecological Economics*, *Environmental Science and Policy*, *Land Economics*, *World Development*, etc. He has also published books, many book chapters, and has given numerous talks and keynotes on the economics of biodiversity and ecosystem services (see publication list p. 8)

*This is a complete (unabridged) CV containing 25 pages.*

## AREAS OF SCIENTIFIC INTEREST

Economics of biodiversity and ecosystem services, Environment and Development Economics, Global Environmental Change and Sustainability, Environmental Governance and Policy, Economics of climate change

## LANGUAGES

English, Spanish, Basque

## CURRENT POSITIONS

**2011-** **Ikerbaque Research Professor**, Ikerbasque Science Foundation & Basque Centre for Climate Change, Bilbao, Basque Country.

**2013-** **Visiting Fellow** *University of Cambridge. Department of Land Economy (UK)*

## PAST ACADEMIC/RESEARCH POSITIONS

**2011-13** **Senior University Lecturer**, University of Cambridge, Department of Land Economy.

**2003-10** **University Lecturer**, University of Cambridge, Department of Land Economy.

**2010-11** **Ikerbasque Fellow**, Basque Centre for Climate Change (BC3), Bilbao (Spain).

**2008-2011** **Scientific Advisor** to TECNALIA Environmental Unit, Bizkaia (Basque Country).

**2005-07** **University Lecturer**. University of Deusto. Economics department. Bilbao (Spain)

**2001-03** **University Lecturer**. University of Manchester. School of Economic Studies (UK).

**1998-** **Guest Lecturer (postgraduate level)**: University of the Basque Country, Faculty of Economics (Spain), 2007; Universidad Autónoma de Santo Domingo, Department of Economics, (Dominican Republic), 2007; Universidad Autónoma de Barcelona, Department of Economics (Spain), 2004; Universidad Autónoma de La Pampa. Santa Rosa (Argentina). Inter American Institute for Global Change Research, IAI, 2000; University of York, York, Environment Department, (2000); Universidad Autónoma de Yucatán, Mérida (Mexico). 1998.

## QUALIFICATIONS

**1998-2002** **PhD in Environmental Economics**. Environment Department, University of York (UK). Advisors: Prof. Edward B. Barbier and Prof. Charles Perrings

**1996-1997** **MSc in Environmental Economics**. Environment Department, University of York (UK). Dissertation supervisor: Prof. John C.V. Pezzey.

**1991-1996** **BA in Economics (International Trade and Development)**, Faculty of Economics. University of the Basque Country, UPV-EHU. Bilbao (Spain).

## HONOURS, PRICES & AWARDS

- 2013-** Member of the Scientific Committee of ecoSERVICES program of *Diversitas* (now included as core project of Future Earth)
- 2013-** Member of the United Nations' Sustainable Development Solutions Network's (SDSN) – Biodiversity and Ecosystem Services.
- 2013-** Member of the Scientific Commission of the Great Ape Survival Partnership (GRASP)
- 2006-2013** Scientific Committee Member of *Diversitas* Agro-Biodiversity Programme. *Diversitas* International, Paris, France.
- 2003-2013** Senior College Fellow. Homerton College, University of Cambridge.
- 2006-12** Twice elected to the Board of the European Society of Ecological Economics (ESEE)
- 2010-11** Research Fellow Basque Centre for Climate Change (BC3), Bilbao. Oct 2010 – Sept 2011.
- 2011** Visiting Professor. University of California Davis (UCD). Dept. Land, Water and Air. California, USA. March 2011.
- 2009-10** Coordinating Lead Author of the Economic Report on climate regulation and farmland chapters for the UK National Ecosystem Assessment.
- 2007-10** Expert member of the Nippon Science Assessment Panel (NSAP) for the Sub-global Assessment (SGA) of Satoyama and Satoumi in Japan
- 2009-10** Coordinating Lead Author on economic valuation of the Economics of Ecosystems and Biodiversity Global Report (TEEB), United Nations Environmental Programme
- 2008-** Honorary Research Fellow. *Bioversity International*, Consultative Group of International Agricultural Research (CGIAR). Rome, Italy.
- 2003** KM Stott Prize for the best PhD in Environmental Economics. University of York. UK
- 2000** Visiting scholar: University of Wyoming. Dept. Economics and Finance. Laramie, Wyoming, USA Oct-Dec 2000.
- 1998-01** PhD Research scholarship. University and Education ministry of the Basque Country.
- 1998** Visiting Scholar Universidad Autónoma de Yucatán. Mérida (Mexico). Sept-Oct 1998
- 1997-98** MSc Research scholarship. University and Education ministry of the Basque Country.

## INTERNATIONAL SCIENCE-POLICY ENGAGEMENT ON IPBES

1. Delegate (Spain) the Intergovernmental Platform on Biodiversity and Ecosystem Services IPBES expert meeting. Guide on policy support tools and methodologies Deliverable 4c 6-8 May 2014. Bonn (Germany)
2. Delegate to the expert meeting of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) to develop the IPBES conceptual framework (nominated by the Spanish ministry of the Environment). 25-26 August, 2013. Cape Town, South Africa.

3. 1<sup>st</sup> Plenary of the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES). Bonn (21-26 January, 2013). Member of the International Council for Science (ICSU) delegation.
4. Author of the Report on the outcome of the expert workshop on main issues relating to the development of a conceptual framework for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES): Authors: Duraiappah Anantha, Larigauderie Anne, Brondizio Eduardo S., Mace Georgina, Arico Salvatore, Asah T. Stanley, Ash Neville, Baptiste Brigitte, Brooks Thomas, Aillaux Jorge, Dias Sandra, Escobar-Briones Elva G., Eyzaguirre Pablo B., Fischer Markus, Gundimeda Haripriya, Hashimoto Shizuka, Jama Mohamud, Leadley Paul, Mooney Harold A., Mumby Peter, Nagendra Harini, Nakashima Douglas, Nesshoever Carsten, Nettleton Carino Joji, Pascual Unai, Reyers Belinda, Saito Osamu , Schultz Maria, Spierenburg Marja , Sumaila Rashid, Tallis Heather. UNESCO. Paris. 26-29 October 2012.

#### **Other recent science-policy engagement:**

5. Multi-Stakeholder Dialogue on Payments for Environmental Services/ Remuneration of Positive Externalities. *Gathering evidence on PES and other incentive mechanisms for sustainable land and water management* 12-13 September, 2013. FAO, Rome
6. Joint Agriculture Food security and Climate Change FACCE– JPI and EU BiodivERsA network strategic experts meeting. 5/3/2013 Paris
7. Future Earth Europe Regional Workshop, Paris, 13-14 May 2013. Foundation Simone et Cino Del Duca, Paris. International Council for Science (ICSU) [http://wcrp.ipsl.jussieu.fr/future\\_earth/index.html](http://wcrp.ipsl.jussieu.fr/future_earth/index.html)
8. Plenary address to the Presidency of the European Union (Hungary) and European Member State delegates. “Innovative Financial Mechanisms for Biodiversity Conservation: The role of Payments for Ecosystem Services”. Budapest, Hungary. March 2011.

#### **PROFESIONAL ASSOCIATION MEMBERSHIP and OTHER SERVICES**

- External Examiner to the undergraduate (BSc) and postgraduate (MSc) programs. University of York, Environment Department, UK (2008- 2011)
- Expert course design and delivery of course on Payments for Ecosystem Services (CIHEAM - Instituto Agronómico Mediterráneo de Zaragoza .
- Scientific Evaluator for International Research Councils
  - o Portuguese Science Foundation (ESF) through the European Science Foundation, 2014
  - o European Science Foundation (ESF) – Axa Research Fund postdoctoral program, 2014
  - o Natural Environment Research Council, UK (2013)
  - o UK ESRC. 2013.
  - o Swedish Research Council Formas Expert Panel on Sustainable development in low-income countries. 2013.
  - o The research council of Norway. Norwegian National Climate Change Programme – Climate Change impacts and impacts in Norway (NORKLIMA) 2012.
  - o Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning ([www.formas.se](http://www.formas.se)) 2009-2012
  - o EU Commission Framework Program 7. Biodiversa ERA-net program. ([www.biodiversa.org](http://www.biodiversa.org)). 2011.
  - o EU Commission Framework Program 7 project evaluator: SCALE project ([www.scales-project.net](http://www.scales-project.net)). 2011.
  - o EU Commission Framework Program 7 (Sub-Activity 6.4.2 “Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation”). ([www.euresearch.ch/index.php?id=788](http://www.euresearch.ch/index.php?id=788)) 2010-11.

- o UK Ecosystems Services for Poverty Alleviation (ESPA) programme funded by the Department of International Development, DFID, Natural and Environmental Research Council (NERC), Economics and Social Science Research Council, ESRC (UK). ([www.nerc.ac.uk/research/programmes/espa](http://www.nerc.ac.uk/research/programmes/espa)) 2009-10
- o French National Research Agency - Biodiversity Research Program. ([www.agence-nationale-recherche.fr](http://www.agence-nationale-recherche.fr)). 2007-10:
- o International Science Foundation. 2005-07

**Elected Board Member:** European Society for Ecological Economics, ESEE. Elected for the terms: 2006-2009 & 2010-2012

**Member of the following academic associations** (past and present): European Society for Ecological Economics (ESEE), International Society for Ecological Economics (ISEE), European Association of Environmental & Resource Economics (EAERE), International Association of Agricultural Economics (IAAE), UK Agricultural Economics Society (AES), UK Network of Environmental Economists, BIOECON

**Membership to scientific committees and scientific initiatives:**

1. 11<sup>th</sup> European Society of Ecological Economics, 2015. Leeds, UK. Scientific committee member.
2. European Society of Ecological Economics conference, Iceland, 15-16 August, 2014.
3. Reviewer for the Global Biodiversity Outlook (fourth edition) GBO-4.
4. Member of the International Review Board of the Inclusive Wealth Report 2012. International Human Dimensions Programme on Global Environmental Change (IHDP), Bonn, Germany.
5. 18<sup>th</sup> European Association of Environmental and Resource Economists. 29 June-2 July. 2011. Rome, Italy.
6. 9<sup>th</sup> European Society of Ecological Economics, 2011: "Advancing Ecological Economics: Theory and Practice" 2011. Istanbul, Turkey.
7. 7<sup>th</sup> European Society of Ecological Economics, 2007: "Integrating Natural and Social Sciences for Sustainability". 5-8th June 2007, Leipzig, Germany
8. 11<sup>th</sup> Biennial Conference of the International Society of Ecological Economics "Advancing Sustainability in a Time of Crisis". Oldenburg and Bremen, Germany (22 - 25 August 2010)
9. 10<sup>th</sup> Biennial Conference of the International Society of Ecological Economics, 2008: "Applying Ecological Economics for Social and Environmental Sustainability". Nairobi, Kenya, 7-11 August 2008
10. 9<sup>th</sup> International BIOECON Conference. Economics and Institutions for Biodiversity Conservation, Kings College Cambridge, 19-21 September 2007
11. 8<sup>th</sup> International BIOECON Conference. Economic Analysis of Ecology and Biodiversity. Cambridge, UK. 29-30 August, 2006.
12. 2nd Spanish Biodiversity Conference. 2011. Granada, June, 2011.
13. Spanish Biodiversity Conference. 2013. Bilbao, February, 2011.
14. 4th AERNA Conference Spanish-Portuguese Association of Natural Resources and Environmental Economics. Palma de Mallorca. 2-5 June 2010.

**SERVICE TO JOURNALS, PUBLISHERS, CONFERENCES & RESEARCH COUNCILS**

**Academic Journal Editorial Board Member:** Global Environmental Change (2013-2016); Environment and Development Economics (2008-2013); Revista Espanola de Estudios Agrosociales y Pesqueros (2008-);

International Journal of Ecology & Development (2008-2011); International Journal of Ecological Economics & Statistics (2006-09)

**Journal Editor:** *Revista Española de Estudios Agrosociales y Pesqueros* (2011); *Ecological Economics* (2010); *Agriculture, Ecosystems & Environment* (2007)

**Service as Journal referee:**

- |                                                               |                                                                       |
|---------------------------------------------------------------|-----------------------------------------------------------------------|
| 1. <i>Journal of Environmental Economics &amp; Management</i> | 17. <i>Environmental Conservation</i>                                 |
| 2. <i>American Journal of Agricultural Economics</i>          | 18. <i>Conservation Letters</i>                                       |
| 3. <i>Ecological Economics</i>                                | 19. <i>Ecology &amp; Society</i>                                      |
| 4. <i>Land Economics</i>                                      | 20. <i>Biological Conservation</i>                                    |
| 5. <i>World Development</i>                                   | 21. <i>AMBIO</i>                                                      |
| 6. <i>Geographical Journal</i>                                | 22. <i>Revista Iberoamericana de Economía Ecológica</i>               |
| 7. <i>Environment and Development Economics</i>               | 23. <i>Latinoamericanist</i>                                          |
| 8. <i>European Journal of Agricultural Economics</i>          | 24. <i>International Journal of the Commons</i>                       |
| 9. <i>Agricultural Economics</i>                              | 25. <i>Environmental Policy and Governance</i>                        |
| 10. <i>Regional Studies</i>                                   | 26. <i>Journal of Human Development and Capabilities</i>              |
| 11. <i>Cambridge Journal of Regions, Economy and Society</i>  | 27. <i>The Solutions Journal</i>                                      |
| 12. <i>Journal of Agricultural Economics</i>                  | 28. <i>Ecological Complexity</i>                                      |
| 13. <i>Agroforestry Systems</i>                               | 29. <i>Science</i>                                                    |
| 14. <i>Forest and Policy Economics</i>                        | 30. <i>Proceedings of the National Academy of Sciences of the USA</i> |
| 15. <i>Environmental Science and Policy</i>                   |                                                                       |
| 16. <i>Global Environmental Change</i>                        |                                                                       |

**Reviewer/evaluator of published books, policy reports and conferences (& back cover endorsements):**

1. "The economics of ecosystem services: lessons from the Brazilian experience" (Carlos Eduardo Frickmann Young). Springer. 2014.
2. "The Handbook of Sustainable Economics". Roberto Bermejo. Springer. 2012.
3. The Inclusive Wealth Report (UNU-IHDP and UNEP) launched at the RIO+20 Earth Summit conference in June 2012.
4. The Economics of Managing Crop Diversity On-farm: Case studies from the Genetic Resources Policy Initiative. By Edilegnaw Wale, Adam Drucker, Kerstin Zander (Eds). Edgar Elgar. 2011
5. "Governing the Environment: Salient institutional Issues". By Albert Breton, Giorgio Brosio, Silvana Dalmazzone and Giovanna Garrone (Eds). Edgar Elgar. 2011.
6. "The Economics of Ecosystems and Biodiversity Ecological and Economic Foundations". Kumar, P (ed). Routledge. 2010.
7. "Fifty years of invasion ecology" by David M. Richardson (Ed). Wiley-Blackwell. 2010.
8. "Agriculture, Biodiversity and Markets: Livelihoods and Agroecology in Comparative Perspective", by Stewart Lockie and David Carpenter (Eds). Earthscan. 2008.
9. "Biotechnology and agricultural development: Transgenic cotton, rural institutions and resource-poor farmers". By Robbert Tripp (Ed). Routledge. 2008.
10. "Markets, Seeds and Development", by Leslie Lipper, Leigh Anderson and Timothy J. Dalton (Eds). Earthscan. 2008.

11. "New perspectives on agri-environmental policies: A multidisciplinary and transatlantic approach". By Stephan Goetz and Floor Brouwer (Eds). Routledge. 2007.
12. The Economics of Biodiversity Conservation Valuation in Tropical Forest Ecosystems". By K.N. Ninan. Earthscan. 2007.

#### **ACADEMIC SERVICE AS PHD ADVISOR/SUPERVISOR**

1. Hiroe Ishihara: Whose value should be valued in Environmental Policy formulation; Power relations and environmental evaluation? University of Cambridge. Since 2008. PhD awarded: 2014.
2. Stella Nordhagen "The value of agrobiodiversity under climate change". University of Cambridge. Since 2009. PhD awarded: 2014.
3. Marta Olazabal: Sustainable Urban Development under Climate Change and Resource Scarcity. PhD awarded : 2014.
4. Alexander Rincón: "Coca crops, forests, people and anti-drug policy in Colombia: Towards the understanding of a complex relationship" Universidad Autónoma de Barcelona co-supervised by Joan Martínez Alier. Awarded 2012.
5. Ulf Narloch: "The role of payment for environmental service schemes in agro-ecosystems under Climate Change". University of Cambridge. PhD awarded: 2011
6. Dr. Per Stromberg: Markets for Biodiversity Goods and Services. University of Cambridge, University of Cambridge. PhD Awarded in 2008.
7. Dr. Andres López: The Impact of Government Behaviour on Agricultural Income, Trade and the Environment. University of Cambridge. PhD Awarded in 2008.
8. Dr. Amani Omer "An Economic Analysis of Interactions between Agriculture and Biodiversity". School of Economic Studies, University of Manchester. PhD Awarded in 2004.
9. Juan Luis Eugenio Martin: "Multicriteria evaluation of sustainable tourism development projects." University of Cambridge.
10. Aiora Zabala: Economic and institutional analysis of sustainable agroforestry adoption by smallholders in Chiapas, Mexico. University of Cambridge. Since 2010.
11. Giulia Wegner: "A socio-institutional analysis of wildlife conservation in Africa". University of Oxford, co-supervised by David McDonald. Since 2009.

#### **ACADEMIC SERVICE AS PHD EXAMINER**

1. Dr. Khandaker M.A. Munim. *Salinity intrusion and food security. Evidence from three food systems in South Western Bangladesh*. University of Leeds, 5 June 2013. External examiner.
2. Dr. Melina Barrio. Economics. *Assessment and management of Galician ecosystems: new frontiers and applications*. University of Santiago de Compostela, Spain. 2010. Chair of examination panel.
3. Dr. Eduardo Garcia Frapolli: *Conservation from Below: Socio-ecological Systems in Natural Protected Areas in the Yucatan Peninsula, Mexico*. Universidad Autónoma de Barcelona. 2006. Member of examination panel.

4. Dr. Tiziano Gomiero: *Multi-Objective Integrated Representation (MOIR): an Innovative Tool for Farming System Analysis*. Universidad Autónoma de Barcelona. 2005. Member of examination panel.
5. Dr. Anke Leroux: *Optimal Conservation under Ecological Risk and Uncertainty: A Dynamic Analysis*. Land Economy Department. University of Cambridge. 2005. Internal examiner.
6. Dr. Mauricio Villena: *Economics, Institutions and the Environment: An Evolutionary Approach to the Problem of Co-operation in Local Commons*. University of Cambridge. 2004. Internal examiner.
7. Dr. Federica Ravera. Which future for semi-arid socioecological systems? Anticipatory learning for climate change adaptation in Northern Nicaragua. Universidad Autonoma de Barcelona. 2011.
8. Dr. Maria Jesus Beltran: Del metabolismo social al metabolismo hídrico: conceptos y aplicaciones. Universidad Pablo de Olavide. 2012.

## PUBLICATIONS

### PEER REVIEWED JOURNAL ARTICLES

1. Pascual, U., Phelps, J., Garmendia, E., Brown, K., Corbera, E., Martin, A., Gomez-Baggethun, E., Muradian, R. 2014. Social Equity matters in Payments for Ecosystem Services. *Bioscience*. (in press)
2. Noellemeyer, E.; Banwart; Black; Cai; Gicheru; Joosten; Reynaldo; Milne; Pascual; Nziguheba; Vargas; Bationo; Buschiazzi; de-Brogniez; Melillo; Richter; Termansen; Van Noordwijk; Ballabio; Goverse; Bhattacharyya; Goldhaber; Nikolaidis; Zhao; Funk; Duffy; Pan; la Scala; Gottschalk; Batjes; Six; van esemael; Stocking; Bampa; Bernoux; Feller; Lemanceau; Montanarella (2014, in press). Benefits of soil carbon: Report on the outcomes of an international Scientific Committee on Problems of the Environment Rapid Assessment Workshop. *Carbon management*.
3. Etxano, E., Garmendia, E., Pascual, U., Hoyos, D., Díez, M.A., Cadiñanos, J.A., Lozano, P.J., (2014, in press). A participatory integrated assessment approach for Natura 2000 network sites. *Environment & Planning C: Government & Policy*.
4. Bateman, I.J., Harwood, A.R., Abson, D.J., Andrews, B., A. Crowe, S. Dugdale, C. Fezzi, J. Foden, D. Hadley, R. Haines-Young, M. Hulme, A. Kontoleon, P. Munday, U. Pascual, J. Paterson, G. Perino, A. Sen, G. Siriwardena, M. Termansen 2014. Economic Analysis for the UK National Ecosystem Assessment: Synthesis and Scenario Valuation of Changes in Ecosystem Services. *Environment and Resource Economics*, 57(2): 273-297 10.1007/s10640-013-9662-y
5. Abson, D.J., Termansen, T. Pascual, U. Aslam, U., Fezzi, C., Bateman, I. 2014. Valuing climate change effects upon UK agricultural GHG emissions: Spatial analysis of a regulating ecosystem service. *Environment and Resource Economics*. 57(2): 215-231. 10.1007/s10640-013-9661-z
6. Fezzi, C, I. Bateman, T. Askew, P. Munday, U. Pascual, A. Sen, A. Darnell (2014). Valuing provisioning ecosystem services in agriculture: a climate scenario analysis for the United Kingdom. *Environment and Resource Economics* 57(2): 197-214 DOI: 10.1007/s10640-013-9663-x.
7. Bateman, I.J, Harwood, A.R. Mace, G.M., Watson, R.T., Abson D.J., Andrews, B., Binner A., Crowe A., Day, B.H., Dugdale, S., Fezzi, C., Foden, J., Hadley, D., Haines-Young, R., Hulme, M., Kontoleon, A., Lovett, A.A., Munday, P., Pascual, U., Paterson, J., Perino, G., Sen, A., Siriwardena, G., van Soest, D., Termansen, M. (2013). Bringing ecosystem services into economic decision making: Land use in the UK. *Science*. 341, 45-50. DOI: 10.1126/science.1234379

8. Bateman, I.J, Harwood, A.R. Mace, G.M., Watson, R.T., Abson D.J., Andrews, B., Binner A., Crowe A., Day, B.H., Dugdale, S., Fezzi, C., Foden, J., Hadley, D., Haines-Young, R., Hulme, M., Kontoleon, A., Lovett, A.A., Munday, P., Pascual, U., Paterson, J., Perino, G., Sen, A., Siriwardena, G., van Soest, D., Termansen, M. (2013). Ecosystem Services: Nature's Balance Sheet (Response). *Science*. 342, 421-422
9. Pascual, U., Jackson, L., Drucker, A. (2013). Economics of Agrobiodiversity. *Encyclopaedia of Biodiversity*.3: 31-44. Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780123847195001829>
10. Narloch, U., Pascual, U., Drucker, (2013). How to achieve fairness in payments for ecosystem services? Empirical insights from agrobiodiversity conservation auctions. *Land Use Policy* 35: 107-118.
11. Stromberg, P., Dedeurwaerdere, T., Pascual, U., 2013. The heterogeneity of public ex-situ collections of microorganisms: Empirical evidence about conservation practices, industry spillovers and public goods. *Environmental Science and Policy*. 33:19-27
12. Phelps, J., Carrasco, L.R., Webb, E.L., Koh, L.P., Pascual, U. 2013. Agricultural intensification escalates future conservation costs. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*. 110 (19): 7601-7606.
13. Muradian, R., M. Arsel, L. Pellegrini, F. Adaman, B. Aguilar, B. Agarwal, E. Corbera, D. Ezzine de Blas, J. Farley, G. Froger, E. Garcia-Frapolli, E. Gómez-Baggethun; J. Gowdy,, N. Kosoy,J.F. Le Coq, P. Leroy,P. May,P. Méral, P. Mibielli, R. Norgaard, B. Ozkaynak, U. Pascual,W. Pengue, M. Perez,D. Pesche, R. Pirard, J. Ramos-Martin, L. Rival, F. Saenz, G. Van Hecken, A. Vatn, B. Vira, K. Urama. (2013) Payments for ecosystem services and the fatal attraction of win-win solutions. *Conservation Letters*. 6(4):274-279.
14. Kumar, P., Brondizio, E., Gatzweiler, F., Gowdy, J., de Groot, J., Pascual, U., Reyers, B., Suhkdev. (2013) The economics of ecosystem services: from local analysis to national policies. *Current Opinion in Environmental Sustainability*. 5(1):78-86.
15. Rincón, A., Pascual, U., Romero, M. (2013) An exploratory spatial analysis of illegal coca cultivation in Colombia using local indicators of spatial association and socio-ecological variables. *Ecological Indicators*. 34:103-112
16. Rincón, A., Pascual, U., Flantua, S., (2013). Examining spatially varying relationships between coca crops and associated factors in Colombia, using geographically weight regression. *Applied Geography*, 37: 23-33. 10.1016/j.apgeog.2012.10.009
17. Krishna, V.V, Drucker, A.G. Pascual, U., Raghu, P.T., King, E.D.I. (2013) Estimating compensation payments for on-farm conservation of agricultural biodiversity in developing countries. *Ecological Economics*. 87: 110-123
18. Chiabai, A., Galarraga, I, Markandya, A., Pascual, U. (2013) The equivalency principle for discounting the value of natural assets: An application to an investment project in the Basque Coast. *Environmental and Resource Economics*. 56(4): 535-550. DOI: 10.1007/s10640-012-9589-8.
19. Nordhagen, S. and Pascual, U. (2012). The Impact of Climate Shocks on Seed Purchase Decisions in Malawi: Implications for Climate Change Adaptation. *World Development*. 43: 238-251. 10.1016/j.worlddev.2012.08.002.
20. Hoyos, D, Mariel, P. Pascual, U., Etxano, I. (2012). Valuing a Natura 2000 network site to inform land use options using a discrete choice experiment: an illustration from the Basque Country. *Journal of Forest Economics*. 18: 329-344 10.1016/j.jfe.2012.05.002
21. Jackson, LE, Pulleman, M , Brussaard, L, Bawa, K, Brown, G, Cardoso, I, de Ruiter, P, Garcia-Barrios, L, Hollander, A, Lavelle, P, Ouedraogo, E, Pascual, U, Setty, S, Smukler, S, Tschardtke, T, van Noordwijk, M.

- (2012). Social-ecological and regional adaptation of agrobiodiversity management across a global set of research regions. **Global Environmental Change**. 22(3):623-639 doi.org/10.1016/j.gloenvcha.2011.10.009
22. Ziegler, A, Phelps, J, Yuen, J, W, E, Lawrence, D, Fox, J, Bruun, T, Leisz, S, Mertz, O, Dressler, W, Ryan, C, Pascual, U, Padoch, C, Koh, L.P (2012). Carbon outcomes of major land-cover transitions in SE Asia: Great uncertainties and REDD+ policy implications. **Global Change Biology**. 18(10): 3087-3099. doi: 10.1111/j.1365-2486.2012.02747.x.
  23. Narloch, U., Pascual, U., Drucker, A. (2012). Collective action dynamics under external rewards: experimental insights from Andean farming communities. **World Development**. 40(10): 2096–2107. DOI: 10.1016/j.worlddev.2012.03.014
  24. Corbera, E., and Pascual, U., (2012). Ecosystem services: heed social goals, **Science**, 335(6069): 655-656. DOI:10.1126/science.335.6069.655-c.
  25. Van Vliet, N. Mertz, O., Heinimann, A., Langanke, T., Adams, C., Messerli, P., Leisz, S., Pascual, U., Schmook, B., Schmidt-Vogt, D., Castella, J-C., Jørgensen, L., Birch-Thomsen, T., Hett, C., Bech-Bruun, T., Ickowitz, A., Chi Vu, K., Yasuyuki, K., Fox, J., Dressler, W., Padoch, C., Ziegler, A.D. (2012) Trends, drivers and impacts of changes in swidden cultivation in tropical forest-agriculture frontiers: A global assessment. **Global Environmental Change**, 22(2): 418–429 Doi: 10.1016/j.gloenvcha.2011.10.009
  26. Sunderland, L-A., Gabriel, D., Pascual, U., Schmutz, Rigby, D Godwin, R, Sait, S.M, Sakrabani, R., Kunin, W.E., Benton, T.G, Stagl, S. (2012), The ‘neighbourhood effect’: a multidisciplinary assessment of the case for farmer co-ordination in agri-environmental programmes. **Land Use Policy**. 29: 502-512 doi:10.1016/j.landusepol.2011.09.003
  27. Narloch, U., Pascual, U., Drucker, A.G. (2011) Cost-effectiveness targeting under multiple conservation goals and equity considerations in the Andes. **Environmental Conservation**. 38(4): 417-425. doi:10.1017/S0376892911000397
  28. Pascual, U., Narloch, U., Nordhagen, S., Drucker, A. (2011). The economics of agrobiodiversity conservation for food security under climate change. **Economía Agraria y Recursos Naturales**. 11(1): 191-220.
  29. Narloch, U., Drucker A. and Pascual, U (2011) Payments for agrobiodiversity conservation services for sustained on-farm utilization of plant and animal genetic resources **Ecological Economics**, 70(11): 1837-1845. doi:10.1016/j.ecolecon.2011.05.018
  30. Rodríguez, L.C., Pascual, U., Muradian, R., Pazmino, N., Whitten S. (2011). Towards a unified scheme for environmental and social protection: Learning from PES and CCT experiences in developing countries. **Ecological Economics**. 70(11):2163-2174. doi:10.1016/j.ecolecon.2011.06.019
  31. Wegner, G., Pascual, U. (2011). Cost-benefit analysis in the context of ecosystem services for human well-being: A multidisciplinary critique. **Global Environmental Change** 21(2):492-504. doi:10.1016/j.gloenvcha.2010.12.008
  32. Wu, J., Fisher, M., Pascual, U. (2011). Urbanization and the viability of local agricultural economies. **Land Economics**. 87(1):109-125.
  33. Reyes-García, V., Pascual, U., Vadez, V, Huanca, T. (2011). The role of ethnobotanical skills and agricultural labor in forest clearance. Evidence from the Bolivian Amazon. **Ambio**. 40(3): 310-321 DOI 10.1007/s13280-010-0107-3

34. Pascual, U., Corbera, E. (2011). Payments for Environmental Services: Perspectives and innovative experiences for nature conservation and rural development. *Revista Española de Estudios Agrosociales y Pesqueros*. 287: 11-32.
35. Pascual, U. (2011). Governing the Environment: Salient institutional Issues. (book review) *Journal of Integrative Environmental Sciences*. 8(1): 69-71.
36. Omer, A., Pascual, U. and Russell, N.P. (2010) A theoretical model of agrobiodiversity as a supporting service for sustainable agricultural intensification. *Ecological Economics*. 69(10):1926-1933. DOI: 10.1016/j.ecolecon.2010.04.025
37. Krishna, V., U. Pascual, D. Zilberman (2010). Assessing the potential of labelling schemes for in-situ landrace conservation: An example from India. *Environment and Development Economics*. 15: 127-151. DOI: 10.1017/S1355770X09990155
38. Martínez-Alier, J., Pascual, U., Vivien, F-D., Zaccai, E. (2010). Sustainable de-growth: Mapping the context, criticisms and future prospects of an emergent paradigm. *Ecological Economics*, 69(9): 1741-1747. DOI: 10.1016/j.ecolecon.2010.04.017
39. Stromberg, P., Pascual, U., Bellon, M. (2010). Seed systems and farmers' seed choices: The case of maize in the Peruvian Amazon. *Human Ecology*. 38: 539-553. DOI: 10.1007/s10745-010-9333-3
40. Pascual, U., Muradian, R., Rodríguez, L.C, Duraipah, A. (2010) Exploring the links between equity and efficiency in payments for environmental services: a conceptual approach. *Ecological Economics*. 69(6):1237-1244. DOI: 10.1016/j.ecolecon.2009.11.004
41. Muradian, R. Corbera, R. Pascual, U., Kosoy, N. May, P.H. (2010) Reconciling theory and practice: an alternative conceptual framework for understanding payments for environmental services. *Ecological Economics*. 69(6):1202-1208. DOI: 10.1016/j.ecolecon.2009.11.006
42. Soto, J.L., Valdivia, E., Drucker, A., Narloch, U., Pascual, U., Pinto, M. (2010). Payments for agrobiodiversity conservation services (PACS) and its interlinkages with collective action and property rights (Case study: quinoa). *CienciaAgro. Journal de Ciencia y Tecnologia Agraria*. 2(1): 188-198.
43. Pascual, U., Martínez-Españeira, R. (2009). The effect of environmental change and price policies on livelihoods in tropical agroforestry systems. *Journal of International Development*. 21(3): 433-446. DOI: 10.1002/jid.1564
44. Ishihara, I and Pascual, U. (2009) Social capital in community level environmental governance: A critique. *Ecological Economics* 68(5): 1549-1562. DOI: 10.1016/j.ecolecon.2008.11.003
45. Pascual, U. and Perrings, C. (2007). Developing incentives and economic mechanisms for in-situ biodiversity conservation in agricultural landscapes. *Agriculture, Ecosystems and Environment*. 121: 256-268. DOI: 10.1016/j.agee.2006.12.017
46. Omer, A., Pascual, U. and Russell, N.P. (2007). Biodiversity conservation and productivity in intensive agricultural systems. *Journal of Agricultural Economics*. 58(2): 308-329. ISSN: 0021-857X. DOI: 10.1111/j.1477-9552.2007.00091.x
47. Jackson, L.E. Bawa, K.S., Brussaard, L., Pascual, U. and de Ruiter, P. (2007). Biodiversity in agricultural landscapes: Investing without losing interest. *Agriculture, Ecosystems and Environment*. 121:193-195. DOI: 10.1016/j.agee.2006.12.011.

48. Jackson, L., Bawa, K., Brussaard, L., Pascual, U., Perrings, C., de Ruiter, P. (2007). 'Agrobiodiversity'. In: Levin, S. (Ed), *Encyclopaedia of Biodiversity*, Vol 5: 1-13. Elsevier. DOI: 10.1016/B978-012226865-6/00572-9. ISBN: 978-0-12-226865-6
49. Jackson, L.E., Pascual, U. and Hodgkin, T. (2007). Utilizing and conserving agrobiodiversity in agricultural landscapes. *Agriculture, Ecosystems and Environment*. 121: 196-210. DOI: 10.1016/j.agee.2006.12.017
50. Pascual, U. and Barbier, E.B. (2007). On price liberalization, poverty and shifting cultivation: An example from Mexico. *Land Economics*, 83(2):192-216. ISSN: 0023-7639. DOI:10.3368/le.83.2.192
51. Perrings, C., Jackson, L., Bawa, K., Brussaard, L., Brush, S., Gavin, T., Papa, R., Pascual, U., de Ruiter, P., (2006). 'Biodiversity in agricultural landscapes: Saving natural capital without losing interest', *Conservation Biology*, 20(2): 263-264. DOI: 10.1111/j.1523-1739.2006.00390.x
52. Pascual, U. and Barbier, E.B. (2006). "Deprived Land-Use Intensification in Shifting Cultivation: The Population Pressure Hypothesis Revisited", *Agricultural Economics*, 34: 155-165. DOI: 10.1111/j.1574-0864.2006.00115.x ISSN: 0169-5150.
53. Pascual, U. and Martínez-Españeira, R. (2006). Second-best policy options against poverty and environmental degradation in forest based agricultural systems. *Economía Agraria y Recursos Naturales*, 12:121-144. ISSN 1578-0732
54. Rodríguez, L.C., Pascual, U. and Niemeyer, H.M. (2006). 'Local identification and valuation of ecosystem goods and services from Opuntia scrublands of Ayacucho, Peru', *Ecological Economics*. 57: 30-44. DOI: 10.1016/j.ecolecon.2005.03.022
55. Konchak, W. And Pascual, U. (2006). 'Changing paradigms for a co-evolutionary environmental limit discourse', *Environmental Science and Policy* 9(1):10-21. DOI: 10.1016/j.envsci.2005.08.004
56. Pascual, U. (2005). 'Land-use intensification potential in slash-and-burn farming through improvements in technical efficiency', *Ecological Economics*. 52:497-511. DOI: 10.1016/j.ecolecon.2004.09.012
57. Rodríguez, L.C. and Pascual, U. (2004). 'Land clearance and social capital in mountain Agro-Ecosystems: The case of Opuntia Scrubland in Ayacucho, Peru'. *Ecological Economics*. 49: 243-252. DOI: 10.1016/j.ecolecon.2004.03.023
58. Pascual, U. (1998). 'Peasant economics and soil degradation' UZTARO, *Basque Social Science Journal*, 35, pp: 19-31.

#### BOOKS AND MONOGRAPHS

1. Pascual, U., Corbera, E. (2011). Payments for Environmental Services and Economic Development: Perspectives and Challenges. *Revista Española de Estudios Agrosociales y Pesqueros*. Monograph 228. 165 pp. Spanish Ministry of Agriculture, Environment and Marine Environment. Madrid.
2. Pascual, U., Corbera, E., Muradian, R., Kosoy, N. (2010). Special Issue monograph in *Ecological Economics*. Volume 69: 1202-1302. Elsevier. The Netherlands.
3. Pascual, U., Shah, A., and J. Bandyopadhyay (2009): 'Water, Agriculture and Sustainable Well-being'. Oxford University Press. 360 pp. ISBN: 0198061757.
4. Kontoleon, A., Pascual, U. and M. Smale (2009): 'Agrobiodiversity Conservation and Economic Development'. Routledge, Abingdon, UK. 456pp. ISBN: 978-0-415-46505-2

5. Kontoleon, A., Pascual, U. and T. Swanson (2007): '*Biodiversity Economics*'. Cambridge University Press, Cambridge, UK. 692pp. ISBN-13: 9780521866835.
6. Jackson, L., Bawa, K., Pascual, U., Perrings, C. (2005) "*AgroBIODIVERSITY: A New Science Agenda for Biodiversity in Support of Sustainable Agroecosystems*". DIVERSITAS No. 4, pp. 44. Paris, France. [ISBN: 2-9522982-2-X – ISSN: 1813-7105]

## BOOK CHAPTERS

1. Pascual, U. and Rigby, D. (in press). 'Values and Limits: Debates within Environmental Economics' (in Allington and McCombie, eds): "Cambridge Essays in Applied Economics" Chapter 9. Cambridge University Press.
2. Banwart, S., Black, H., Cai, Z., Gicheru, P., Joosten, H., Victoria, R., Milne, E., Noellemeyer, E., Pascual, U., *et al.* (forthcoming), Paustian, K., Pan, G., Smith, P. (Eds). Benefits of soil carbon. Special report on the outcomes of an international scientific committee on problems of the environment rapid assessment (scope-rap) workshop.
3. Pascual, U., Termansen, M., Abson, D. (2014). The economic value of soil carbon. In: Banwart S., Noellemeyer E., and Milne E. eds. Soil Carbon – Science, management and policy for multiple benefits. SCOPE series volume 71. Wallingford, United Kingdom: CABI.org.
4. Funk, R, Pascual, U., Joosten, H., Duffy, C. Pan, G., la Scala, N., Gottschalk, P. Banwart, S., Batjes, N., Cai, Z., Six, J., Noellemeyer, N. (2014) From potential to implementation: An innovation framework to realise the benefits of soil carbon. . In: Banwart S., Noellemeyer E., and Milne E. eds. Soil Carbon – Science, management and policy for multiple benefits. SCOPE series volume 71. Wallingford, United Kingdom: CABI.org.
5. Pascual, U., Muradian, R., Rodriguez, L.C., Duraiappah, A.K. (2013). Revisiting the Relationship between Equity and Efficiency in Payments for Ecosystem Services. In: Kumar, P, Thiaw, I (Eds) "Values, Payments and Institutions for Ecosystem Management". Chapter 5. Edgar Elgar.
6. Rodriguez, L.C.; Pascual, P., Muradian, R., (2013): Are The Amounts of Payments for Environmental Services Enough to Contribute to Poverty Alleviation Efforts in Developing Countries? . In: Kumar, P, Thiaw, I (Eds) "Values, Payments and Institutions for Ecosystem Management". Chapter 6. Edgar Elgar.
7. Rodriguez, L.C., Pascual, U., Muradian, R., Pazmino, N. and Whitten, S. (2013) Unifying Environmental and Social Protection: Learning from PES and CCT in Developing Countries. In: Kumar, P, Thiaw, I (Eds) "Values, Payments and Institutions for Ecosystem Management". Chapter 7. Edgar Elgar.
8. Narloch, U, Drucker, A., Pascual, U., Exploring the Potential of Payments for Ecosystem Services for in-situ Agrobiodiversity Conservation. In: Kumar, P, Thiaw, I (Eds) "Values, Payments and Institutions for Ecosystem Management". Chapter 8. Edgar Elgar.
9. Garmendia, E. and Pascual, U. (2013) A justice critique of environmental valuation for ecosystem governance. Chapter 8 in Sikor, T. "Justices and Injustices of Ecosystem Services" Routledge. London, UK. ISBN: 978-0-415-82540-5
10. Stromberg, P.M. Pascual, U. Ituarte-Lima, C. 2012. "Property Rights and Government Involvement in Market-like Biodiversity Conservation: Empirical analysis of bioprospecting" In: Governing the Provision of Ecosystem Services, (Muradian, R., Rival, L, Eds). Springer, Nijmegen, The Netherlands.

11. Dedeurwaerdere, T., P.M. Stromberg and Pascual, U. (2012). Social motivations and incentives in ex situ conservation of microbial genetic resources. In: Dulong de Rosnay, M. and de Martin, J.C (eds). *The Digital Public Domain: Foundations for an Open Culture*. Chapter 6, pp. 111-124. Openbook Publishers. Cambridge, UK. ISBN: 978-1-906924-46-1
12. Ishihara, I., Pascual, U. (2011). Social Capital and Collective Action in Environmental Governance Revisited . (in Brousseau, E., Dedeurwaerdere, T., Jouvet, M. Willinger, P.-A, (Eds): "Global Environmental Commons: Analytical and Political Challenges in Building Governance Mechanisms". Chapter 1 (Part III). Oxford University Press. Oxford, UK.
13. Bateman, I., Abson, D., Beaumont, N., Darnell, A Fezzi, Hanley, N., Kontoleon, A., Maddison, D., Morling, P., Morris,J., Mourato, S., Pascual, U., Perino, G., Sen, A., Tinch, D., Turner, K., Valatin, G.. Chapter 22: Economic Values from Ecosystems. In: UK National Ecosystem Assessment (2011) The UK National Ecosystem Assessment Technical Report. UNEP-WCMC, Cambridge.
14. Pascual, U., Muradian, R., Brander, L., Gómez-Baggethun, E., Martín-López, M, Verman, M., Armsworth, P., Christie, M., Cornelissen, H., Eppink, F., Farley, J., Loomis, J., Pearson, L., Perrings, C., Polasky, S. (2010). The economics of valuing ecosystem services and biodiversity. In Kumar, P (ed): *The Economics of Ecosystems and Biodiversity Ecological and Economic Foundations*. Chapter 5, pp. 183-256. Earthscan.
15. Kumar, P., Brondizio, E., Elmqvist, T., Gatzweiler, F., Gowdy, J., de Groot, D., Muradian, R., Pascual, U., Reyers, B., Smith, R. B-W., Sukhdev, P. (2010). Lessons learned and linkages with national policies. The economics of valuing ecosystem services and biodiversity. In Kumar, P (ed): *The Economics of Ecosystems and Biodiversity Ecological and Economic Foundations*. Chapter 7, pp.285-306. Earthscan.
16. Colman, D., Pascual, U., Hodge, I, (2010) Evolution of Land Conservation Policy. In: *Changing Landscape of European Agriculture: Essays in Honour of Professor Csaba Csaki* (Eds) by Ferto, I. Forgacs, C. and Jambor, A. Agroinform, Budapest.
17. Omer, A., Pascual, U. and Russell, N.P. (2010). The contribution of biodiversity to modern intensive farming systems. In Stewart Lockie and David Carpenter ed: "Agriculture, Biodiversity and Markets: Livelihoods and Agroecology in Comparative Perspective". pp 117-136. Earthscan.
18. Pascual, U., Shah, A., and J. Bandyopadhyay (2009) 'Water, Agriculture and Sustainable Well-being: Introduction'. Chapter 1. In Pascual, U., Shah, A., and J. Bandyopadhyay (eds) 'Water, Agriculture and Sustainable Well-being'. Chapter 1. Oxford University Press. Oxford, UK.
19. Pascual, U., Maddison, D., Field, E., Choudury, Z., (2009). Trade-offs between Risk and Latency of Health Hazards from Groundwater Contamination: An example from Bangladesh. In Pascual, U., Shah, A., and J. Bandyopadhyay (eds) 'Water, Agriculture and Sustainable Well-being'. Chapter 3. Oxford University Press. Oxford, UK.
20. Stromberg, P., Pascual, U., Bellon. M. (2009). Etnicidad, agrobiodiversidad y sistemas locales de semillas en el Amazonas central Peruano. Chapter 9. In Hermann M, Amaya K, Latournerie L, Castiñeiras, L (Eds). *¿Cómo conservan los agricultores sus semillas en el trópico húmedo de Cuba, México y Perú? Experiencias de un proyecto de investigación en sistemas informales de semillas de chile, frijoles y maíz*. Bioersity International, Rome, Italy. 123-142. pp. 179. ISBN: 978-92-9043-812-0
21. Perrings, C., S. Baumgärtner, W.A. Brock, K. Chopra, M. Conte, C. Costello, A. Duraipah, A.P. Kinzig, U. Pascual, S. Polasky, J. Tschirhart, A. Xepapadeas (2009): *The Economics of Biodiversity and Ecosystem Services*. Chapter 17, in: Naeem S., D. Bunker, A. Hector, M. Loreau and C. Perrings (eds): "Biodiversity, Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective". Oxford University Press, Oxford, UK. ISBN: 9780199547951

22. Barbier, E.B., S. Baumgärtner, K. Chopra, C. Costello, A. Duraiappah, R. Hassan, A. Kinzig, M. Lehman, U. Pascual, S. Polasky, C. Perrings (2009): The Valuation of Ecosystem Services. Chapter 18, in: Naeem S., D. Bunker, A. Hector, M. Loreau and C. Perrings (eds): "Biodiversity, Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective". Oxford University Press, Oxford, UK. ISBN: 9780199547951
23. Brock, W.A., D. Finnoff, A.P. Kinzig, U. Pascual, C. Perrings, J. Tschirhart, A. Xepapadeas (2009). Modeling Biodiversity And Ecosystem Services in Coupled Ecological-Economic System. Chapter 19, in: Naeem S., D. Bunker, A. Hector, M. Loreau and C. Perrings (eds): "Biodiversity, Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective". Oxford University Press, Oxford, UK. ISBN: 9780199547951
24. Kontoleon, A., Pascual, U., and Smale, M. (2009). Agrobiodiversity for Economic Development. What do we Know? In "Agrobiodiversity Conservation and Economic Development" (Kontoleon, A., Pascual, U., and Smale, M, eds). Routledge, Abingdon, UK. Chapter 1: pp 1-25. ISBN: 978-0-415-46505-2
25. Krishna, V. and Pascual, U., (2009). Can greening markets help conserve landraces in situ? Eggplants in India. In "Agrobiodiversity Conservation and Economic Development" (Kontoleon, A., Pascual, U., and Smale, M, eds).. Routledge, Abingdon, UK. Chapter 15: 267-289. . ISBN: 978-0-415-46505-2
26. Omer, A., Pascual, U. and Russell, N.P. (2009). Biodiversity conservation and productivity in intensive agricultural systems. In "Agrobiodiversity Conservation and Economic Development" (Kontoleon, A., Pascual, U., and Smale, M, eds). Routledge, Abingdon, UK. Chapter 8: 113-136.
27. Rodríguez, L.C., Pascual, U., Niemeyer, H.M (2009). Local Identification and Valuation of Ecosystem Goods and Services from Opuntia Scrublands of Ayacucho, Peru. In C. Perrings (ed) Ecological Economics, Volume 3, SAGE, London: 253-273. ISBN: 9781412948609
28. Pascual, U. and Perrings, C. (2008). Developing incentives and economic mechanisms for in-situ biodiversity conservation in agricultural landscapes. In: "Conserving and Valuing Ecosystem Services and Biodiversity" (Ed. K.N. Ninan). Earthscan, UK. ISBN: 9781849711739
29. Deurwaerdere, T., Krishna, V., and Pascual, U (2007). An evolutionary institutional economics approach to the economics of bioprospecting" (in Kontoleon, Pascual and Swanson, eds): "Biodiversity Economics: Principles, Methods and Applications". Chapter 15, pp. 417-445. Cambridge University Press. ISBN: 9780521866835.

## RESEARCH THESES

1. Pascual, U. (2002). Modeling Labour Supply and Soil Quality in Shifting Cultivation Agriculture. Doctoral dissertation, Environment Department, University of York (UK).
2. Pascual, U. (1997) Poverty and Soil Degradation in Rural Areas of the Third World: A theoretical Approach. MSc research dissertation, Environment Department, University of York (UK).

## POLICY DISCUSSION PAPERS

1. Pascual, U., Garmendia, E., Phelps, J. Ojea, E., 2013. *Leveraging global climate finance for sustainable forests: Opportunities and conditions for successful foreign aid to the forestry sector*. WIDER Working Paper 2013/54. United Nations University - World Institute for Development Economic Research ,ISBN: 978-92-9230-631-1. [http://www.wider.unu.edu/publications/working-papers/2013/en\\_GB/wp2013-054/](http://www.wider.unu.edu/publications/working-papers/2013/en_GB/wp2013-054/)

2. Pascual, U., Markandya, A., (2013) *The long road of climate negotiations: From Kyoto to Paris stopping over in Doha*. Basque Centre for Climate Change (BC3) Policy brief series 2013-01. [www.bc3research.org/index.php?option=com\\_pbriefings&Itemid=292&lang=en](http://www.bc3research.org/index.php?option=com_pbriefings&Itemid=292&lang=en)
3. Ishihara and Pascual, U. Institutions and Agency in Creating Collective Action for Common Pool Resources. Environment Economy and Policy Research working paper. 53.2012.
4. Abson, D. J., Termansen, M., Pascual, U., Fezzi, C., Bateman, I.J., and Aslam, U. (2011) *Valuing regulating services (climate regulation) from UK terrestrial ecosystems*, Report to the Economics Team of the UK National Ecosystem Assessment, <http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=mqog0QhILso%3d&tabid=82>
5. "Exploring the potential of payments for ecosystem services for in-situ agrobiodiversity conservation" Discussion Paper N.14. Ecosystem Services Economics Unit, Division of Environmental Policy Implementation, United Nations Environmental Programme (UNEP), Nairobi, Kenya. 2011. [http://depi.unep.org/index.php?option=com\\_docman&task=doc\\_download&gid=931&Itemid=119](http://depi.unep.org/index.php?option=com_docman&task=doc_download&gid=931&Itemid=119)
6. "Cost-Benefit Analysis in the Context of Ecosystem Services for Human Well-Being: A Multidisciplinary Critique" Discussion Paper N.13. Ecosystem Services Economics Unit, Division of Environmental Policy Implementation, United Nations Environmental Programme (UNEP), Nairobi, Kenya. 2011. [http://depi.unep.org/depi.unep.org/index.php?option=com\\_docman&task=doc\\_download&gid=932&Itemid=119](http://depi.unep.org/depi.unep.org/index.php?option=com_docman&task=doc_download&gid=932&Itemid=119)
7. "Are the amounts of Payments for Environmental Services enough to contribute to poverty alleviation efforts in developing countries?" Discussion Paper N.12. Ecosystem Services Economics Unit, Division of Environmental Policy Implementation, United Nations Environmental Programme (UNEP), Nairobi, Kenya. 2011. [http://depi.unep.org/index.php?option=com\\_docman&task=doc\\_download&gid=930&Itemid=119](http://depi.unep.org/index.php?option=com_docman&task=doc_download&gid=930&Itemid=119)
8. "Towards a unified scheme for environmental and social protection: Learning from PES and CCT experiences in developing countries" Discussion Paper N.11. Ecosystem Services Economics Unit, Division of Environmental Policy Implementation, United Nations Environmental Programme (UNEP), Nairobi, Kenya. 2011. [http://depi.unep.org/index.php?option=com\\_docman&task=doc\\_download&gid=928&Itemid=119](http://depi.unep.org/index.php?option=com_docman&task=doc_download&gid=928&Itemid=119)
9. Payments for Ecosystem Services Towards an Implementation Strategy. Carius, F (ed). Report of the International Expert Workshop 13th - 16th December 2010 International Academy for Nature Conservation Isle of Vilm, Germany [http://www.bfn.de/fileadmin/MDB/documents/service/Skript\\_326.pdf](http://www.bfn.de/fileadmin/MDB/documents/service/Skript_326.pdf)
10. "Revisiting the relationship between equity and efficiency in Payment for Environmental Services". Discussion Paper n.1. Ecosystem Services Economics Unit, Division of Environmental Policy Implementation, United Nations Environmental Programme (UNEP), Nairobi, Kenya. 2009. [http://depi.unep.org/depi.unep.org/index.php?option=com\\_docman&task=doc\\_download&gid=918&Itemid=119](http://depi.unep.org/depi.unep.org/index.php?option=com_docman&task=doc_download&gid=918&Itemid=119)
11. "An integrated methodological framework to value Red Natura 2000 Network sites in the Basque Country". IHOBE. Basque Government. 2009.
12. "Modelling household decisions on agro-biodiversity and livelihood diversification under climatic risks: An example from Eastern Ethiopia", Agricultural Development Economics ESA policy paper. United Nations Food and Agriculture Organization (UNFAO), Rome, Italy. 2008.
13. "Livelihood diversity and vulnerability under extreme drought: An example from Eastern Ethiopia", Agricultural Development Economics ESA policy paper. United Nations Food and Agriculture Organization (UNFAO), Rome, Italy. 2008.
14. "Incorporating Biodiversity into Integrated Assessments of Trade Policy in the Agricultural Sector. Volume II: A reference manual". Economics and Trade Branch Division of Technology, Industry and Economics United Nations Environment Programme (UNEP), Geneva, Switzerland. 2007.

15. *"The Total Economic Value of Forests in the Basque Country"*. IKT Ikerketa eta Nekazal Teknologia. EU project: INTERREG IIIB FORSEE: Sustainable FOrEst management pp. 78. Vitoria, Spain. 2007.

#### INVITED TALKS AND KEYNOTES

1. "Soil ecosystem services: a social-ecological approach". UPV-EHU Summer School: Theme: "Hacia una estrategia vasca del suelo". Donostia 28 July 2014.
2. "Equity matters in Payments for Ecosystem Services". Keynote at the international workshop on "Payments for environmental services: new panacea or auxiliary for environmental management? PESMIX workshop. CIRAD. Montpellier, France. 11-13 June 2014.
3. "Socio-economic dimensions of biodiversity conservation initiatives in agricultural landscapes" Keynote at the international workshop on "Biodiversity and resilience of agroecosystems". CIRAD, Montpellier, France March 7-8, 2013.
4. "What is the value of soil biodiversity?" Keynote. 4<sup>th</sup> Conference of Biodiversity of Spain. February 6-8, 2013.
5. Cost-benefit analysis and the provision of ecosystem services: A justice critique. Just ecosystem Management. Ecosystem Services and Poverty Alleviation Programme, UK. Norwich 29-30 Oct, 2012.
6. Cost-benefit analysis and the provision of ecosystem services: A justice critique. Social justice and Ecosystem Services. Ecosystem Services and Poverty Alleviation Programme, UK. London 1 Nov 2012.
7. Social ecological aspects of in situ agrobiodiversity for adaptation and resilience: institutions and policies. Consultative Group of International Agricultural Research (CGIAR). Montpellier, France. July 24, 2012
8. 'The ecosystem service approach to inform the economics of climate change research: Recent developments'. UPV-EHU summer school. Donostia July 11, 2012.
9. "Economía y Medio Ambiente" Instituto Geográfico Vasco INGEBIA. Donostia-San Sebastian. May 2, 2012.
10. "External Rewards for Conservation Affect Collective Action? Experimental Insights from the Andes". Institut de Ciencia i tecnologia ambientals. Universitat Autònoma Barcelona. Barcelona. April 16, 2012.
11. "External rewards for biodiversity conservation in agricultural landscapes and collective action: friends or foes?" School of International Development. University of East Anglia, Norwich. 26 March, 2012.
12. "Agrobiodiversity in support of sustainable agricultural intensification and livelihood resilience". Panel member. 2<sup>nd</sup> Resilience 2011 Conference. Tempe, Arizona, USA. March 2011.
13. "The economy of soil biodiversity and ecosystem services: Valuation, Resilience and Policy Instruments" Plenary talk, EcoFINDERS - EU Framework Programme 7 project workshop. Dijon, France. February, 2011.
14. "Valuation and justice in ecosystem management". Ecosystem Services and Poverty Alleviation (ESPA). University of East Anglia, Norwich, UK. January 2011.
15. "Payment for Ecosystem Services: Towards and implementation strategy". International Academy of Nature Conservation Isle of Vilm, Germany. December 2010.
16. "Agrobiodiversity, resilience and economics" Diversitas International. Climate Change Agriculture and Food Security Program of the Consultative Group of International Agricultural Research (CGIAR). San Cristobal de las Casas, Chiapas, Mexico. November, 2010.

17. "In Situ Crop Genetic Resources (CGR) Conservation Goal Identification". UN-Food and Agriculture Organization (FAO), Rome, Italy. November, 2010.
18. "The value of ecosystem services in agriculture in the UK". UK National Ecosystem Assessment workshop. London, UK. September, 2010.
19. "Biodiversity and Ecosystems Services Framework for Cost Benefit Analysis: Recommendations from TEEB". European Commission. Environment Directorate General Environment: Brussels, Belgium. June 2010.
20. "Forest-agriculture frontiers: impacts of land-use transitions on livelihoods and environment in the humid tropics". Global Land Use Program (GLP). Vientiane. Lao People Democratic Republic. November, 2009.
21. "Economic instruments for agrobiodiversity conservation". Bioversity International Workshop. Puno, Peru. September 2009.
22. "The Economics of Ecosystem Services and Biodiversity, TEEB". European Joint Research Centre, Ispra, Italy. July 2009.
23. "Payment for Agrobiodiversity Conservation Services". M.S. Swaminathan Research Foundation. Chennai, India. May 2009.
24. "Relationship on Ecosystem Services and Biodiversity: Implications for Economic Analysis". European Commission, Natural and Environmental Research Council, Centre for Population Biology, UK. April, 2009.
25. "Sub-global Assessment of *Satoyama* and *Satoumi* in Japan". United Nations University Institute of Advanced Studies (UNU-IAS). Kyoto, Japan. March, 2009.
26. "Payment for Ecosystem Services: can we think of PES for agriculture?" Bioversity International. Rome, Italy. February 2009.
27. "The Foundations of the Economics of Ecosystems and Biodiversity". University ZEF, Bonn. January, 2009.
28. "Investing in agrobiodiversity for sustainable livelihoods". Divesitas International. San Cristobal de las Casas (Mexico). November, 2008.
29. "The economics of agrobiodiversity loss under climate change". University California Davis, Davis, USA. April. 2008.
30. Scale effects and impacts of organic farming on farm resource use and economic performance. RELU, UK. March, 2008.
31. "Nippon Science Assessment Panel (NSAP) Meeting for the Sub-global Assessment of Satoyama and Satoumi in Japan". United Nations University, Yokohama. Japan. November, 2007.
32. "Modelling agricultural liberalization and poverty in Mexico". Department of Economics, University of the Basque Country. Bilbao, Spain. May, 2007
33. "The economics programme of Bioversity International", Rome, Italy. January 2007
34. Modelling shifting cultivation and livelihood diversification. DepT, University College London, UK. 2006.

35. Economics of biodiversity loss across agricultural intensification gradients. International Centre for Agroforestry Research Workshop. Sumatra, Indonesia. 2006.
36. "The sustainable livelihoods framework: A new consensus for a policy research agenda?" Cambridge Environment Initiative Workshop, University of Cambridge, UK. 2006.
37. "Integrated analysis of scale effects in alternative agricultural systems". Sheepdrove, UK. May 2006.
38. "The economics of slash-and-burn and poverty in Latin America". Universidad Pública de Navarra, UPNA. Facultad de Economía. Pamplona, Spain. 2005
39. "The link between rural poverty and off-farm labour diversification by small peasant households in Mexico". Universidad Autónoma de Barcelona. Barcelona, Spain. 2005.
40. "Greening Agriculture through agrobiodiversity" Diversitas International. Paris, France, February 2005.
41. "Greening Agriculture: Biodiversity conservation during agricultural transitions towards Sustainability", Diversitas International. Alexandria, Egypt. May 2004.
42. "Land degradation and development in Mexico". Universidad Autónoma de Barcelona. Spain. 2004.
43. "An econometric model of off-farm labour and land degradation in Mexico", School of Economic Studies, University of Manchester, UK. 2003.
44. "Revisiting the ecological-economic efficiency of shifting cultivation systems in the tropics", Centre for Comparative Perspectives, Yale University, Yale, USA. 2001.
45. "Ecological-economic modelling of slash-and-burn agriculture". Seminar. Centre for Development Research (ZEF), University of Bonn. Bonn, Germany. 2001.
46. "The economics of deforestation and soil degradation in Mexico". Inter-American Institute for Global Change. Mérida, Mexico. 2000.
47. "Biodiversity conservation and economic development. Some thoughts and bolts". 1<sup>st</sup> Biodiversity and Economic Development Symposium. Merida, Mexico. 1998.
48. Peasant economics and soil degradation in developing countries. Basque University summer school, Pamplona, Spain. 1998.

## CONFERENCE PAPERS

1. "Disentangling landusers' perspectives for the adoption of silvopastoral practices: lessons for targeting conservation payments in the tropical forest frontier. International Society for Ecological Economics. (ISEE). Rio de Janeiro June 2012. (with Aiora Zabala and Luis Garcia Barrios).
2. "Postulates of urban resilient sustainability transitions: a cross-disciplinary approach". international society for ecological economics. (isee). rio de janeiro june 2012. (with marta olazabal).
3. "The role of PES for agrobiodiversity conservation: Some lessons from the Andes". 2<sup>nd</sup> International Resilience conference. Phoenix, Arizona, USA. March 2011 (with U. Narloch and A. Drucker).

4. Social Preferences in Conservation under External Rewards and the Role of Group Heterogeneity and Market Orientation: Experimental Evidence from the Andes. Sustaining Commons: Sustaining Our Future, the Thirteenth Biennial Conference of the International Association for the Study of the Commons. Hyderabad, India. January 10-14 (with U. Narloch and A. Drucker). <http://dlc.dlib.indiana.edu/dlc/handle/10535/7372>
5. "Agrobiodiversity in support of sustainable agricultural intensification and livelihood resilience: Exploring the potential for innovation across eight benchmark sites" 2<sup>nd</sup> International Resilience conference. Phoenix, Arizona, USA. March 2011 (with Pulleman, M. Jackson, L., Brussaard, L., Bawa, K., Brown, G., Cardoso, I., de Ruiter, P., Garcia-Barrios, L., Hollander, A., Lavelle, P., Ouedraogo, E., Pascual, P., Setty, S., van Noordwijk, M.)
6. "Technical efficiency of multi-output farming: biodiversity, yield and profit". 5th ORC Conference. January 2011. UK. (with Schmutz, U., B. Pearce, and D. Rigby)
7. "Pro-social behaviour under external rewards: Experimental evidence from farming communities in Peru and Bolivia". 11<sup>th</sup> conference of the International Society of Ecological Economics (ISEE) Oldenburg/Bremen, Germany, August 2010. (with U. Narloch and A. Drucker).
8. "The interactions of collective action, property rights and payments for agrobiodiversity conservation services: Illustrating institutional dynamics in the Peruvian and Bolivian Andes". 11<sup>th</sup> conference of the International Society of Ecological Economics (ISEE) Oldenburg/Bremen, Germany, August 2010. (with U. Narloch and A. Drucker).
9. The economics of agro-biodiversity conservation in developing countries: some notes and bolts 7th International conference developments in economic theory and policy. Faculty of Economics, University of the Basque Country UPV-EHU). Bilbao, July 2010. (with U. Narloch and A. Drucker).
10. Evolution of Land Conservation Policy 14<sup>th</sup> Conference of the International Consortium on Agricultural Biotechnology Research (ICABR). Ravello, Italy, June 2010 (with D. Colman and I. Hodge).
11. "Payment for agrobiodiversity conservation services: Creating incentive mechanisms for the sustained on-farm utilization of plant and animal genetic resources", 11<sup>th</sup> BIOECON meeting, Venice. September 2009 (with U. Narloch and A. Drucker)
12. "Channeling Consumption Preferences for Co-existence of Landrace and Modern Varieties In-Situ" International Association of Agricultural Economics. Beijing, China, August 2009. (with V. Krishna and D. Zilberman)
13. "Agrobiodiversity and livelihood diversification under climatic risk: lessons from eastern Ethiopia". 17<sup>th</sup> Annual conference of the European Association of Environmental Economists. Amsterdam, July 2009 (with U. Narloch)
14. "Potentials of green consumerism for landrace conservation: evidence from eggplant production sector of India" 10<sup>th</sup> BIOECON meeting, Sydney Sussex College, Cambridge. September 2008 (with V. Krishna and D. Zilberman)
15. "Revisiting the relationship between equity and efficiency in PES" International Association of Ecological Economics. Nairobi Kenya. August, 2008 (with R. Muradian, L.C. Rodríguez).
16. "Revisiting the role of social capital in managing the commons: a social-ecological critique" International Association for the Study of the Commons. Cheltenham, UK. July 2008. (with H. Ishihara).
17. "An empirical analysis of ex-situ conservation of microbial diversity". 9<sup>th</sup> BIOECON meeting, Kings College, Cambridge. September 2007. (with P. Stromberg and T. Dedeurwaerdere)
18. "Analysing the Impact of Inspections and Enforcement on Industrial Water Pollution in Laguna de Bay, Philippines". European Association of Environmental and Resource Economists. Thessaloniki, Greece.. June 2007. (with Lourdes Montenegro and Maria Teresa Ruiz-Tagle)

19. "Risk and latency of arsenicosis from groundwater contamination in Bangladesh" International Association of Ecological Economics. Delhi, India. December 2006. (with D. Maddison, E. Field and Z. Choudury)
20. "Biodiversity and Productivity in Intensive Arable Systems. World Conference of the Association of Environmental and Resource Economists, Kyoto, Japan. June 2006. (with N.P. Russell and A. Omer)
21. "Agrobiodiversity and local institutions: A case study of Ucayali, Peru". International Congress on Ecosystem Services in the Neotropics: State of the art and future challenges. Valdivia, Chile. November 2006 (with P. Stromberg).
22. "Biodiversidad agraria e instituciones a nivel local". VII Congreso Latino-Americano de Sociología Rural, Quito, Ecuador ALASRU (Asociacion Latinoamericana de Sociologia Rural). November 2006 (with P. Stromberg).
23. "Optimal Productivity Adjustment and Biodiversity Conservation in Intensive Agriculture". June 2006. Paris, France, March 2006. (with N.P. Russell and A. Omer)
24. "Biodiversity and Productivity in Intensive Arable Systems. BIOECON meeting. Kings College, Cambridge, June 2006. (with N.P. Russell and A. Omer).
25. "The economics of biodiversity in agricultural landscapes". DIVERSITAS First Open Science Conference. Oaxaca, Mexico. November 2005. (with C. Perrings)
26. "Trading microbes: the Public-Private Borderland" DIVERSITAS First Open Science Conference. Oaxaca, Mexico, November 2005.
27. "The Economics of Biodiversity Conservation in Agricultural Transition" European Association of Agricultural Economists. Copenhagen, Denmark, August 2005. (with N.P. Russell and A. Omer).
28. "The stake of contract uncertainty in bioprospecting" BIOECON meeting. Kings College, Cambridge. September 2005. (with P. Stromberg)
29. "Bioprospecting contracts under legal and institutional uncertainty" European Society of Ecological Economics. Lisbon, Portugal, June 2005. (with P. Stromberg)
30. "Evaluating the validity of the Benefit Transfer approach: The case of manatee protection in Florida and Puerto Rico" European Society of Ecological Economics. Lisbon, Portugal. June 2005 (with G. García and A. Kontoleon).
31. "Biodiversity prospecting in tropical India: Estimating an optimal compensation for indigenous knowledge holders" International Society of Ecological Economics (ISEE), Montreal, Canada. July 2004. (with V. Krishna)
32. "Peasant communities' cultural domain and the local use-value of plant resources: the case of Opuntia scrublands in Ayacucho, Peru" International Society of Ecological Economics (ISEE), Montreal, Canada. July 2004 (with L.C. Rodríguez).
33. "Land clearance and social capital in mountain agro eco system: the case of Opuntia scrublands in Ayacucho, Peru" International Society of Ecological Economics (ISEE), Montreal, Canada. July 2004. (with L.C. Rodríguez)
34. "The Porter Hypothesis – An exemplar for a new age of environmentalism" International Society of Ecological Economics (ISEE), Montreal, Canada. July 2004. (with W. Konchak)
35. "Biodiversity prospecting in tropical India: Estimating an optimal compensation for indigenous knowledge holders" BIOECON meeting, Kings College, Cambridge, September 2004. (with V. Krishna)

36. "Modelling land degradation in low-input agriculture: The 'Population Pressure Hypothesis' revisited". International Association of Agricultural Economists (IAAE). Durban, South Africa. August 2003 (with E.B. Barbier)
37. "Does Loss of Biodiversity Compromise Productivity in Intensive Agriculture?" International Association of Agricultural Economists (IAAE). Durban, South Africa. August 2003 (with N. Russell and A. Omer)
38. "Agricultural Intensification and Biodiversity Loss: Is There an Agri-EKC?" European Association of Environmental and Resource Economists (EAERE), Bilbao, Basque Country. July 2003. (with N. Russell and A. Omer)
39. "Integrated Policy Options for Land Conservation and Rural Poverty Alleviation: A System Dynamics Approach". European Association of Environmental and Resource Economists (EAERE), Bilbao, Basque Country. July 2003. (with R. Martínez-Espinera)
40. "Does Loss of Biodiversity Compromise Productivity in Intensive Agriculture?" Agricultural Economics Society. University of Plymouth, UK. April 2003 (with N. Russell and A. Omer)
41. "Population Pressure and labour diversification decisions in slash-and-burn agriculture. A system Dynamics Approach to Analyse the Effects on Forest Biomass and Soil Fertility" World Conference on Natural Resource Modeling (NRM). Lesvos, Greece. June 2002. (with R. Martínez-Espinera)
42. "Soil Degradation and Technical Efficiency in Shifting Cultivation: Applying Stochastic Production Frontier to agriculture in Yucatan (Mexico)" Agricultural Economics Society Conference, Harper Adams, UK. September 2001.
43. "Determinants of labour supply by shifting cultivator households: the effect of land quality and poverty". European Association of Environmental and Resource Economists (EAERE), Southampton, UK June 2001. (with E.B. Barbier)
44. "Private property versus the ejido in Yucatan. Technical efficiency effects in traditional slash-and-burn system". European Society of Ecological Economics (ISEE), Sousse, Tunisia. July 2000.
45. "A model of optimal labour and soil use with shifting cultivation" European Association of Environmental and Resource Economists (EAERE), Crete, Greece. June 2000 (with Edward Barbier)

#### ARTICLES, MENTIONS AND INTERVIEWS IN SOCIAL MEDIA

- SciDev.net interview on an influential report by the Montpellier panel on sustainable agricultural intensification in Africa: <http://www.scidev.net/en/agriculture-and-environment/food-security/news/sustainable-intensification-can-work-for-african-farmers.html>
- "Rio+20: Reflexiones sobre la economía verde ante el cambio climático".
  - o *Deia*: [www.deia.com/2012/06/22/opinion/tribuna-abierta/rio20-reflexiones-sobre-la-economia-verde-ante-el-cambio-climatico](http://www.deia.com/2012/06/22/opinion/tribuna-abierta/rio20-reflexiones-sobre-la-economia-verde-ante-el-cambio-climatico)
  - o *La Vanguardia* (08/06/2012) [www.lavanguardia.com/local/20120608/54309960875/el-basque-center-for-climate-change-llama-a-acelerar-las-politicas-globales-en-favor-del.html](http://www.lavanguardia.com/local/20120608/54309960875/el-basque-center-for-climate-change-llama-a-acelerar-las-politicas-globales-en-favor-del.html)
- "Desazkunde material eta energetikoa behar da klima aldaketari aurre egiteko". *Larrun*. 2012-09-30. [www.argia.com/argia-astekaria/2338/unai-pascual](http://www.argia.com/argia-astekaria/2338/unai-pascual)
- "Klima aldaketaren Dohako gailurra". 2013-01-13. *Argia*. [www.argia.com/argia-astekaria/2352/klima-aldaketaren-dohako-gailurra/inprimatu](http://www.argia.com/argia-astekaria/2352/klima-aldaketaren-dohako-gailurra/inprimatu)
- "Klima aldaketaren afera ez aurrera ez atzera geratu da edo Kyoto v.2 protokolo berrirantz aurrera egin"? January 2013. Elhuyar.
- El cambio climatico esta aqui y se esta acelerando. Vasco Press (13/2/2013): <http://www.elmundo.es/elmundo/2013/02/13/paisvasco/1360757383.html>
- Uholdeak eta elurteak modu indartsuagoan gertatuko dira (Bizkaiako Hitza). 15-2-2013.

- Teknopolis EITB (20/9/2012) <https://www.youtube.com/watch?v=QfMI025YLHk>
- Klimagune 2013:
  - o Deia: <http://www.deia.com/2013/12/14/sociedad/euskadi/hay-que-ver-el-cambio-climatico-de-modo-transversal-sin-sesgos-ideologicos>
- Euskadi Irratia – Mezularia Ikerbasque 2013 report. 7th March 2014
- 23 April 2014 article in newsletter by the United Nations University World Institute for Development Economic Research in their periodic newsletter: [www.wider.unu.edu/publications/newsletter/articles-2014/summaries/en\\_GB/04-2014-RA-1/](http://www.wider.unu.edu/publications/newsletter/articles-2014/summaries/en_GB/04-2014-RA-1/)
- Basque Radio EITB (Euskadi Irratia – Faktoria) interview on soil conservation and the green economy. 30/7/2014

## RESEARCH PROJECTS

**1. Project title:** The value of Panamanian forests and their contribution to the Economy of Panama

Project timeframe: 2013-2014

Funder: United Nations Environmental Programme (UNEP)

Role: PI

Total Project Budget: €60,000

**2. Project title:** The role of agrobiodiversity for climate change adaptation

Project timeframe: 2012-2014

Role: Co-PI with Adam Drucker (Bioversity International)

Total Project Budget: € 75,000

**3. Project title:** On-farm participatory network for climate change adaptation and visualization in the Indo-Gangetic Plains (IGP)

Project timeframe: June-Dec 2012

Role: Co-PI with Adam Drucker (Bioversity International)

Total Project Budget: € 25,000

**4. Project title:** Payments for Agrobiodiversity Conservation (PACS) in Peru.

Project timeframe: 2012-13

Role: Co-PI with Adam Drucker (Bioversity International)

Total Project Budget: \$28,000

**5. Project title:** Bottom-up Climate Adaptation Strategies towards a Sustainable Europe (BASE).

Funder: EU FP7 Programme (ENV.2012.6.1-3: Strategies, costs and impacts of adaptation to climate change)

Project timeframe: 2012- 2016

Role: Co-I

Total Project Budget: € 7,600,000.

**6. Project title:** Ecological Function and Biodiversity Indicators in European Soils (EcoFINDERS).

Funder: EU FP7 Programme (ENV-2010-2.1.4.4. Collaborative project, large-scale integrating project)

Project timeframe: 2011- 2015

Role: Co-I & Work Package leader. PI: Phillipe Lemanceau (INRA, Dijon, France)

Total Project Budget: € 7,000,000. (BC3: €231,376)

**7. Project title:** Incentives for soil carbon, food security and biodiversity conservation.

Funder: Cambridge Conservation Initiative Strategic Fund, University of Cambridge, UK

Project timeframe: Jan- June 2011

Role: Co-Investigator. PI: Alison Rosser (United Nations Environmental Program – World Monitoring Conservation Centre, UK)

Total Project Budget: UK£ 24,000

**8. Project title:** UK National Ecosystem Assessment.

Funder: Natural Environment and Research Council (NERC), UK

Project timeframe: 2009-2011

Role: Co-Investigator. PI: Ian Bateman (University of East Anglia, UK)

Total Project Budget: UK£ 500,000 (aprox.)

**9. Project title:** Transition of shifting cultivation systems at the agriculture/forest frontiers

Funder: Danish Social Science Research Council

Project timeframe: January 2009-December 2012

Role: Co-Investigator. PI: Ole Mertz (University of Copenhagen)

Total Project Budget: US\$ 400,000

**10. Project title:** Payment for Agrobiodiversity Conservation Services (PACS) and implications for collective action and property rights. Funder

Funder: CGIAR Systemwide Program on Collective Action and Property Rights

Project timeframe: 2009- 2012

Role: Co-Investigator. PI: Adam Drucker (Bioversity International)

Total Project Budget: US\$ 150,000

**11. Project title:** Payments for ecosystem services from agrobiodiversity conservation (PACS)

Funder: Syngenta Foundation

Project timeframe: 2009-June 2011

Role: Co-Investigator. PI: Adam Drucker (Bioversity International)

Total Project Budget: US\$ 120,000

**12. Project title:** Payment for Ecosystem Services: Multiple perspectives on efficiency, equity and valuation

Funder: United Nations Environmental Programme (UNEP)

Project timeframe: 2009-June 2011

PI: Unai Pascual

Total Project Budget: US\$ 43,000

**13. Project title:** An integrated analysis of scale effects in alternative agricultural systems

Funder: UK research councils (ESRC/BBSRC/NERC) under the Rural Economy and Land Use (RELU) programme.

Project timeframe: 2006-June 2010

Role: Co-Investigator. PI: Sigrid Stagl (University of Sussex)

Total Project Budget: UK£ 800,000

**14. Project title:** Integrated methodological framework for the valuation of sites of Natura 2000 Network in the Basque Country - Propuesta de marco metodológico para la valoración de Espacios Red Natura 2000 en la CAPV

Funder: IHOBE (Basque Country)

Project timeframe: 2009

Role: Co-Investigator. PI: Iker Etxano (UPV-EHU)

Total Project Budget: € 70,000

**15. Project title:** Agrobiodiversity conservation and economic development in Ethiopia

Funder: United Nations Food and Agriculture Organisation (FAO)

Project timeframe: 2009

Role: PI.

Total Project Budget: US\$ 8,000

**16. Project title:** The potential role of sustainable intensification in agro-ecological systems

Funder: UK research councils (ESRC/BBSRC/NERC)

Project timeframe: 2004-2005  
Role: Co-Investigator. PI: Noel Russell (University of Manchester)  
Total Project Budget: UK£ 50,000

## **Luis E. Santamaría Galdón, Ph.D.**

Spatial Ecology Group, Dpt. Wetland Ecology  
Doñana Biological Station (EBD- CSIC)  
Miguel Marqués 21, E-07190 Esporles, Mallorca  
Email: [luis.santamaria@ebd.csic.es](mailto:luis.santamaria@ebd.csic.es)  
Phone: +34-954-232340 ext. 1224. Fax: +34-954-621125  
Web: <http://laboratoryofspatialecology.blogspot.com.es/>

ORCID: <http://orcid.org/0000-0002-5072-2912>

Researcher ID: [C-1438-2012](https://orcid.org/0000-0002-5072-2912)

Google Scholar: <http://scholar.google.com/citations?user=smaQnCAAAAJ>

### **Academic Record**

- 1995 PhD Degree, Wageningen Agricultural University (WAU) and International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE-Delft). Supervisors: Prof. dr. W. van Vierssen and Prof. dr. W. Wolf. PhD thesis: 'The Ecology of *Ruppia drepanensis* Tineo in a Mediterranean Brackish Marsh (Doñana National Park, SW Spain). A Basis for the Management of Semiarid Floodplain Wetlands.'
- 1992 Postgraduate Diploma Course in Advanced Environmental Ecotechnology, WAU and IHE-Delft, Wageningen-Delft, The Netherlands.
- 1989 MSc Degree in Biological Sciences (specialization in Environmental Biology), Autonomous University of Madrid (UAM), Spain. Best academic record among the 1989 graduation of Environmental Biology. Average score: 3.45 out of 4 (9.5 out of 10).
- 1984 University Entrance Examination, following graduation with honors at the 'Joaquín Turina' Lyceum in Madrid (Spain).

### **Professional Experience**

- Since 2013 Tenured Researcher, Department of Wetland Ecology, Doñana Biological Station (EBD-CSIC).
- 2004-2013 Tenured Researcher, Department of Biodiversity and Conservation, Mediterranean Institute for Advanced Studies (IMEDEA, CSIC-UIB).
- 2002-2004 Researcher (tenure-track), Department of Biodiversity and Conservation, Mediterranean Institute for Advanced Studies (IMEDEA, CSIC-UIB).
- 2000-2002 Senior Researcher (tenure), Department of Plant-Animal Interactions, The Netherlands Institute of Ecology (NIOO), Royal Dutch Academy for Arts and Sciences (KNAW), Nieuwersluis, The Netherlands.
- 1998-2000 Tenured Researcher (tenure), Department of Plant-Animal Interactions, NIOO (as above).
- 1995-1997 Post-doctoral Researcher (tenure-track), Department of Plant-Animal Interactions, NIOO (as above).
- 1994-1995 Post-doctoral Researcher, Department of Environmental Engineering, International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE-Delft), The Netherlands.
- 1990-1994 Research Assistant, Department of Environmental Engineering, IHE-Delft, The Netherlands.
- 1987-1989 Research Trainee, Department of Ecology, Autonomous University of Madrid (UAM).

## Graduate and post-graduate training

- 2014 Invited lecturer. Lecture (3h) on “Adaptive Management” and Workshop (3 h) on “Participatory Group Modelling”. Master in Applied Animal Behaviour: Applications for Conservation. Anglia Ruskin University, Cambridge, UK.
- 2014 Invited lecturer. Two lectures (1 h each) on “Adaptive Management” and “Evolution in Conservation Biology”. Undergraduate module on Conservation Genetics. Anglia Ruskin University, Cambridge, UK.
- 2012 External lecturer. Workshop on “Research projects: design and development”, for students of General Biology (1<sup>st</sup> year of Biological Sciences). Universitat de les Illes Balears, Mallorca, Spain.
- 2011 External lecturer. Subject: Biodiversity loss: global drivers and policy responses. Master on Global Change. Universidad Internacional Menéndez Pelayo (UIMP). Mallorca, Spain.
- 2009 External lecturer. Subject: Experimental design. Postgraduate course on Methods in evolutionary and functional ecology. EEZA-CSIC, Almería, Spain.
- 2009 External lecturer. Subject: Adaptive management and restoration: the role of plant-animal interactions. Master on Restoration Ecology. Universidad Complutense de Madrid. Madrid, Spain.
- 2006 External lecturer. Subject: Adaptive restoration. Master on Restoration ecology in the Mediterranean region. Universidad Complutense de Madrid. Madrid, Spain.
- 2003 External lecturer. Subject: Impacts of climate change on coastal and inland wetlands. Postgraduate Course on Global Change. Universidad de Castilla-La Mancha. Toledo, Spain.
- 2000 External examiner. International Master in Environmental Science. Hoogschool IJssel and Deventer (the Netherlands) and University of Greenwich (UK).
- 1998 External examiner. Master of Engineering in Water and Environmental Resources Management. Department of Environmental Science and Water Resources, International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE-Delft, The Netherlands).
- 1995.1997 Assistant lecturer. Postgraduate Course in Environmental Sciences and Technology. International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE-Delft, The Netherlands).

## Supervision of MSc theses and senior-graduate projects

- MARTIN A. PIAZZON DE HARO. Conservation of dispersal mutualisms between the arboreal marsupial *Dromiciops gliroides* and fleshy-fruit epiphytes in Austral temperate forests [*in Spanish*]. MSc Thesis (Spanish DEA), University of the Balearic Islands (UIB), Mallorca, Spain. November 2009.
- CONSTANZA CELEDON NENGME. Pollination droplet in *Ephedra fragilis* (Ephedraceae): does animal pollination increase plant fitness? MSc Thesis (Spanish DEA), University of the Balearic Islands (UIB), Mallorca, Spain. October 2009.
- LUCIA LATORRE PIÑEIRO. Combined effect of two exotic herbivores, European rabbit (*Oryctolagus cuniculus*) and black rat (*Rattus rattus*) on several vital stages of an insular endemism, *Medicago citrina* [*in Spanish*]. MSc Thesis (Spanish DEA), University of Santiago de Compostela, Mallorca, Spain. September 2009.
- BERTHA CID MONTOYA. Colonization and the assemblage of aquatic macrophyte communities of Mediterranean temporary wetlands. MSc Thesis (Spanish DEA), University of the Balearic Islands (UIB), Mallorca, Spain. October 2008.

- BEGOÑA LÓPEZ. The impact of climate change on aquatic biodiversity: forecasted distributional changes of aquatic plants. Diploma thesis (senior graduate project), thesis, ESNE & Hoogschool Vlissingen, The Netherlands. September 2002.
- MARTA LUCAS. Mine water pollution: effects on biodiversity and habitat conservation. Diploma thesis (senior graduate project), ESNE & Hoogschool Vlissingen, The Netherlands. September 2002.
- SILVIA PEREZ. The evolution of passive dispersal in aquatic plants. Co-supervisor: Dr. K. Schwenk. Senior graduate project, Netherlands Institute of Ecology (NIOO-CL), Breukelen, The Netherlands. October 1998 - May 1999.
- JELLE AITINK. Interspecific differences in the acclimation capacity and photosynthetic thermal response of aquatic angiosperms. Co-supervisor: J. Pilon, NIOO-CL. Diploma thesis (senior graduate project), Van Hall Institute, Leeuwarden, The Netherlands. June 2001.
- ANA I. LLANO. Photoperiodic induction of tuberization in *Potamogeton pectinatus* L.: latitudinal variation. Senior graduate project, Netherlands Institute of Ecology (NIOO-CL), Breukelen, The Netherlands. April-September 1997.
- M. LUZ ANDRES. Effect of sequential waterfowl grazing on Sago Pondweed population dynamics (Lake Lauwersmeer, The Netherlands). Senior graduate project, Netherlands Institute of Ecology (NIOO-CL), Breukelen, The Netherlands. June-November 1997.
- MICHAEL DEN HEERDEN. Effect of waterfowl foraging on waterplants in Lake Lauwersmeer. Co-supervisor: M. Klaasen. Diploma thesis (senior graduate project), University of Amsterdam, The Netherlands. October 1996.
- CLAUDIA DIAS DA SILVA. Influence of nitrogen fertilization and temperature on the growth and reproduction of *Ruppia drepanensis* Tineo. Co-supervisor: M.J.M. Hootsmans. MSc Thesis, International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE-Delft), The Netherlands. March 1992.

### Supervision of PhD theses

- JÖRN PILON. 'Fennel pondweed: a world citizen. Geographic variation in life-cycle characteristics of the clonal water plant *Potamogeton pectinatus* L.'. Co-supervisor: W. van Vierssen (Wageningen University). Defense: September 3<sup>th</sup> 2002, Wageningen University, The Netherlands.
- HELEN HANGELBROEK. 'The effect of foraging waterfowl on the genetic diversity of *Potamogeton pectinatus* L., a clonal aquatic plant'. Co-supervisors: J. van Groenendaal and J. Ouborg (Catholic University of Nijmegen). Research period: 1997-2003. Defense: May 26<sup>th</sup> 2004, Nijmegen University, The Netherlands.
- AINHOA MAGRACH. 'Mutualistic interactions in a fragmented landscape'. ('Interacciones mutualistas en un paisaje fragmentado', in Spanish.) Co-supervisors: A.R. Larrinaga and J. Guitián (University of Santiago de Compostela). Defense: March 30<sup>th</sup> 2011, University of Santiago de Compostela, Spain.
- IRIS C. CHARALAMBIDOU. 'Travelling in waterfowl guts: Dispersal of aquatic plants and invertebrates.' Co-supervisors: B. Nolet and E. van Donk (Netherlands Institute for Ecology). Defense: January 16<sup>th</sup> 2012, Utrecht University, The Netherlands.
- LUCIA LATORRE. 'Biological invasions on islands: dynamics, impacts and management.' Co-supervisor: A.R. Larrinaga. Defense: September 30<sup>th</sup> 2013, University of Santiago de Compostela, Spain.
- DUARTE VIANA. 'Long Distance Dispersal by Migratory Birds. From Processes to Patterns of Biodiversity in Aquatic Ecosystems.' Co-supervisor: J. Figuerola. Defense: April 28<sup>th</sup> 2014, Pablo de Olavide University, Sevilla, Spain.

## Projects

- 2014-2017 Does native community diversity determine the success and impact of biological invasions? Spanish Ministry of Economy. PIs: E. Angulo and L. Santamaria. Budget: 75,000 €.
- 2011-2015 Genetic Structure of Coastal Phoenician Juniper forests at Cabrera's Archipelago: contributions of historical effects and contemporary dispersal by frugivorous birds (GENSABINA). Spanish Ministry of Environment. PI: L. Santamaria. Budget: 115,522 €.
- 2011-2014 Contribution of remote nutrients and contaminants to atmospheric and biotic deposition at Cabrera's Archipelago. Spanish Ministry of Agriculture and Environment. PI: A. Jordi. Budget: 113,189 €.
- 2011-2014 Developing a Knowledge Network for European expertise on biodiversity and ecosystem services to inform policy making economic sectors (KNEU). Coordination Action, EU FP7 project (grant no. 265299). Project coordinator: C. Nesshowever, UFZ, Germany. PI for IMEDEA-CSIC: L. Santamaria. Budget: 16,000 € for IMEDEA-CSIC.
- 2012-2013 Environmental effects of the Moulouya River on Morocco's coastal ecosystems (QueMomar). Spanish International Cooperation Agency (AECID). PI: A. Tovar.
- 2011-2012 The influence of animal mutualists and historical processes on the genetic structure of Levantine-Balearic populations of the ancient Mediterranean shrub *Ephedra fragilis* (SEAGRAPE). Spanish Ministry of Education. PI: L. Santamaria. Budget: 14,760 €.
- 2010-2014 Color vision in pollinating insects: beyond the honeybee paradigm (COLVISPOL). Spanish Ministry of Education. IP: M.A. Rodríguez-Gironés. Budget: 129,470 €
- 2009-2011 Strategic evaluation of the environmental quality of the Palma Beach coastal system: peri-urban wetlands and urban ecosystems. Platja de Palma Consortium. PI: Luis Santamaria. Budget: 74,000 €.
- 2008-2010 Pollinator response to predation risk and resource availability: psychological mechanisms and evolutionary consequences (FLOWPREDS). Spanish Ministry of Education. PI: M.A. Rodríguez-Gironés.
- 2008-2010 Integrated control of invasion complexes at Atlantic Islands of Galicia National Park (CAT). Spanish Ministry of Environment. PI: L. Santamaria. Budget: 83,475 €.
- 2008-2010 Conservation of dispersal mutualisms between the rare arboreal marsupial *Dromiciops gliroides* and fleshy-fruit epiphytes in Austral temperate forests (DOSEL). Fundación BBVA. PI: L. Santamaria. Budget: 199,948 €.
- 2006-2010 Connectivity, dispersal and priority effects as drivers of biodiversity and ecosystem function in pond and pool communities (BIOPOOL). Funding: European Science Foundation. Budget: 53,000 €. PI: L. Santamaria.
- 2008-2009 New developments in the management of coastal fisheries in Canada and Spain: from participatory to adaptive management. Understanding Canada Program, Canadian Government. PI: L. Santamaria. Budget: 15,000 CAD (9,993 €).
- 2007-2008 Transfer of adaptive management strategies for nature conservation in Canada: opportunities and constraints for implementation in Europe. Canada-

- Europe Awards, Canadian Government. PI: L. Santamaría. Budget: 12,000 CAD (7,984 €).
- 2006-2008 Demographic coupling between two island mutualists, the Balearic Lizard *Podarcis lilfordi* and the coastal shrub *Ephedra fragilis* (DEMUTUA). Balearic Islands Regional Government. PI: L. Santamaría. Budget: 33,000 €.
- 2005-2008 Ecological restoration of the Doñana marshes (Finca de Caracoles). Alternative stable status in the restored wetlands: spatio-temporal variation and changes in the spatial diversity. Funding: COPASA. IP: L. Santamaría. Budget: 105,560 €.
- 2004-2007 Biological determinants of the risk of plant invasions (RINVE). Spanish Ministry of Education. PI: A. Traveset.
- 2003-2006 Impact of invasive species on pollination networks: is island ecosystem invasibility related to super-generalist pollinator abundance? (INVASRED). Spanish Ministry of Science and Technology. IP: L. Santamaría. Budget: 29,000 €.
- 2003-2006 Impact of two exotic herbivores on the plant communities of Cabrera Nacional Park: degradation thresholds, risk analysis and integrated management (HERBIMPACT). Spanish Ministry of Environment. IP: A. Traveset. Budget: 65,000 €.
- 2000-2003 Environmental regulation of mine waters in the European Union (ERMITE). EU 5<sup>th</sup> Framework Program. Project co-ordinator: P.L. Younger. PI for NIOO-CL: L. Santamaría. Budget: 1,248,385 €, of which 97,321 € for NIOO-CL .
- 2000-2004 Metapopulation dynamics in lotic ecosystems: does local adaptation constrain dispersal and colonization?. Centre for Wetland Studies. PI: N.J. Ouborg. Budget: 260,000 NLG (118000 €).
- 2000-2001 Adaptive plasticity and local differentiation: a test using a submerged angiosperm with a wide latitudinal distribution. Schure-Beijerinck-Popping Fonds, Netherlands Academy of Arts and Sciences (KNAW). PI: L. Santamaría. Budget: 10,000 NLG.
- 1998-2001 Long-distance dispersal in Aquatic Key Species (LAKES). EU 4<sup>th</sup> Framework Program. Project coordinator: S. Rushton. PI at NIOO and scientific coordinator: L. Santamaría. Budget: 750,000 €, of which 227,000 € for NIOO-CL .
- 1995.1997 Characterization of the trophic webs in the aquatic ecosystems of the Doñana National Park brackish marsh. EU Large Scale Facilities Program. IP: L. Santamaría. Budget: 1,000,000 ESP (approx. 6000 €).

## Publications

### Summary (June 2014)

75 articles in refereed (SCI) journals, 2 books and 9 collective-book chapters.  
 WoK: 1530 citations, 24.68 citations per article. H-index: 22.  
 Google Scholar: 2526 citations. H index: 28. i10 index: 57.

### Journals (SCI)

1. Robledo-Arnuncio, J.J., Klein, E.K., Muller-Landau, H.C., Santamaría, L. Space, time and complexity in plant dispersal ecology. **Movement Ecology** (accepted).
2. Viana, D., Santamaría, L., Schwenk, K., Manca, M., Hobaek, A., Mjelde, M., Preston, C.D., Gornall, R.J., Croft, J., King, R., Green, A.J., Figuerola, J. Environment and

- biogeography drive aquatic plant and cladoceran species richness across Europe. **Freshwater Biology** (in press). DOI: [10.1111/fw.b.12410](https://doi.org/10.1111/fw.b.12410)
3. Magrach, A., Laurance, W.F., Larrinaga, A.R., Santamaría, L. (2014) Meta-Analysis of the Effects of Forest Fragmentation on Interspecific Interactions. **Conservation Biology** (early view). Doi: [10.1111/cobi.12304](https://doi.org/10.1111/cobi.12304)
  4. Latorre, L., Larrinaga, A.R., Santamaría, L. (2013) Rats and seabirds: effects of eggs size on predation risk and the potential of conditioned taste aversion as a mitigation method. **PloS One** 8: 376138. Doi: [10.1111/1365-2745.12005](https://doi.org/10.1111/1365-2745.12005)
  5. Magrach A, Santamaría L, Larrinaga AR (2013) Edge effects in a three-dimensional world: height in the canopy modulates edge effects on the epiphyte *Sarmienta repens* (Generiaceae). **Plant Ecology** 214: 965-973. Doi: [10.1007/s11258-013-0222-x](https://doi.org/10.1007/s11258-013-0222-x)
  6. Santamaría L, Diaz M., Valladares M. (2013) Dark Clouds over Spanish Science. **Science** 340: 1292. Doi: [10.1126/science.1233726](https://doi.org/10.1126/science.1233726)
  7. Rodríguez-Gironés, M.A., Gonzalvez, F. G., Llandres, A.L., Corlett, R., Santamaria, L. (2013) Possible role of weaver ants, *Oecophylla smaragdina*, as architects of pollination networks in SE Asia. **Journal of Ecology** 101: 1000-1006. Doi: [10.1111/1365-2745.12100](https://doi.org/10.1111/1365-2745.12100)
  8. Magrach, A., Santamaría, L., Larrinaga, A.R. (2013) Forest edges show contrasting effects on an austral mistletoe due to differences in pollination and seed dispersal. **Journal of Ecology** 101: 713-721. Doi: [10.1111/1365-2745.12083](https://doi.org/10.1111/1365-2745.12083)
  9. Viana, D.S., Santamaria, L., Michot, T.C., Figuerola, J. (2013) Allometric scaling of long-distance seed dispersal by migratory birds. **The American Naturalist** 181: 649-662. Doi: [10.1086/670025](https://doi.org/10.1086/670025).
  10. Viana, D.S., Santamaria, L., Michot, T.C., Figuerola, J. (2013) Migratory strategies of waterbirds shape the continental-scale dispersal of aquatic organisms. **Ecography** 36: 430-438. Doi: [10.1111/j.1600-0587.2012.07588.x](https://doi.org/10.1111/j.1600-0587.2012.07588.x). Article selected for [F1000Prime](#).
  11. Latorre, L., Larrinaga A.R., Santamaria, L. (2013) Combined impact of two exotic herbivores on different life-stages of an endangered plant endemism, *Medicago citrina*. **Journal of Ecology** 101: 107-117.
  12. Gonzalvez, F.G., Santamaría, L. & Rodríguez-Gironés M.A. (2013) Flowers attract weaver ants to deter pollen thieves. **Journal of Ecology** 101: 78-85.
  13. Magrach, A., Larrinaga A.R. & Santamaría L. (2012) Internal habitat quality, rather than the configuration of remnant patches, determines the effects of fragmentation on Austral forest epiphytes. **PLoS One** 7: e48743. doi: 10.1371/journal.pone.0048743
  14. Piazzon, M., Larrinaga, A.R., Rodríguez-Pérez, J., Latorre, L., Navarro, L., Santamaria, L. (2012) Seed dispersal by lizards in a continental island: predicting inter-specific variation in seed shadows based on adult-plant distribution and lizard movement patterns. **Journal of Biogeography** 39: 1984-1995.
  15. Magrach A, Santamaria L., Larrinaga A.R. (2012) Differential effects of anthropogenic edges and gaps on the reproduction of a forest dwelling plant: the role of plant reproductive effort and nectar robbing by bumblebees. **Austral Ecology** 37: 600–609. Doi: 10.1111/j.1442-9993.2011.02320.x.
  16. Santamaria, L., Méndez, P. F. (2012) Evolution in biodiversity policy – current gaps and future needs. **Evolutionary Applications** 5: 202-218. Doi: 10.1111/j.1752-4571.2011.00229.x.
  17. Mergeay, J., Santamaria, L. (2012) Evolution and Biodiversity: the evolutionary basis of biodiversity and its potential for adaptation to global change. **Evolutionary Applications** 5: 103-106.

18. Magrach A., Larrinaga A.R., Santamaria, L. (2012) Effect of matrix characteristics on functional connectivity in fragmented temperate forests. **Conservation Biology** 26: 238-247.
19. McConkey, K.R., Prasad, S., Corlett, R.T., Campos-Arceiz, A., Brodie, J.F., Rogers, H., Santamaria, L. (2012) Seed dispersal in fragmented landscapes. **Biological Conservation** 146: 1-13. ('Most downloaded conservation paper' at Elsevier in March 2012). Doi: [10.1016/j.biocon.2011.09.018](https://doi.org/10.1016/j.biocon.2011.09.018).
20. Méndez, P. F., N. Isendahl, J. M. Amezcaga, Santamaria, L. (2012) Facilitating Transitional Processes in Rigid Institutional Regimes for Water Management and Wetland Conservation – Experience from the Guadalquivir Estuary. **Ecology and Society** 17: 26.
21. Rodríguez-Pérez J, Wiegand T, Santamaria, L. (2012) Frugivore behavior determines plant distribution: a spatially-explicit analysis of a plant-disperser interaction. **Ecography** 35: 113-123.
22. Rodríguez-Pérez, J., Larrinaga, A. & Santamaria, L. (2012) Effects of Frugivore Preferences and Habitat Heterogeneity on Seed Rain: A Multi-Scale Analysis. **PLoS ONE** 7: e33246. Doi:10.1371/journal.pone.0033246.
23. Campos-Arceiz A., Traeholt C., Jaffar R., Santamaria L. & Corlett R.T. (2012) Asian Tapirs Are No Elephants When It Comes To Seed Dispersal. **Biotropica** 44: 220-227.
24. Magrach A., Larrinaga A.R., Santamaria L. (2011) Changes in Patch Features May Exacerbate or Compensate for the Effect of Habitat Loss on Forest Bird Populations. **PLoS ONE** 6: e21596. Doi:10.1371/journal.pone.0021596.
25. Piazzon de Haro M.A., Larrinaga A.R., Santamaría L. (2011). Are nested networks more robust to disturbance? A test using epiphyte-tree, comensalistic networks. **PLoS ONE** 6: e19637 . Doi:10.1371/journal.pone.0019637.
26. Figuerola, J., Charalambidou, I., Santamaria, L., Green, A.J. (2010) Internal dispersal of seeds by waterfowl: effect of seed size on gut passage time and germination patterns. **Naturwissenschaften** 97: 555–565.
27. Campos-Arceiz, A., Larrinaga, A.R., Weerasinghe, R.E., Leimgruber, P., Fernando, P., Santamaría, L. (2008) Behavior rather than diet mediates seasonal differences in seed dispersal by Asian elephants. **Ecology** 89: 2671-2677.
28. Bartomeus, N., Vilà, M., Santamaría, L. (2008) Contrasting effects of invasive plants in plant-pollinator networks. **Oecologia** 155: 761-770.
29. Santamaría, L., Rodríguez-Pérez, J., Larrinaga, A.R., Pías, B. (2007) Predicting spatial patterns of plant recruitment using animal-dispersal kernels. **PLoS ONE** 2: e1008. doi: 10.1371/journal.pone.0001008 .
30. Rodríguez-Gironés, M.A. & Santamaría, L. (2007) Resource competition, character displacement and evolution of deep corolla tubes. **The American Naturalist** 170: 455-464.
31. Santamaría, L. & Rodríguez-Gironés, M.A. (2007) Linkage Rules for Plant-Pollinator Networks: Trait Complementarity or Exploitation Barriers? **PLOS Biology** 5(2): e31. doi:10.1371/journal.pbio.0050031.
32. Rodríguez-Gironés, M.A. & Santamaría, L. (2006) Models of optimal foraging and resource partitioning: deep corollas for long tongues. **Behavioral Ecology** 17: 905-910.
33. Bodelier, P.L.E., Stomp, M., Santamaría L., Klaassen, M., Laanbroek H.J. (2006) Animal-plant-microbe interactions: Swan foraging behaviour modulates methane cycling in temperate shallow wetlands. **Oecologia** 149: 233-244.
34. Turnbull, L.A., Santamaria, L., Martorell, T., Rallo, J. & Hector, A. (2006) Seed-size variability: dispelling the carob myth. **Biology Letters**. DOI:10.1098/rsbl.2006.0476 .

35. Rodríguez-Gironés M.A. & Santamaria, L. (2006) A new algorithm to calculate the nestedness temperature of presence-absence matrices. **Journal of Biogeography** 33: 924-935.
36. Charalambidou, I.C. & Santamaria, L. (2005) Field evidence for the potential of waterfowl as dispersers of aquatic organisms. **Wetlands** 25: 252-258.
37. Charalambidou, I.C., Santamaria, L., Jansen, C. & Nolet, B. (2005) Digestive plasticity in mallard ducks modulates dispersal probabilities of aquatic plants and crustaceans. **Functional Ecology** 19: 513-519.
38. Pollux, B., Santamaria, L. & Ouborg, N.C. (2005) Differences in endozoochorous dispersal between aquatic plant species, with reference to plant population persistence in rivers. **Freshwater Biology** 50, 232-242.
39. Figuerola, J., Santamaria, L., Green, A., Luque, I., Alvarez, R. & Charalambidou, I. (2005) Endozoochorous dispersal of aquatic plants: Does seed gut passage affect plant performance. **American Journal of Botany** 92: 696-699.
40. Rodríguez-Gironés M.A. & Santamaria, L. (2005) Resource partitioning among flower visitors and evolution of nectar concealment in multi-species communities. **Proc R Soc London B** 272: 187-192.
41. Rodríguez-Gironés M.A. & Santamaria, L. (2004) Why are so many hummingbird flowers red? **PLOS Biology** 2 (10): 12-15. Available at: <http://dx.doi.org/10.1371/journal.pbio.0020350> .
42. Santamaria, L., Llano-García, A.I. (2004) Latitudinal variation in tuber production in an aquatic pseudo-annual plant (*Potamogeton pectinatus*). **Aquatic Botany** 79: 51-64.
43. Hangelbroek H.H., Santamaria L. (2004) Regulation of propagule size in the aquatic pseudo-annual *Potamogeton pectinatus*: are genetic and maternal non-genetic effects additive? **Evolutionary Ecology Research** 6: 147-161.
44. Hangelbroek H.H., Santamaria L. (2003). Local adaptation on the pondweed *Potamogeton pectinatus* to contrasting sediment types is mediated by changes in propagule provisioning. **Journal of Ecology** 91: 1081-1092.
45. Charalambidou I.C., Santamaria L. & O. Langevoord (2003). Effect of ingestion by five duck dispersers on the retention time, retrieval and germination of *Ruppia maritima* seeds. **Functional Ecology** 17: 747-753.
46. Santamaria L., Figuerola J., Pilon J.J., Mjelde M., Green A.J., de Boer T., King R.A. & Gornall R.J. (2003). Plant performance across latitude: the role of plasticity and local adaptation in an aquatic plant. **Ecology** 84: 2454-2461.
47. Rodríguez-Gironés M.A. , Sandsten H. & Santamaria L. (2003). Asymmetric competition and the evolution of propagule size. **Journal of Ecology** 91: 554-562.
48. Figuerola J., Green A.J., Santamaria L. (2003). Passive internal transport of aquatic organisms by waterfowl in Doñana, south-west Spain. **Global Ecology and Biogeography** 12: 427-436.
49. Charalambidou, I.C., Santamaria, L. & Figuerola, J. (2003) How far can the freshwater bryozoan *Cristatella mucedo* disperse in duck guts? **Archiv für Hydrobiologie** 157: 547-554.
50. Charalambidou, I.C., Ketelaars, H.A.M. & Santamaria, L. (2003). Endozoochory by ducks: influence of developmental stage of *Bythotrephes* on dispersal probability. **Diversity and Distributions** 9: 367-374.
51. Van Donk, E., Santamaria, L. and Mooij, W.M. (2003). Climate warming causes regime shifts in lake food webs: a reassessment. **Limnology & Oceanography** 48: 1350-1353.

52. Pilon, J.J., Santamaria, L., Hootsmans, M.J.M. & W. Van Vierssen (2003). Latitudinal variation in life-cycle characteristics of *Potamogeton pectinatus* L.: vegetative and reproductive traits. **Plant Ecology** 165: 247-262.
53. Santamaria, L., Charalambidou, I., Figuerola, J. and Green, A.J. (2002) Effect of duck gut passage on germination of fennel pondweed seeds. **Archiv für Hydrobiologie** 156: 11-22. Citations: 17 (WoK).
54. Figuerola, J., Green, A.J. and Santamaria, L. (2002) Comparative dispersal effectiveness of wigeongrass seeds by waterfowl wintering in south-west Spain: quantitative and qualitative aspects. **Journal of Ecology** 90: 989-1001.
55. Pilon, J. & Santamaria, L. (2002). Clonal variation in morphological and physiological responses to irradiance and photoperiod for the angiosperm *Potamogeton pectinatus*. **Journal of Ecology** 90: 859-870.
56. Hangelbroek, H.H., Ouborg, N.J., Santamaria, L. & Schwenk, K. (2002). Clonal diversity and structure within a population of pondweed *Potamogeton pectinatus* foraged by Bewick's Swans. **Molecular Ecology** 11: 2137-2150.
57. Santamaria, L. (2002) Why are most aquatic plants broadly distributed? Dispersal, clonal growth and small-scale heterogeneity in a stressful environment. **Acta Oecologica** 23: 137-154.
58. Amézaga, J.M., Santamaria, L. and A.J. Green. (2002). Biotic wetland connectivity - supporting a new approach to wetland policy. **Acta Oecologica** 23: 213-222. Doi: [10.1016/S1146-609X\(02\)01152-9](https://doi.org/10.1016/S1146-609X(02)01152-9).
59. Charalambidou, I.C. & Santamaria, L. (2002). Waterbirds as endozoochorous dispersers of aquatic organisms: a review of experimental evidence. **Acta Oecologica** 23: 165-176.
60. Santamaria, L. and M. Klaassen. (2002). Waterbird-mediated dispersal of aquatic organisms: An introduction. **Acta Oecologica** 23: 115-119.
61. Santamaria, L. & M.A. Rodriguez Gironés. (2002). Hiding from Swans: Optimal Burial Depth of Sago Pondweed Tubers foraged by Bewick's Swans. **Journal of Ecology** 90: 303-315.
62. Santamaria, L. (2002) Waterfowl herbivory affects species dominance in a submerged plant community. **Archiv für Hydrobiologie** 153: 353-365.
63. Pilon, J. & Santamaria, L. (2002). Clonal variation in the thermal response of the submerged aquatic macrophyte *Potamogeton pectinatus*. **Journal of Ecology** 90: 141-152.
64. Jonzén, N., Nolet, B.A., Santamaria, L. & M.G.E. Svensson. (2002). Seasonal herbivory and mortality compensation in a swan-pondweed system. **Ecological Modelling** 147: 209-219.
65. Pilon, J.J. and L. Santamaria. (2001). Seasonal acclimation in the photosynthetic and respiratory temperature responses of three submerged freshwater macrophyte species. **New Phytologist** 151: 659-670.
66. Vermaat, J.E., Santamaria, L. & P.J. Roos. (2000). Water flow across and sediment trapping in submerged macrophyte beds of contrasting growth form. **Archiv für Hydrobiologie** 148: 549-562.
67. Amézaga, J.M. and L. Santamaria. (2000). Wetland connectedness and policy fragmentation – Steps towards a sustainable European wetlands policy. **Physics & Chemistry of the Earth (B)** 25: 635-640.
68. Santamaria, L. & M.J.M. Hootsmans. (1998). The Effect of Temperature on the Growth, Photosynthetic Performance and Reproduction of a Mediterranean Submerged Macrophyte, *Ruppia drepanensis*. **Aquatic Botany** 60: 169-188.
69. Santamaria, L. & W. van Vierssen. (1997). Photosynthetic Temperature Responses of Fresh- and Brackish-Water Macrophytes: A Review. **Aquatic Botany** 58: 135-150.

70. Beekman, J.H. & L. Santamaria. (1997). Effects of Grazing by Bewick's Swans and Other Herbivorous Waterfowl on Submerged Macrophytes. **Acta Botanica Neerlandica** 46: 327.
71. Santamaria, L., Montes, C. & M.J.M. Hootsmans. (1996). Influence of Environmental Parameters on the Biomass Development of *Ruppia drepanensis* Populations in Doñana National Park: The Importance of Conditions Affecting the Underwater Light Climate. **International Journal of Salt Lake Research** 5: 157-180.
72. Santamaria, L., Hootsmans, M.J.M. & W. van Vierssen. (1995). Flowering Time as Influenced by Nitrate Fertilization in *Ruppia drepanensis* Tineo. **Aquatic Botany** 52: 45-58.
73. Hootsmans, M.J.M., Santamaria, L. & J.E. Vermaat. (1995). How to Survive Darkness? Photosynthetic and other Solutions Provided by Three Submerged Aquatic Macrophytes (*Potamogeton pectinatus* L., *Ruppia drepanensis* Tineo and *Zostera noltii* Hornem.). **Water Science and Technology** 32: 49-51.
74. Santamaria, L., Dias, C. & M.J.M. Hootsmans. (1993). The Influence of Ammonia on the Growth and Photosynthesis of *Ruppia drepanensis* Tineo from Doñana National Park (SW Spain). **Hydrobiologia** 275/276: 219-231.
75. Santamaria, L., Balsa, J., Bidondo, B., Baltanás, A. & C. Montes. (1992). Salinity Tolerance of Three Ostracode Species (Crustacea: Ostracoda) of the Iberian Saline Lakes. **Hydrobiologia** 246: 89-98.

#### Open Access Journals (not in SCI)

1. Rodríguez-Gironés, M.A. & Santamaría, L. (2010) How Foraging Behaviour and Resource Partitioning Can Drive the Evolution of Flowers and the Structure of Pollination Networks. **The Open Ecology Journal** 3: 1-11. Available at: <http://www.benthamscience.com/open/toecolj/articles/V003/S30001TOECOLJ/1TOECOLJ.pdf>

#### Journals (not in SCI)

1. Campos-Arceiz, A., Larrinaga, A.R., Weerasinghe, U.R., Takatsuki, S. & Santamaria, L. (2010) Working with zoos to understand the ecology of wildlife: the case of seed dispersal by Asian elephants. *Doubutsu to Doubutsuen*, Spring 2010: 24-29 [in Japanese].
2. Santamaría, L., Larrinaga, A.R., Arceiz, A., Rodríguez-Pérez, J. (2006). La ecología espacial como punto de encuentro entre la ecología animal y vegetal. Modelos espacialmente explícitos de dispersión endozoócora. *Ecosistemas* 15(3): 101-107
3. Traveset, A., Valladares, F., Vilà, M. & Santamaría, L. (2004) De la ecología de poblaciones y comunidades a la de ecosistemas: avances recientes y futuros desafíos. *Ecosistemas* 13: 107-115.
4. Rodríguez-Gironés M.A. & Santamaria, L. (2004) Las flores y sus visitantes: la utilidad de los modelos matemáticos en ecología. *Quercus* 226: 34-37.
5. Santamaría, L. (2004) Impacts of mining on aquatic ecosystems. Pp. 5-10 in: Younger, P.L. , Wolkersdorfer, C. (Eds.). *Mining Impacts on the Fresh Water Environment: Technical and Managerial Guidelines for Catchment Scale Management*. Mine Water and the Environment, Supplementary issue 1.
6. Santamaría, L. & Amezaga J.M. (2003) ¿Prestigio o utilidad social? Emergencias ambientales y operatividad científico-técnica: un análisis crítico. *Apuntes de Ciencia y Tecnología* 6: 18-21.
7. Sastre Navarro G., Fernández Galaz C., García Viguera C., Rodríguez Puertas R., Sánchez Capelo A. & L. Santamaría. (2001). La enfermedad de las vacas locas. *Apuntes*

- de Ciencia y Tecnología 1: 22-28.
8. Nolet B., J. Beekman, M. Klaassen, O. Langevoord & L. Santamaría. (2000). Waterplanten en Kleine Zwanen *Cygnus columbianus bewickii*: een wederzijdse afhankelijkheid? [Waterplants and Bewick's Swans *Cygnus columbianus bewickii*: a co-dependence?, in Dutch]. Limosa 73: 105-108.
  9. Santamaría, L., Charalambides, I., Figuerola, J., Gornall, R., Green, A.J., King, A. and Schwenk, K. (2000). Long-distance dispersal of aquatic organisms by waterfowl. Sylvia 36: 33.
  10. Charalambidou, I. and Santamaría, L. (2000). Seeds of sago pondweed survive duck gut passage. Sylvia 36: 47-48.
  11. Figuerola, J., Green, A.J. and Santamaría, L. (2000). Comparative capacity for seed dispersal in a duck community in southern Spain. Sylvia 36: 32
  12. Santamaría, L., Hootsmans, M.J.M., Montes, C. & W. van Vierssen. (1994). Effect of Bicarbonate Availability and Age on the Primary Production of *Ruppia drepanensis* Tineo from a Mediterranean Brackish Marsh. Verh. Int. Ver. Limnol. 25: 2251-2254.
  13. Santiago, J.M. & L. Santamaría. (1992). Daimiel sobrevive con aguas prestadas: Sobre el pasado, presente y futuro del Parque Nacional de las Tablas de Daimiel. [Daimiel Survives with Reclaimed Water: On the Past, Present and Future of the Tablas de Daimiel National Park.] Quercus 51: 32-37.

### Books

1. Santamaría, L. (1995). Ecology of *Ruppia drepanensis* Tineo in a Mediterranean Brackish Marsh (Doñana National Park, SW Spain). A Basis for the Management of Semiarid Floodplain Wetlands. Balkema, Rotterdam, the Netherlands, 243 pp.
2. Méndez, P.F., Santamaría, L., Amezaga, J., Hearn, G. (2009) Transfer of adaptive strategies for natural resources and ecosystems management in Canada. Opportunities and constraints for implementation in Europe. Technical Report to the International Council for Canadian Studies ICCS (Government of Canada). Ed. Lulu, 130 pp.

### Book chapters and collective volumes

1. Grant, F., Mergeay, J., Santamaría, L., Young, J., Watt, A.D., Eds. (2010) Evolution and biodiversity: The evolutionary basis of biodiversity and its potential for adaptation to global change. Report of an e-conference. Ed. European Platform for Biodiversity Research Strategy.
2. Santamaría, L., Pericàs, J., Carrete, M., Tella, J.L. (2008) La ausencia de enemigos naturales favorece las invasiones biológicas. [The absence of natural enemies favours biological invasions; in Spanish.] Pp. 91-102 in: M. Vilà, F. Valladares, A. Traveset, L. Santamaría, P. Castro (eds.) Invasiones Biológicas. Colección Divulgación, CSIC - Ed. Cyan, Madrid.
3. Castro, P., Alonso, A., Santamaría, L., Godoy, O. (2008) Las especies invasoras modifican las propiedades de los ecosistemas. [Invasive species modify ecosystem properties; in Spanish.] Pp. 117-127 in: M. Vilà, F. Valladares, A. Traveset, L. Santamaría, P. Castro (eds.) Invasiones Biológicas. Colección Divulgación, CSIC - Ed. Cyan, Madrid.
4. Santamaría, L., Larrinaga, A.R., Rodríguez Pérez, J. (2008) La ecología espacial como punto de encuentro entre la ecología animal y vegetal. Modelos espacialmente explícitos de dispersión endozoócora. [Spatial ecology - a crossroad for animal and plant ecology. Spatially explicit models of endozoochorous seed dispersal; in Spanish.] Pp. 449-493 in: F. Maestre, A. Escudero & A. Bonet (eds.). Introducción al Análisis Espacial de Datos en Ecología y Ciencias Ambientales: Métodos y Aplicaciones. Ed. Dykinson.
5. Santamaría, L., Larrinaga, A.R., Latorre, L., Pericàs, J. (2007) Herbívoros exóticos del Archipiélago de Cabrera: bases para una estrategia de gestión basada en la

- minimización de impactos. [*Exotic herbivores in Cabrera Archipelago: towards an integrated management strategy based on impact minimization*; in Spanish.] P. 295-308 in: Proyectos de Investigación en Parques Nacionales: 2003-2006. Colección "Naturaleza y Parques Nacionales - Serie Investigación en la Red", Organismo Autónomo de Parques Nacionales, Madrid.
6. Santamaría, L., Green, A., Díaz-Delgado, R., Bravo, M.A. & E.M. Castellanos (2005) La Finca de Caracoles: un nuevo laboratorio para la ciencia y la restauración de humedales. Pp. 313-315 in: F. García-Novó and C. Marín. Doñana: agua y biosfera. Confederación Hidrográfica del Guadalquivir.
  7. Traveset A. and Santamaría, L. (2004). Alteración de mutualismos planta-animal debido a la introducción de especies exóticas en ecosistemas insulares. [*Disruption of plant-animal mutualisms by exotic species in island ecosystems*; in Spanish.] Pp. 251-276 in: JM Fernández-Palacios y C Morici (eds.). Ecología Insular - Insular Ecology. Asociación Española de Ecología Terrestre - Cabildo Insular de La Palma.
  8. Santamaría, L., Lucas, M. and López, B. (2003) Ecological concepts in EU environmental legislation. Pp. 57-70 in: Kroll. A. (ed.) European Policies and Mine Waters. Available at: <http://www.ncl.ac.uk/environment/research/Ermite.htm>
  9. Traveset, A. & Santamaría L. (2003). Ciencia y conservación de la naturaleza. [*Science and nature conservation*; in Spanish.] Pp. 101-112 in: Duarte, C., Grases, F. (eds.). El papel social de la ciencia en las Baleares. Universitat de les Illes Balears.
  10. Santamaría L., J.M. Amézaga and P.L Younger (in press). Mining and the water environment: Lessons from an Assessment of Water Pollution during the full Life-Cycle of a Metalliferous Mine. In: *Integrated assessment and management of the ecosystems affected by the Aznalcollar mining spill (SW, Spain)*. Editors: T.A. DelValls & J. Blasco. UNESCO.
  11. Charalambides, I., Comoli, P., Croft, J., Figuerola, J., Gornall, R.J., Green, A., Hobæk, A., King, A., Lurz, P.W.W., Manca, M., Preston, C.D., Rushton, S.P., Sand, A., Sanderson, R., Santamaría, L., Schwenk, K. and Shirley, M.D.F. (2000). LAKES: Long distance dispersal of aquatic key species. In: *Terrestrial Ecosystem Research in Europe: successes, challenges and policy* (M. A. Sutton, J. M. Moreno, W. H. van der Putten and S. Struwe, eds.), pp. 170-172. European Commission, Luxembourg.
  12. Santamaría, L. and J.M. Amézaga. (1999). Improving the management of large protected wetlands: learning the lessons of the Doñana nature reserves. In: Brebbia and Usó (eds.), *Ecology and sustainable development II*, WIT Press, Southampton: 365-375.
  13. Santamaría, L., Nolet, B.A. & M.L. Andrés. (1997). Optimal exploitation of tubers by Bewick's Swans. 1997 Progress Report of the Netherlands Institute of Ecology: 84-86.
  14. Santamaría, L. & W. van Vierssen. (1995). 'Predicting the Impact of Eutrophication Stress on the Survival of the Submerged Vegetation in Shallow Temporary Lakes.' Proceedings 6<sup>th</sup> International Conference on the Conservation and Management of Lakes 'Kasumigaura 95', Ibaraki, Japan: 777-780.
  15. Santamaría, L., Mader, E., Schwenk, K. & W. van Vierssen. (1995). Intraspecific variability in *Potamogeton pectinatus* L.: The genetic basis of a life-cycle strategy. 1995 Progress Report of the Netherlands Institute of Ecology: 76-77.

### Letters

1. Santamaría, L. & Rodríguez-Gironés, M.A. Parsimony is not enough - a reply to Diego Vazquez. PLoS Biology - Reader responses. DOI: <http://biology.plosjournals.org/perlserv/?request=read-response&doi=10.1371/journal.pbio.0050031#r1683>
2. Aparicio, A., Escartín, J., Santamaría, L. & Valverde, P. (1998). Toxic Spill Caught Spain

Off Guard. **Nature** 395: 110.

### Book reviews

1. Santamaría, L. (2000). Commentay to: Lake Prespa, Northern Greece. A Unique Balkan Wetland. Edited by A.J. Crivelli and G. Catsadorakis. *Aquatic Ecology* 32: 99-101.

### Newspaper articles

1. Sastre G., Fernández C., García C., Rodríguez R., Sánchez A. & L. Santamaría. (2001). La enfermedad de las vacas locas. *La Verdad*, 11-October-2001.

### Manuscripts in review

1. Rodríguez-Gironés, M.A., Sun, S., Santamaría, L. Passive partner choice through exploitation barriers. *Evolutionary Ecology* (2<sup>nd</sup> review 05/14).
2. Lazaro, A., Vignolo, C., Santamaría, L. Long corollas as nectar barriers in *Lonicera implexa*: interactions between corolla tube length and nectar volume in populations differing in flower visitors. *Evolutionary Ecology* (30/03/14).
3. Lazaro, A., Santamaría, L. Flower visitor-selection on floral integration in three contrasting populations of *Lonicera implexa*. *Journal of Evolutionary Biology* (10/04/14).
4. Santamaría, L., Hortal, J. Funding determines scientific excellence and innovation: debunking the myth of low R&D efficiency in PIIGS countries. *PloS One* (21/04/14).
5. Viana, D., Figuerola, J., Schwenk, K., Manca, M., Hobaek, A., Mjelde, M., Preston, C.D., Gornall, R.J., Croft, J., King, R., Green, A.J., Santamaría, L. Local processes determine scale-independent, high species turnover in aquatic communities. *Ecology* (09/06/14).

## Conferences and Symposia

### Oral presentations (speaker)

- 2011 Modelling seed shadows in zoochorous systems: Steps towards an integrated approach. 12th Congress of the European Ecological Federation (EEF). Avila, Spain. 25-29 September 2011.
- 2011 Interdisciplinarity in action: Linking science and policy to preserve biodiversity and restore ecosystem functions. 6th International Conference on Environmental Future (ICEF). 18-20 July 2011.
- 2010 EPBRS 2010-20 European Biodiversity Research Strategy: Opportunities for strengthening S&T collaboration between SE Asia and EU. Third Bi-regional EU-SEA Science &Technology Conference. Budapest, Hungary. 24-25 November 2010.
- 2010 EPBRS 2010-20 European Biodiversity Research Strategy: Opportunities for strengthening S&T collaboration between SE Asia and EU. EU-Southeast Asia Expert meeting on conservation and sustainable management of biodiversity. Hanoi, Vietnam. 25-27 January 2010.
- 2010 Adaptive management of fragmented landscapes: making use of the functions provided by endangered megafauna. Quantification of Ecosystem Function Workshop. British High Commission in Singapore & University of Nottingham Malaysia. Kuala Lumpur, Malaysia. 28-29 January 2010.
- 2009 Seed dispersal by megaherbivores: Are there general patterns emerging from body

- mass allometries? 23th Annual meeting of the Society for Conservation Biology. Beijing, China. 11-16 July 2009.
- 2009 Space as a meeting point between animal behaviour and plant ecology. Animal movement and the spatial patterns of seed dispersal in endozoochorous systems. Workshop on seed dispersal by frugivores, 23th Annual meeting of the Society for Conservation Biology. Beijing, China. 10 July 2009.
- 2008 Labile coevolutionary models for plant-pollinator interactions. Implications for pollination-network structure and resilience to biological invasions [*in Spanish*]. Simposio Internacional de Relaciones Interespecíficas en la Biología de la Conservación. Alicante, Spain. 18-19 November 2008.
- 2008 Does animal movement determine spatial patterns of seed deposition in endozoochorous systems? EURECO-GFOE Joint Meeting. Leipzig, Germany. 15-19 October 2008.
- 2007 Dispersal, colonization, community assemblage and ecosystem function in Mediterranean saltmarshes: what can we learn from natural and restored wetlands? Challenges of Biodiversity Science, First EuroDIVERSITY Conference. Marne la Vallée, Paris, France. 3-5 October 2007.
- 2007 Adaptive restoration of Mediterranean saltmarshes: Lessons on dispersal and colonization of ponds and wetlands. Joint Meeting of the Ecological Society of America (ESA) and the Society for Ecological Restoration (SER), San José, California, USA. 6-9 August 2007.
- 2006 Forecasting the impact of climate change on the continental distribution of wetland plants. The importance of long-distance dispersal and local adaptation. Understanding Impacts of Climate Change on Terrestrial Ecosystems, 'Opening Doors' scientific seminars for young researchers, British Council. Carmona, Sevilla, Spain. 26 February – 2 March 2006. Abstract available at: [http://www.britishcouncil.org/sk/spain\\_science\\_report\\_carmona.pdf](http://www.britishcouncil.org/sk/spain_science_report_carmona.pdf)
- 2005 Adaptive restoration and the assemblage of wetland communities: the importance of long-term approaches. World Conference on Ecological Restoration, Society for Ecological Restoration, Zaragoza, Spain. September 2005.
- 2005 Simple assemblage rules explain the nested topology of plant-pollinator networks. Annual Meeting of Ecological Society of America (ESA), Montreal, Canada. August 2005.
- 2004 The effect of herbivorous waterbirds on the reproductive strategies and population dynamics of aquatic macrophytes. 7<sup>th</sup> INTECOL International Wetlands Conference, Utrecht, the Netherlands. July 2004.
- 2002 Mine water pollution and the ecological status of European rivers and wetlands. SENSE Summer Symposium on 'Current Controversies on Causes and Consequences of Environmental Change'. Ede-Wageningen, the Netherlands. June 2002.
- 2001 Asymmetric competition and the evolution of propagule size. Annual Meeting of the Ecological Society of America (ESA). Madison, USA.
- 2001 One resource, multiple users: agriculture and wetland conservation, from competition to cooperation. Workshop on Water, Land, Agriculture, and Policies in the Mediterranean. IPTS, European Commission, Brussels. April 2001.
- 2000 The effect of above-ground and below-ground herbivory on reproductive allocation in an aquatic pseudo-annual (*Potamogeton pectinatus*). International Clonal Plant Workshop, Obergurgl, Austria.
- 2000 Long distance dispersal of aquatic organisms by migratory waterfowl. Third Conference of the Aquatic Birds Working Group of the SIL. Trebon, Czech Republic.

- 1999 Survival/germination trade-offs in pondweed tubers foraged by Bewick's swans. Symposium for European Freshwater sciences (SEFS), Antwerp, Belgium.
- 1999 Improving the management of large protected wetlands: learning the lessons of the Doñana nature reserves. ECOSUD '99 Conference (Ecology and sustainable Development), Lemnos, Greece.
- 1999 Wetland connectedness and policy fragmentation: Steps towards a sustainable European wetlands policy. 24<sup>th</sup> General Assembly, European Geophysical Society., The Hague, The Netherlands.
- 1998 Growing and Grazing in the Global Village: How Cosmopolitans Cope with Herbivores. Symposium on Waterplants: Ecology, Evolution and Ecosystem Function, University of Nijmegen, Nijmegen, The Netherlands.
- 1997 Restoration of Mediterranean Semiarid Wetlands: Predicting the Effect of Water Management on the Survival of the Submerged Vegetation. Symposium on The Restoration of Aquatic Ecosystems, Aquatic Ecology Group of the British Ecological Society, Newcastle, UK.
- 1996 Light Acclimation and Reproductive Output in Submerged Angiosperms - Does Allometry Shape their Life-History Strategies?. Annual meeting of the Ecophysiology Specialist Group, Netherlands-Flanders Ecological Society (NEVECOL), Utrecht, The Netherlands.
- 1995 Predicting the Impact of Eutrophication Stress on the Survival of the Submerged Vegetation in Shallow Temporary Lakes. Sixth International Conference on the Conservation and Management of Lakes 'Kasumigaura 95', Ibaraki, Japan.
- 1992 Effect of Bicarbonate and Age on the Primary Production of *Ruppia drepanensis* from a Mediterranean Brackish Marsh. XXV SIL International Congress, International Society of Limnology, Barcelona, Spain.
- 1992 The Influence of Ammonia on the Growth and Photosynthesis of *Ruppia drepanensis* Tineo from Doñana National Park (SW Spain). Shallow Lakes: Nutrient Dynamics and Biological Structure in Shallow Freshwater and Brackish Lakes, Silkeborg, Denmark.

### Poster presentations

- 2008 Campos-Arceiz, A., A.R. Larrinaga, U.R. Weerasinghe, S. Takatsuki, J. Pastorini, P. Leimgruber, P. Fernando, Santamaría, L. Behavior rather than digestive physiology modulates seasonal differences in seed shadows by Asian elephants. The Evolutionary Ecology of Plant-Animal Interactions - From Genes to Communities. Symposium of the Spanish Society of Terrestrial Ecology. Palma de Mallorca, Spain, 21-23 April 2008.
- 2008 Celedón, C. , Latorre, L., Santamaría, L. Fruit colour polymorphism in *Ephedra fragilis* - does dispersal by insular lizards favour the rare yellow morph? Annual Meeting of the British Ecological Society. Imperial College London, UK, 3-5 Sept 2008.
- 2008 Latorre, L., Santamaría L., Larrinaga, A.R., Pericás, J. 2008. Combined impact of two exotic herbivores on different life-stages of an insular endemism, *Medicago citrina*. The Evolutionary Ecology of Plant-Animal Interactions - From Genes to Communities. Symposium of the Spanish Society of Terrestrial Ecology. Palma de Mallorca, Spain, 21-23 April 2008.
- 2007 Cid, B., Montero A., Larrinaga A.R., Santamaría L. Seed dispersal pathways at restored wetlands: contribution to community build up in restored, Mediterranean coastal wetlands. 'Challenges of Biodiversity Science'. First EuroDIVERSITY

- Conference. 3-5 October 2007, Marne la Vallée, Paris, France.
- 2005 Castellanos, E.M., Luque, C.J., Díaz-Delgado, R., Santamaría, L., Green, A.J., Grilla, P., Redondo, S., Castillo, J. & Figueroa, M.E. Methods for the study of vegetation in the adaptive restoration of an agricultural estate in Doñana National park (SW Spain). World Conference on Ecological Restoration, Society for Ecological Restoration, Zaragoza, Spain. September 2005.
- 2004 Rodríguez-Gironés, M.A. & Santamaría, L. Resource partitioning and the evolution of flower traits in multi-species communities. Final Conference of the LINKECOL Program (Linking community and ecosystem ecology: recent advances and future challenges), European Science Foundation, Palma de Mallorca, Spain. May 2004.
- 2003 B. López & L. Santamaría. Efecto del cambio climático sobre la distribución de las angiospermas acuáticas europeas: modelos de equilibrio utilizando superficies de respuesta bioclimática. VII Congreso de la Asociación Española de Ecología Terrestre. Barcelona, Spain.
- 2000 Charalambidou, I. and L. Santamaría. Seeds of sago pondweed survive duck passage. Third Conference of the Aquatic Birds Working Group of the SIL. Trebon, Czech Republic. 2<sup>nd</sup> price best poster.
- 2000 Santamaría, L. Grazing avoidance affects life-history evolution: the effect of aboveground herbivory and belowground propagule predation on pondweed tuber size. BES/ESA 2000 Joint Meeting, Orlando, USA.
- 1999 Charalambidou, I., Ketelaars, H. & L. Santamaría. Survival of resting eggs of long-spined waterflea (*Bythotrephes longimanus*) after ingestion by ducks. Fifth International Symposium on Cladocera, Ploen, Germany.
- 1999 Pérez, S., Santamaría, L. & K Schwenk. The evolution of passive dispersal. A comparative study of seed morphology in aquatic plants. European Society of Evolutionary Biology (ESEB), Barcelona, Spain.
- 1999 Pilon, J. & L. Santamaría. Temperature acclimation in *Potamogeton pectinatus* plants originating from a wide latitudinal gradient. Symposium for European Freshwater sciences (SEFS), Antwerp, Belgium.
- 1999 Santamaría, L. & K. Schwenk. 'Long distance dispersal in aquatic key species. The ecological and evolutionary consequences of passive dispersal in aquatic organisms.' Final Workshop of the TERICA Program. Egmond a/d Zee, The Netherlands.
- 1997 Santamaría, L. & B. Nolet. 'Waterfowl Grazing on Leaves and Tubers of Pondweeds: Competition or Facilitation?' Joint Symposium on 'Herbivores, Plants and Predators', British Ecological Society and the Netherlands Ecological Society, Wageningen, The Netherlands.
- 1995 Santamaría, L., Mader, E., Schwenk, K. & W. Van Vierssen. 'Intraspecific Variability in *Potamogeton pectinatus* L.: The Genetic Basis of a Life-Cycle Strategy.' Colloquium on 'Natural Selection in Wild Populations: New Viewpoints from the Application of Molecular Genetics.' Royal Dutch Academy of Sciences and Arts, Amsterdam, The Netherlands.
- 1989 Balsa, J., Montes, C. & L. Santamaría. 'Human Development and Conservation in the Monegros Wetlands (NE Spain). A Critical Evaluation on the Management of Saline Wetlands in Semiarid Regions.' Symposium on 'The People's Role in Wetland Management', Leiden, The Netherlands.
- 1990 Santamaría, L., Bidondo, B., Baltanás, A. & J. Balsa. 'Tolerancia a la salinidad de tres especies de Ostrácodos de las lagunas salinas ibéricas' [Salinity Tolerance of Three Ostracode Species of the Iberian Saline Lakes]. Fifth Conference of the Spanish Limnological Society (AEL), Banyoles, Spain.

### Keynote and invited lectures

- 2012 Anthropogenic evolution, biodiversity policy and the management of aquatic ecosystems. Keynote lecture. Symposium on “Evolutionary ecology and the management of aquatic ecosystems”. EAWAG, Zurich, Switzerland. 22-23 November 2012.
- 2011 Tropical deforestation: local solutions for global problems. Keynote lecture. MYEULINK’s High Level Seminar on “Environment in Southeast Asia and the EU: The sustainability and conservation of Malaysian forests”, held at The University of Nottingham Kuala Lumpur Teaching Facility, Kuala Lumpur, Malaysia. 14 September 2011. Presentation available at: <http://www.slideshare.net/luissantamariagaldon/tropical-deforestation-local-solutions-for-global-problems>
- 2010 Predicting spatial patterns of plant recruitment using animal-dispersal kernels. Invited lecture. National University of Singapore, Singapore, 02 February 2010.
- 2009 Parachuting submarines: the importance of waterfowl-mediated dispersal for the structure and functioning of aquatic ecosystems. Invited lecture. Farewell Symposium for Prof. M. Klaassen. Netherlands Institute for Ecology, Nieuwersluis, the Netherlands, 4 December 2009.
- 2002 Fragmented populations and open ecosystems: plant-animal interactions at local, regional and continental scales. Invited lecture, Faculty of Biology, Universidad Complutense de Madrid (Spain), 10 November 2002.
- 2002 Biodiversity in Mediterranean ecosystems: threats to inland and coastal wetlands. Keynote lecture, 6<sup>th</sup> Meeting of the European Platform for Biodiversity Research Strategy, Almería, Spain. 11-13 May 2002.
- 2000 The effect of aboveground and belowground herbivory on the evolution of propagule size in an aquatic pseudo-annual plant. Invited lecture, Doñana Biological Station, Sevilla (Spain), 29 September 2000. Summary available at <http://www.ebd.csic.es/Seminarios>.
- 2000 Plant choices: The effect of above- and below-ground herbivory on the evolution of life-history traits in an aquatic pseudo annual. Invited lecture, Department of Ecology and Evolutionary Biology, Brown University, Providence (USA).
- 2000 Hoe het Schedefonteinkruid zijn tubers verstopt voor de Kleine zwaan [How Sago Pondweeds hide their tubers from Bewick’s Swans]. 1<sup>st</sup> meeting of the Vertebrate Herbivory Workgroup, Netherlands-Flemish Ecological Society (NECOV), Nieuwersluis, the Netherlands. Invited lecture.
- 2000 Herbivory and the size of pondweed propagules - life-history defenses in a pseudo-annual plant. Invited lecture, Department of Plant Ecology and Evolutionary Biology, Utrecht University (The Netherlands).
- 2000 Flying West - The consequences of long-distance dispersal by migratory waterfowl for the population structure of aquatic organisms. Invited lecture, Marx Plank Institute for Limnology, Plön (Germany).
- 1997 The effect of sequential foraging by sedentary and migratory waterfowl on the dynamics of pondweed communities. Invited lecture, Department of Ecology, Autonomous University of Madrid (Spain).

### Divuligation and outreach

- Since 2013 Co-author of the blog “Critical Science” (Ciencia crítica, in Spanish) at the online newspaper El Diario: <http://www.eldiario.es/cienciacritica/>
- 2012 The absence of elephants and rhinos reduces tropical diversity. News report based

- on interviews to A. Campos-Arceiz and L. Santamaria. Sinc Agency. Available at: <http://www.agenciasinc.es/Noticias/La-ausencia-de-elefantes-y-rinocerontes-reduce-la-biodiversidad-del-bosque-tropical>
- 2011 “Biodiversity detectives”. Interview in the newspaper El Mundo, describing the research activities of the Laboratory of Spatial Ecology. Available at: <http://www.elmundo.es/elmundo/2011/06/28/baleares/1309242576.html>
- 2009 Interview (30 min) on the ecological role of Asian elephants, for the radio “Ona Mallorca”. Available at: <http://www.imedea.csic.es/bc/ecoesp/news> (in Spanish).
- 2008 Interview (30 min) on the effects of invasive species on island ecosystems, for the radio program “Hoy por hoy Mallorca” (Cadena Ser). Available at: <http://www.imedea.csic.es/bc/ecoesp/news> (in Spanish).
- 2007 Press release “Researchers from IMEDEA (CSIC-UIB) demonstrate the role of rats and rabbits on the show recovery of vegetation at Cabrera Island abandoned farmland” (available at: <http://www.uib.es/ca/infosobre/serveis/generals/comunicacio/actualitat/arxiu/2007/abril/27/27040702.html>, in *Catalonian*). Based on it, a one-page article entitled “Ratas y conejos ponen en peligro el ecosistema de Cabrera” (Rats and rabbits endanger Cabrera Island’s ecosystems, in *Spanish*), by J. Serra, was published in the local newspaper *Ultima Hora* on 22/04/2007.

### Awards and Grants

- 2012 Mobility Grant, Spanish Ministry of Education. Six-month sabbatical leave at the Department of Ecology and Evolutionary Biology, Cornell University, hosted by Anurag Agrawal.
- 2006 Research Fellowship, Cannon Foundation in Europe. Six-month research period at The University of Tokyo. The award includes admittance into the CFE Alumni Association.
- 1989 Best academic record among the 1989 graduation on Environmental Biology, Faculty of Sciences, Autonomous University of Madrid (UAM, Spain).  
During graduate studies, Honorary Grants were obtained in 12 of the 23 subjects studied. [Honorary Grants are awards reserved to top 5 percentile of the students and equivalent to the highest exam record, which exclude the grantee of paying the following year's academic fee]
- 1991-94 Ph.D. Fellowship, Research Training Program in Foreign Countries (F.P.U.-B.E.), Spanish Ministry of Education. Research Center: IHE-Delft.
- 1990 Ph.D. Fellowship, Research Training Program (F.P.U.), Spanish Ministry of Education. Research Center: Department of Ecology, UAM, Madrid.
- 1989 Post-graduate Research Fellowship, Dutch-Spanish Cultural Co-operation Program, Dutch Ministry of Foreign Affairs. Research Center: IHE-Delft.
- 1987-1989 Research Trainee Fellowship, Spanish Ministry of Education. Research Center: Department of Ecology, UAM, Madrid.

### Extra-curricular training

- 2010 Introduction to Structural Equation Models. Asociación Española de Ecología Terrestre (AEET) - Universidad Pública de Navarra (UPNA). Tudela, Spain.
- 1998 First Aid (EHBO, with emphasis on medical emergencies during field-work campaigns). Dutch ‘Orange Cruis’ title. NS training centrum, Utrecht, the

- Netherlands. 40 hours. Update courses in 1999, 2001 and 2002, 16 lecture hours.
- 1998 Dutch Language (Professional and Academic Use), School of Languages 'Regina Coeli' (Vucht, The Netherlands), 75 hours.
- 1997 Project Management, Kern Consulting (Amsterdam, The Netherlands), 24 hours.
- 1989\* Vegetation Management in Protected Natural Areas, University of Alcalá de Henares (Madrid, Spain), 32 hours.
- 1988 Nature Conservation in the European Community, International University Menéndez Pelayo (UIMP, Cuenca, Spain), 40 hours.
- 1988 Scientific-Technical Workshop on the Environmental Impact of Urban Solid Waste Disposal, Autonomous University of Madrid (Madrid, Spain), 45 hours.
- 1987\* Ecology and Natural Resources: Destruction, Restoration and Development in Latin-America, UIMP (Sevilla, Spain). 45 hours.
- 1987\* Economy, Ecology and Environmental Protection, University of Cantabria (Laredo, Spain), 24 hours.
- 1987\* Nature Conservation: The Protection of the Spanish Natural Heritage, UIMP (Cuenca, Spain), 40 hours.
- 1985\* Nature Conservation, UIMP (Cuenca, Spain), 40 hours.

\* Participation in the course supported by a fellowship granted by the organizing institution.

## Languages

|         |                                                         |
|---------|---------------------------------------------------------|
| Spanish | Mother tongue                                           |
| English | Excellent usage, both orally and written                |
| Dutch   | Good usage, both orally and written; fluency in reading |
| French  | Fair usage, both orally and written; fluency in reading |

## Memberships

President of the Spanish Association for the Advancement of Science and Technology (Asociación para el Avance de la Ciencia y la Tecnología en España, AACTE). Elected for a second term (2012-14), after a first term in 2006-8.

Ecological Society of America (ESA), British Ecological Society (BES), Spanish Association of Terrestrial Ecology (AEET).

## Editorial commitments

Associate Editor for *Journal of Ecology* from 2010 to 2013.

Co-editor of the Special Issue *Evolution and biodiversity*, published in *Evolutionary Applications* in January 2012.

Co-editor of the book *Invasiones Biológicas* (Biological Invasions, in Spanish), CSIC - Ed. Cyan, Madrid, 2008.

Co-editor of the Special Issue *Dispersal of aquatic organisms: the role of waterfowl*, published in *Acta Oecologica* in June 2002.

Referee for *Acta Oecologica* (2), *Aquatic Botany* (8), *Aquatic Ecology* (2), *Archiv für Hydrobiologie* (3), *Archives for Environmental Contamination and Toxicology* (1), *Biological Invasions* (2), *Biology Letters* (1), *Biotropica* (1), *Ecography* (3), *Ecology* (2), *Ecosphere* (1), *Ecological Research* (1), *Ecoscience* (2), *Environmental Conservation* (1), *Evolutionary Ecology* (2), *Functional Ecology* (1), *Hydrobiologia* (3), *International Review of Hydrobiology* (1),

*International Journal of Plant Sciences* (1), *Journal of Arid Environments* (1), *Journal of Coastal Research* (1), *Journal of Ecology* (5), *Journal of Field Ornithology* (2), *Lakes & Reservoirs: Research and Management* (2), *Marine and Freshwater Research* (1), *Naturwissenschaften* (1), *Oecologia* (1), *Oikos* (4), *Plant Ecology* (1), *PLoS One* (1), *PNAS* (1), *The American Naturalist* (1) and *Wetlands* (1).

## Scientific and evaluation panels

Member of the Spanish Committee of DIVERSITAS since November 2010.

Member of the Steering Committee of the European Platform for Biodiversity Research Strategy (EPBRS) since May 2009.

Spanish National Scientific Delegate at the European Platform for Biodiversity Research Strategy (EPBRS). Meetings: Leipzig (5-7 May 2007, "Research as a contributor to EU Biodiversity strategy implementation"), Porto (7-9 Nov 2007, "Life on the Blue Planet: Biodiversity Research and the New EU Marine Policies"), Průhonice (19-22 May 2009, "World biodiversity and European taxonomy. Strategies in taxonomy: research in a changing world"), Visby (19 Oct-1 Nov 2009, "Targets on biodiversity beyond 2010"), Mallorca (13-15 April 2010, "[Evolution and Biodiversity: The evolutionary basis of biodiversity and its potential for adaptation to global change](#)"), Brussels (18-19 Nov 2010, "Positive visions on biodiversity") and Dublin (15-17 May 2013, "Attaining targets of the EU Biodiversity Strategy"). Workshops: Brussels (19 Dec 2007, topic: "Preparation of EPBRS Action Plan"), London (17 June 2008, "Preparation of Strategy Document for European Biodiversity Research"), Berlin (July 2009, "Preparation of the Biodiversity Research Strategy for 2010-20") and Brussels (11- 12 April 2013, "Investing in Innovative Research for Nature and our livelihoods: Strengthening the research strategy to reinforce the ERA on Biodiversity").

Scientific adviser for the EuroDiversity Program of the European Science Foundation (ESF).

External evaluator for:

- the European Science Foundation Research Networking Programme, in 2009
- the TALENT program of the Dutch National Organisation for Scientific Research (NOW), in 2004 and 2009
- EU Large Scale Facilities Program at Doñana Biological Station (ICTS-RBD), in 2009
- the National Geographic Society, in 2012
- the MacArthur Fellows Program, in 2012
- Spain's National I+D+i Program, in 2009
- Spain's National Evaluation Agency (ANEP) in 2008, 2009, 2010 and 2011
- the Excellence Research Program of the Andalusian Government, in 2012 and 2013
- the Accounting Office of the Spanish Ministry of Environment in 2011.

**CV MARIE STENSEKE****1. Higher education qualifications**

Bachelor of Science (BSc) in Urban and Regional Planning, Stockholm University, 1987.

**2. Degree of Doctor**

Ph.D. in Human and Economic Geography, Lund University, 1997. (*Bonden och landskapet. Markägares och brukares relationer till markerna och förutsättningarna för en uthållig markanvändning*) Supervisor: Nils Levan.

**3. Postdoctoral positions, year and placement.**

Dept. of Human and Economic Geography, Univ. of Gothenburg 1998-2001

**4. Qualification required for appointment as a docent, year.**

Associate professor in Human Geography, University of Gothenburg 2003

**5. Present position**

Professor in Human Geography, University of Gothenburg 2011-, 35% research granted in the position

**6. Previous positions**

Senior lecturer at the Dept. of Human and Economic Geography, Univ. of Gothenburg 2001-2011 (Employed until further notice since 2003)

**7. Interruptions in research.**

Head of Department, Dept. of Human and Economic Geography, Univ. of Gothenburg, 2007-09 (35%)

**8. Supervision**

Main supervisor for 8 PhD students. 3 have completed their PhD exam: Kristina Thorell 2008, Theophile Niyonzima 2009, Mattias Sandberg 2012. Co-supervisor in 2 ongoing PhD projects. Supervisor for 1 post doc, Mattias Sandberg (2013-15)

**9. Other information that is relevant to your application.****Research group**

Head of the research group *Nature-society relations in a landscape perspective*, <http://es.handels.gu.se/english/units/unit-for-human-geography/research/research-groups/environmental-research-group/>

**Research projects 2003 -**

- Vice programme director for the research programme "Outdoor recreation in change – Landscapes, Experiences. Planning and Development", and project leader for "Outdoor recreation and nature conservation". Swedish Environmental Protection Agency, 2006-2012.
- Project leader for "Outdoor recreation in coastal areas – monitoring qualities and managing conflicts. The case of Kosterhavet National Park". 2012-2016, Gothenburg Centre for Marine Research

- Member of the research team for the project "Woody or treeless pastures? Linking subsidy systems, farmers decisions and management for understanding biodiversity patterns." 2012-2014. Formas.
- Member of the research team for the project "Landscape diversity and the nature/culture divide" Swedish University of Agricultural Sciences, 2010-2012, Formas
- Member of the research team for the project "Rethinking agricultural land abandonment to create socially responsive and biodiverse landscapes". 2009-2011, Formas.
- Member of the research team for the project "Land use changes in urban pressure areas", Research council of Norway, 2009-2012.
- Member of the research team for the project "Management of suburban forests: Combining conservation of biodiversity and recreation". 2007-2009, Formas.
- Project leader for The process of implementation, in the MISTRA research program HagmarksMistra 2004-2008.
- Project leader for The general public and seminatural pastures, in the MISTRA research program Hagmarksmistra 2004-2008.
- Project leader and supervisor in the national aid-program for Rwandese PhD-students in Environmental geography 2003-2009. SIDA.
  
- Organizer of 1 international conference and 12 international seminars/workshops 2003-2013.

**Special commissions**

- \* Fellow of The Royal Swedish Academy of Agriculture and Forestry
- \* Member of FORMAS Scientific Council 2013-
- \* Vice President of The Permanent European Conference on the Study of the Rural Landscape (PECSRL), 2006 – 2012 , and member of the board 2012 -
- \* Member of the faculty board 2011-
- \* Member of the steering group for The Sven Lovén Centre for Marine Sciences, 2008-10
- \* Member of the national committee for UNESCO:s program "Man and the Biosphere", 2004 - 2008.
- \* Member of the Swedish Research Council's evaluation panel on Biodiversity, 2004 – 2006
- \* Member of the board for the research program Landskap i endring, at the Research Council of Norway, 2004-2006
- \* Member of the board for Mountain Mistra programme, 2003-2006.
- \* Faculty opponent at 2 occasions, opponent at licentiate seminar 2 times, member of the evaluation committee at a dissertation at 28 occasions and pre-opponent at 6 occasions
- \* Expert appointments, at 8 occasions; 3 docents, 4 lectureships and 1 research fellow
- \* Reviewer for International journal of Biodiversity Science and Ecosystem Service Management, Land Use Policy, Norsk Geografisk tidsskrift, Springers' Landscape series, Forest Ecology and Management, Landscape and Urban Planning, Landscape Research, Environmental Science and Policy, Journal of Land Use Science, Finnish Journal of Rural Policy Research, Scandinavian Journal of Hospitality and Tourism, Ambio, Geoforum

## Professional CV of Markus Fischer, 14 August 2014

**Address:** Institute of Plant Sciences, University of Bern,  
Altenbergrain 21, 3013 Bern, Switzerland  
Phone +41 31 631 4943,  
Secretary 4911, Fax 4942  
email: markus.fischer@ips.unibe.ch



**Date and place of birth:** 20 June 1962, Albstadt-Ebingen, Germany  
**Nationality:** German  
**Family status:** Unmarried

### Research interests

My main research foci are drivers and functional consequences of biodiversity change, the ecology and evolution of rare and invasive plants, conservation biology and work at the science-society and science-policy interfaces.

### Education

1982–1989 Studies in Physics, Technical University Munich, Germany  
1991–1992 Studies in Biology, University of Basel, Switzerland  
1993–1996 PhD, Institute of Botany, University of Basel, Switzerland; thesis title: Experimental population biology of the rare *Gentianella germanica*  
2001 Habilitation in Environmental sciences, especially Population Ecology, University of Zurich; Switzerland; thesis title: Population biology of herbaceous plants: ecology and genetics of life histories.

### Academic positions

1990 Research Associate, Department of Mechanical Engineering, University of Maryland, College Park  
1993–1996 Research Associate, Botanical Institute, University of Basel  
1996–2003 Assistant, Main Assistant, Institute of Environmental Sciences, Univ. of Zurich  
2003–2007 Full Professor of Botany and Community Ecology, Institute of Biochemistry and Biology, and Director of the Botanical Garden, University of Potsdam  
2007–2012 Guest Professor at the University of Potsdam  
2013– Guest researcher at the Senckenberg Biodiversity and Climate Institute BiK-F, Frankfurt, Germany  
2007– Full Professor of Plant Ecology, Institute of Plant Sciences, University of Bern  
2010– and Director of the Botanical Garden of the University of Bern

In addition:

2008–2011 Head, Biology Department, University of Bern  
2012–2014 Director, Institute of Plant Sciences, University of Bern

### Lecturing

1993– > 170 lectures at conferences and universities  
1997– About 40 supervised diploma/masters (<20) and PhD students (>20)  
1999– Courses taught: plant ecology, population biology, community ecology, conservation biology, experimental design and statistical analysis for ecologists, scientific writing practice, conservation and population genetics, general botany, systematic botany, including practicals, tutorials, and field courses.

### Reviewing and editorial activities

1996– > 200 reviews for many journals (articles)  
2002– Editorial board of Basic and Applied Ecology  
2009– Editorial board of Journal of Plant Ecology  
2009–2011 Editor (Plants, Europe and Africa), Biological Conservation  
2011– Editorial board of Biological Conservation  
2011– Editorial board of Alpine Botany

### Scientific and academic committees and societies

1996– Member, several international scientific societies  
1998– Organisation and co-organisation of >40 conferences and conference symposia  
1999– Head (Speaker), Plant Population Biology Section of the Society of Ecology GfÖ  
1999– Reviews of grant proposals submitted to British (NERC), Austrian (FWF), Swiss (SNF), German (DFG), Swedish (FORMAS), Belgian (FWO), and US American (NSF) Science Foundations  
2001– Opponent or Rapporteur in six Swedish, Finnish and French PhD exams  
2006– Speaker, DFG Priority Program 1374 (Biodiversity Exploratories)  
2007–2009 Member, Steering Committee of the Society of Ecology GfÖ  
2007– Member, professorial selection committees (Leipzig, Salzburg, Bern, Aarhus)  
2007– Member, Foundation Councils (Haller-Stiftung, Bern; Bretscher-Stiftung, Bern; Infloflora/ZDSF, Geneva)

|           |                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2008-     | Member, Advisory Board of Vision Landwirtschaft, Switzerland                                                                                                  |
| 2008-     | Member, since 2012 vice-chair, of Senate Committee for Biodiversity Research of the DFG (German Science Foundation)                                           |
| 2008–2011 | Member, Steering committee of DFG Research Unit: The role of biodiversity for element cycling and trophic interactions                                        |
| 2008-     | Vice-President (2008, 2012) and President (2009-2011) Swiss Botanical Society                                                                                 |
| 2009-     | Member, Fachkommission Naturschutz, Canton of Bern                                                                                                            |
| 2009–2016 | Member, Steering committee of DFG Research Unit: Kilimanjaro ecosystems                                                                                       |
| 2010-     | Scientific Head, Alpine Botanical Garden Schynige Platte                                                                                                      |
| 2010-2011 | Member, Council of Parkforschung Schweiz (A+, Swiss Academies)                                                                                                |
| 2010-     | Member, Council of DIVERSITAS Germany                                                                                                                         |
| 2010-     | Member, Marie-Heim Vögtlin Committee, Swiss National Science Foundation (President since 2013)                                                                |
| 2011-2013 | President, Forum Biodiversity, Swiss Academy of Sciences (Member since 2009)                                                                                  |
| 2012-     | Member, Steering Committee of the Global Mountain Biodiversity assessment (a cross-cutting project of DIVERSITAS)                                             |
| 2012-     | Member, National Research Council, Swiss National Science Foundation                                                                                          |
| 2014      | Member of IPBES expert groups toward a guide to the production and integration of assessments from and across all levels and for scoping regional assessments |

#### **Awards**

|      |                                                                                          |
|------|------------------------------------------------------------------------------------------|
| 1998 | John L. Harper Young Investigator's Prize, British Ecological Society                    |
| 2002 | Offer of an Associate (C3) Professorship in Population Biology, University of Regensburg |
| 2010 | Offer of a Full (W3) Professorship in Organismic Botany, University of Tübingen          |

#### **Larger ongoing projects** (total grant sum raised to date ~9 Mio € (= ~11 Mio CHF)

|           |                                                                                                                                                                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2006–     | Large-scale and long-term exploratories for functional biodiversity research (German Science Foundation DFG, project coordination and several subprojects, <a href="http://www.biodiversity-exploratories.de">www.biodiversity-exploratories.de</a> ) |
| 2008–2016 | DFG Research Unit: The role of tree and shrub diversity for production, erosion control, element cycling, and species conservation in Chinese subtropical forest ecosystems (Subproject on genetic diversity)                                         |
| 2008–2016 | DFG Research Unit: The role of biodiversity for element cycling and trophic interactions: an experimental approach in a grassland community (Subproject on plant diversity; with C. Roscher)                                                          |
| 2009–2016 | DFG Research Unit: Kilimanjaro ecosystems under global change: Linking biodiversity, biotic interactions and biogeochemical ecosystem processes (Subprojects on plant diversity and on coordination)                                                  |
| 2010–2015 | Functional significance of biodiversity in European forests (FunDivEUROPE); EU FP7 project (Subproject).                                                                                                                                              |
| 2010–2014 | Status and Trends of European Pollinators (STEP); EU FP7 project (Subproject)                                                                                                                                                                         |
| 2012–2015 | Ex-situ Erhaltung und Wiederansiedlung von gefährdeten Blütenpflanzen (Bundesamt für Umwelt)                                                                                                                                                          |

## List of publications by Markus Fischer, 14 August 2014

By 14 June 2014 the 154 of these publications listed in the ISI Web of Science were correctly cited 4360 times (average 28.7) and the h-index is 36 (See <http://www.researcherid.com/rid/C-6411-2008>). According to Google Citations my publications were correctly cited 6386 times with an h-index of 42 (See [http://scholar.google.com/citations?sortby=pubdate&hl=en&user=IXhKkcAAAAAJ&view\\_op=list\\_works](http://scholar.google.com/citations?sortby=pubdate&hl=en&user=IXhKkcAAAAAJ&view_op=list_works))

### 1. Peer-reviewed articles (original contributions)

Allan E., Bossdorf O., Dormann C.F., Prati D., Gossner M.M., Tschardt T., Blüthgen N., Bellach M., Birkhofer K., Boch S., Böhm S., Borschig C., Chatzinotas A., Christ, S., Daniel R., Diekötter T., Fischer C., Friedl T., Glaser K., Hallmann C., Hodac L., Holzel N., Jung K., Klein A.M., Klaus V.H., Kleinebecker T., Krauss J., Lange M., Morris E.K., Müller, J., Naeke H., Pasalic E., Rillig M.C., Rothenwohrer C., Schally P., Scherber C., Schulze W., Socher S.A., Steckel J., Steffan-Dewenter I., Turke, M., Weiner C.N., Werner M., Westphal C., Wolters V., Wubet T., Gockel S., Gorko M., Hemp A., Renner S.C., Schoning I., Pfeiffer S., König-Ries B., Buscot F., Linsenmair K.E., Schulze E.D., Weisser W.W., **Fischer M.** 2014. Interannual variation in land-use intensity enhances grassland multidiversity. *Proceedings of the National Academy of Sciences of the United States of America* 111 (1): 308-313.

Bornand C.N., Kéry M., Bueche L., **Fischer M.** 2014. Hide-and-seek in vegetation: time-to-detection is an efficient design for estimating detectability and occurrence. *Methods in Ecology and Evolution* 5: 433-442

Bruehlheide H., Nadrowski K., Assmann T., Bauhus J., Both S., Buscot f., Chen XY., Ding B., Durka W., Erfmeier A., Gutknecht J.L.M., Guo D., Guo LD., Härdtle W., He JS., Klein AM., Kühn P., Liang Y., Liu X., Michalski S., Niklaus P.A., Pei K., Scherer-Lorenzen M., Scholten T., Schuldt A., Seidler G., Trogisch S., Oheimb g., Welk E., Wirth C., Wubet T., Yang X., Yu M., Zhang S., Zhou H., **Fischer M.**, Ma K., Schmid B. 2014. Designing forest biodiversity experiments: general considerations illustrated by a new large experiment in subtropical China. *Methods in Ecology and Evolution* 5: 74-89.

Lange M., Türke M., Pašalić E., Boch S., Hessenmöller D., Müller J., Prati D., Socher S.A., **Fischer M.**, Weisser W.W., Gossner M. 2014. Effects of forest management on ground-dwelling beetles (Coleoptera; Carabidae; Staphylinidae) in Central Europe are mainly mediated by changes in forest structure. *Forest Ecology and Management* 329, 166-176

Egorov E., Prati D., Durka W., Michalski S., **Fischer M.**, Schmitt B., Blaser S., Brändle M. 2014. Does Land-Use Intensification Decrease Plant Phylogenetic Diversity in Local Grasslands? *PloS one* 9 (7), e103252

Dawson W., Bottini A., **Fischer M.**, van Kleunen M., Knop E., in press, *Oikos*. Little evidence for release from herbivores as a driver of plant invasiveness from a multi-species herbivore-removal experiment 2014

Foesel B.U., Nägele V., Naether A., Wüst P.K., Weinert J., Bonkowski M., Lohaus G., Polle A., Alt F., Oelmann Y., **Fischer M.**, Friedrich M.W., Overmann J. 2014. Determinants of Acidobacteria activity inferred from the relative abundances of 16S rRNA transcripts in German grassland and forest soils. *Environmental Microbiology* 16: 658-675

Keser L.H., Dawson W., Song Y.B., Yu F.H., **Fischer M.**, Dong M., van Kleunen M.. 2014. Invasive clonal plant species have a greater root-foraging plasticity than non-invasive ones. *Oecologia* 174: 1055-1064

Kleinebecker T., Hölzel N., Prati D., Schmitt B., **Fischer M.**, Klaus V.H. 2014. Evidence from the real world: 15N natural abundances reveal enhanced nitrogen use at high plant diversity in Central European grasslands. *Journal of Ecology* 102: 456-465

Morris E.K., Caruso T., Buscot F., **Fischer M.**, Hancock C., Maier T.S., Meiners T., Müller C., Obermaier E., Prati D., Socher S.A., Sonnemann I., Wäschke N., Wubet T., Wurst S., Rillig M.C. 2014. Choosing and using diversity indices: insights for ecological applications from the German Biodiversity Exploratories. *Ecology and Evolution*, in press.

Parepa M., **Fischer M.**, Krebs C., Bossdorf O. 2014. Hybridization increases invasive knotweed success. *Evolutionary Applications* 7: 413-420

Preukschas J., Zeiter M., **Fischer M.**, Stampfli A. 2014. Biotic resistance to plant invasion in grassland: Does seed predation increase with resident plant diversity? *Basic and Applied Ecology* 15: 133-141

Rottstock T., Joshi J., Kummer V., **Fischer M.** 2014. Higher plant diversity promotes higher diversity of fungal pathogens, while it decreases pathogen infection per plant. *Ecology* 95: 1907-1917.

Schwarz M.T., Bischoff S., Blaser S., Boch S., Schmitt B., Thieme L., **Fischer M.**, Michalzik B., Schulze E.D., Siemens J., Wilcke W. 2014. More efficient aboveground nitrogen use in more diverse Central European forest canopies. *Forest Ecology and Management* 313: 274-282.

van Kleunen M., Dawson W., Bossdorf O., **Fischer M.** 2014. The more the merrier: Multi-species experiments in ecology. *Basic and Applied Ecology* 15: 1-9

Weiss L., Pfestorf H., May F., Körner K., Boch S., **Fischer M.**, Müller J., Prati D., Socher S.A., Jeltsch F. 2014. Grazing response patterns indicate isolation of semi-natural European grasslands. *Oikos* 123: 599-612

Allan E., Jenkins T., Fergus A.J F., Roscher C., **Fischer M.**, Petermann J.S., Weisser WW, Schmid B. 2013. Experimental plant communities develop phylogenetically overdispersed abundance distributions during assembly. *Ecology* 94 (2): 465-477.

Allan E., Weisser W.W., **Fischer M.**, Schulze E.D., Weigelt A., Roscher C., Baade J., Barnard R.L., Beßler H.,

- Buchmann N., Buscot F., Ebeling A., Eisenhauer N., Engels C., Fergus A.J.F., Gleixner G., Gubsch M., Habekost M., Halle S., Klein A.M., König S., Kowalski E., Kreutziger Y., Kertscher I., Kummer V., Kuu A., Lange M., Lauterbach D., Le Roux X., Marquard E., Migunova V.D., Milcu A., Müller R., Mwangi P., Niklaus P.A., Oelmann Y., Petermann J.S., Poly F., Rottstock T., Rosenkranz S., Sabais A., Scherber C., Scherer-Lorezen M., Scheu S., Schmitz M., Schumacher J., Soussana J.F., Steinbeiss S., Schwichtenberg G., Temperton V., Tschardt T., Voigt W., Wilcke W., Wirth C. and Schmid, B. 2013. A comparison of the strength of biodiversity effects across multiple functions. *Oecologia* 173: 232-237.
- Baeten L., Verheyen K., Wirth C., Brulheide H., Bussotti F., Finer L., Jaroszewicz B., Selvi F., Valladares F., Allan E., Ampoorter E., Auge H., Avacariei D., Barbaro L., Barnoiaie I., Bastias C.C., Bauhus J., Beinhoff C., Benavides R., Benneter A., Berger S., Berthold F., Boberg J., Bonal D., Braggernann W., Carnol M., Castagnayrol B., Charbonnier Y., Checko E., Coomes D., Coppi A., Dalmaris E., Danila G., Dawud S.M., de Vries W., De Wandeler H., Deconchat M., Domisch T., Duduman G., **Fischer M.**, Fotelli M., Gessler A., Gimeno T.E., Granier A., Grossiord C., Guyot V., Hantsch L., Hattenschwiler S., Hector A., Hermy M., Holland V., Jactel H., Joly F.X., Jucker T., Kolb S., Koricheva J., Lexer M.J., Liebigesell M., Milligan H., Müller S., Muys B., Nguyen D., Nichiforel L., Pollastrini M., Proulx,R., Rabasa S., Radoglou K., Ratcliffe S., Raulund-Rasmussen K., Seiferling I., Stenlid J., Vesterdal L., von Wilpert K., Zavala M.A., Zielinski D., Scherer-Lorezen M. 2013. A novel comparative research platform designed to determine the functional significance of tree species diversity in European forests. *Perspectives in Plant Ecology Evolution and Systematics* 15 (5): 281-291.
- Blaser S., Prati D., Senn-Irlet B., **Fischer M.** 2013. Effects of forest management on the diversity of deadwood-inhabiting fungi in Central European forests. *Forest Ecology and Management* 304: 42-48.
- Boch S., Berlinger M., **Fischer M.**, Knop E., Nentwig W., Türke M., Prati D. 2013. Fern and bryophyte endozoochory by slugs. *Oecologia* 172 (3): 817-22.
- Boch S., Müller, J., Prati, D., Blaser, S., **Fischer M.** 2013. Up in the Tree - The Overlooked Richness of Bryophytes and Lichens in Tree Crowns. *Plos One* 8 (12): e84913.
- Boch S., Prati D., Hessenmöller D., Schulze E.D., **Fischer M.** 2013. Richness of Lichen Species, Especially of Threatened Ones, Is Promoted by Management Methods Furthering Stand Continuity. *PloS one* 8(1): e55461.
- Boch S., Prati D., Müller J., Socher S., Baumbach H., Buscot F., Gockel S., Hemp A., Hessenmoller D., Kalko E.K.V., Linsenmair K.E., Pfeiffer S., Pommer U., Schoening I., Schulze E.D., Seilwinder C., Weisser W.W., Wells K., **Fischer M.** 2013. Less High plant species richness indicates management-related disturbances rather than the conservation status of forests. *Basic and Applied Ecology* 14 (6): 496-505.
- Dostál P., Allan E., Dawson W., Kleunen M., Bartish I., **Fischer M.** 2013. Enemy damage of exotic plant species is similar to that of natives and increases with productivity. *Journal of Ecology* 101 (2): 388-399.
- Foesel B.U., Nägele V., Naether A., Wüst P.K., Weinert J., Bonkowski M., Lohaus G., Polle A., Alt F., Oelmann Y., **Fischer M.**, Friedrich M.W., Overmann J. 2013. Determinants of Acidobacteria activity inferred from the relative abundances of 16S rRNA transcripts in German grassland and forest soils. *Environmental Microbiology*: in press.
- Chrobok T., Weiner C.N., Werner M., Bluethgen N., **Fischer M.**, van Kleunen M. 2013. Effects of native pollinator specialization, self-compatibility and flowering duration of European plant species on their invasiveness elsewhere. *Journal of Ecology* 101 (4): 916-923.
- Chrobok T., Winiger P., **Fischer M.**, van Kleunen M. 2013. Title: The cobblers stick to their lasts: pollinators prefer native over alien plant species in a multi-species experiment. *Biological Invasions* 15 (11): 2577-2588.
- Kempel A., Chrobok T., **Fischer M.**, Rohr R.P., van Kleunen M. 2013. Determinants of plant establishment success in a multispecies introduction experiment with native and alien species *Proceedings of the National Academy of Sciences of the United States of America* 110 (31): 12727-12732.
- Kempel A., Nater P., **Fischer M.**, Kleunen M. 2013. Plant-microbe-herbivore interactions in invasive and non-invasive alien plant species. *Functional Ecology* 27(2): 498-508.
- Keser L.H., Dawson W., Song Y.B., Yu F.H., **Fischer M.**, Dong M., van Kleunen M. 2013. Invasive clonal plant species have a greater root-foraging plasticity than non-invasive ones. *Oecologia*: in press.
- Klaus V.H., Hoelzel N., Boch S., Müller J., Socher S.A., Prati D., **Fischer M.**, Kleinebecker T. 2013. Direct and indirect associations between plant species richness and productivity in grasslands: regional differences preclude simple generalization of productivity-biodiversity relationships. *Preslia* 85 (2): 97-112.
- Klaus V.H., Hoelzel N., Prati D., Schmitt B., Schoning I., Schumpf M., **Fischer M.**, Kleinebecker T. Organic vs. Conventional Grassland Management: Do N-15 and C-13 Isotopic Signatures of Hay and Soil Samples Differ? *Plos One* 8 (10): e78134.
- Klaus V.H., Kleinebecker T., Prati D., Gossner M.M., Alt F., Boch S., Gockel S., Hemp A., Lange M., Müller J., Oelmann Y., Pasalic E., Renner S.C. Socher S.A., Tuerke M., Weisser W.W., **Fischer M.**, Hoelzel N. 2013. Does organic grassland farming benefit plant and arthropod diversity at the expense of yield and soil fertility? *Agriculture Ecosystems & Environment* 177: 1-9.
- Latzel V., Allan E., Bortolini Silveira A., Colot V., **Fischer M.**, Bossdorf O. 2013. Epigenetic diversity increases the productivity and stability of plant populations. *Nature communications* 4: 2875.
- Luedtke B., Moser I., Santiago-Alarcon D., **Fischer M.**, Kalko E.K.V., Schaefer H.M., Suarez-Rubio M., Tschapka M., Renner S.C. 2013. Associations of Forest Type, Parasitism and Body Condition of Two European Passerines, *Fringilla coelebs* and *Sylvia atricapilla*. *Plos One* 8 (12): e81395.

- Müller J., Heinze J., Joshi J., Boch S., Klaus V.H., **Fischer M.**, Prati D. 2013. Influence of experimental soil disturbances on the diversity of plants in agricultural grasslands. *Journal of Plant Ecology*: in press.
- Parepa M., **Fischer M.**, Bossdorf O. 2013. Environmental variability promotes plant invasion. *Nature Communications* 4: 1604.
- Parepa M., **Fischer M.**, Krebs C., Bossdorf O. 2013. Hybridization increases invasive knotweed success. *Evolutionary Applications*: in press.
- Socher S.A., Prati D., Boch S., Müller J., Baumbach H., Gockel S., Hemp A., Schöning I., Well K., Buscot F., Kalko E.K.V., Linsenmair K.E., Schulze E.D., Weisser W.W., **Fischer M.** 2013. Interacting effects of fertilization, mowing and grazing on plant species diversity of 1500 grasslands in Germany differ between regions. *Basic and Applied Ecology* 14 (2): 126-136.
- Song Y.B., Yu F.H., Li J.M., Keser L.H., **Fischer M.**, Dong M., van Kleunen M. 2013. Plant invasiveness is not linked to the capacity of regeneration from small fragments: an experimental test with 39 stoloniferous species. *Biological Invasions* 15 (6): 1367-1376.
- Stein K., Templin M., Hensen I., **Fischer M.**, Matthies D., Schleuning M. 2013. Negative Effects of Conspecific Floral Density on Fruit Set of Two Neotropical Understory Plants. *Biotropica* 45(3): 325-332.
- van Kleunen M., Dawson W., Bossdorf O., **Fischer M.** 2013. The more the merrier: Multi-species experiments in ecology. *Basic and Applied Ecology*: in press.
- Zhang Y.Y., **Fischer M.**, Colot V., Bossdorf O. 2013. Epigenetic variation creates potential for evolution of plant phenotypic plasticity. *New Phytologist* 197(1): 314-322.
- Socher S.A., Prati D., Boch S., Müller J., Klaus V.H., Hölzel N., **Fischer M.** 2012. Direct and productivity-mediated indirect effects of fertilization, mowing and grazing on grassland species richness. *Journal of Ecology*: 100(6): 1391-1399.
- Müller J., Klaus V.H., Kleinebecker T., Prati D., Hölzel N., **Fischer M.** 2012. Impact of Land-Use Intensity and Productivity on Bryophyte Diversity in Agricultural Grasslands. *PloS one* 7(12): e51520.
- Pfester H., Weiß L., Müller J., Boch S., Socher S.A., Prati D., Schöning I., Weisser W., **Fischer M.**, Jeltsch F. 2012. Community mean traits as additional indicators to monitor effects of land-use intensity on grassland plant diversity. *Perspectives in Plant Ecology, Evolution and Systematics* 15(1): 1-11.
- Song Y.B., Yu F.H., Keser L.H., Dawson W., **Fischer M.**, Dong M., van Kleunen M. 2012. United we stand, divided we fall: a meta-analysis of experiments on clonal integration and its relationship to invasiveness. *Oecologia* 171 (2): 317-327.
- Völler E., Auge H., Prati D., **Fischer M.**, Hemp A., Bossdorf O. 2012. Geographical and land-use effects on seed-mass variation in common grassland plants. *Basic and Applied Ecology* 13(5): 395-404.
- Zeng X., Michalski S.G., **Fischer M.**, Durka W. 2012. Species diversity and population density affect genetic structure and gene dispersal in a subtropical understory shrub. *Journal of Plant Ecology* 5(3): 270-278.\*Naether A., Foesel B.U., Naegel V., Wüst P.K., Weinert J., Bonkowski M., Alt F., Oelmann Y., Polle A., Lohaus G., Gockel S., Hemp A., Kalko E.K., Linsenmair K.E., Pfeiffer S., Renner S., Schöning I., Weisser W.W., Wells K., **Fischer M.**, Overmann J., Friedrich M.W. 2012. Environmental factors affect acidobacterial communities below the subgroup level in grassland and forest soils. *Applied and Environmental Microbiology* 78(20): 7398-7406.
- \*Blüthgen N., Dormann C.F., Prati D., Klaus V.H., Kleinebecker T., Hölzel N., Alt F., Boch S., Gockel S., Hemp A., Müller J., Nieschulze J., Renner S.C., Schöning I., Schumacher U., Socher S.A., Wells K., Birkhofer K., Buscot F., Oelmann Y., Rothenwöhrer C., Scherber C., Tschamntke T., Weiner C.N., **Fischer M.**, Kalko E.K.V., Linsenmair K.E., Schulze E.D., Weisser W.W. 2012. A quantitative index of land-use intensity in grasslands: Integrating mowing, grazing and fertilization. *Basic and Applied Ecology*. 13:207-220.
- Fischer M.**, Weyand A., Rudmann-Maurer K., Stöcklin J. 2012. Omnipresence of leaf herbivory by invertebrates and leaf infection by fungal pathogens in agriculturally used grasslands of the Swiss Alps, but low plant damage. *Alpine Botany*: 1-13.
- Wubet T., Christ S., Schöning I., Boch S., Gawlich M., Schnabel B., **Fischer M.**, Buscot F. 2012. Differences in Soil Fungal Communities between European Beech (*Fagus sylvatica* L.) Dominated Forests Are Related to Soil and Understory Vegetation. *PloS one* 7(10): e47500.
- Dawson W., **Fischer M.**, van Kleunen M. 2012a. Common and rare plant species respond differently to fertilisation and competition, whether they are alien or native. *Ecology Letters* 15(8): 873-880.
- Dawson W., Rohr R.P., van Kleunen M., **Fischer M.** 2012b. Alien plant species with a wider global distribution are better able to capitalize on increased resource availability. *New Phytologist* 194(3): 859-867.
- Dostal P., Dawson W., van Kleunen M., Keser L.H., **Fischer M.** 2013. Central European plant species from more productive habitats are more invasive at a global scale. *Global Ecology and Biogeography* 22(1): 64-72.
- \*Weißhuhn K., Prati D., **Fischer M.**, Auge H. 2012. Regional adaptation improves the performance of grassland plant communities. *Basic and Applied Ecology*.
- Leimu R., Kloss L., **Fischer M.** 2012. Inbreeding Alters Activities of the Stress-Related Enzymes Chitinases and beta-1,3-Glucanases. *Plos One* 7(8).
- Latzel V., Zhang Y., Moritz K.K., **Fischer M.**, Bossdorf O. 2012. Epigenetic variation in plant responses to defence

hormones. *Annals of Botany* 110(7): 1423-1428.

Schuldt A., Bruelheide H., Durka W., Eichenberg D., **Fischer M.**, Krober W., Hardtle W., Ma K.P., Michalski S.G., Palm W.U., Schmid B., Welk E., Zhou H.Z., Assmann T. 2012. Plant traits affecting herbivory on tree recruits in highly diverse subtropical forests. *Ecology Letters* 15(7): 732-739.

Türke M., Andreas K., Gossner M.M., Kowalski E., Lange M., Boch S., Socher S.A., Muller J., Prati D., **Fischer M.**, Meyhofer R., Weisser W.W. 2012. Are Gastropods, Rather than Ants, Important Dispersers of Seeds of Myrmecochorous Forest Herbs? *American Naturalist* 179(1): 124-131.

Klaus V.H., Kleinebecker T., Boch S., Muller J., Socher S.A., Prati D., **Fischer M.**, Holzel N. 2012. NIRS meets Ellenberg's indicator values: Prediction of moisture and nitrogen values of agricultural grassland vegetation by means of near-infrared spectral characteristics. *Ecological Indicators* 14(1): 82-86.

Bruelheide H., Böhnke M., Both S., Fang T., Assmann T., Baruffol M., Bauhus J., Buscot F., Chen X.-Y., Ding B.-Y., Durka W., Erfmeier A., **Fischer M.**, Geißler C., Guo D., Guo L.-D., Härdtle W., He J.-S., Hector A., Kröber W., Kühn P., Lang A., Nadrowski K., Pei K., Scherer-Lorenzen M., Shi X., Scholten T., Schuldt A., Trogisch S., von Oheimb G., Welk E., Wirth C., Wu Y.-T., Yang X., Zeng X., Zhang S., Zhou H., Ma K., Schmid B. 2011. Community assembly during secondary forest succession in a Chinese subtropical forest. *Ecological Monographs* 81: 25-41.

Allan, E.; Weisser, W.; Weigelt, A.; Roscher, C.; **Fischer, M.**; Hillebrand, H. 2011: More diverse plant communities have higher functioning over time due to turnover in complementary dominant species. *Proceedings of the National Academy of Sciences USA* 108 (41), pp. 17034–17039.

**Fischer M.**, Weyand A., Rudmann-Maurer K., Stöcklin J. 2011. Adaptation of *Poa alpina* to altitude and land use in the Swiss Alps. *Alpine Botany* 121: 91-105.

Potts S.G., Biesmeijer J.C., Bommarco R., Felicioli A., **Fischer M.**, Jokinen P., Kleijn D., Klein A.-M., Kunin W.E., Neumann P., Penev L.D., Petanidou T., Rasmont P., Roberts S.P.M., Smith H.G., Sorensen P.B., Steffan-Dewenter I., Vaissière B.E., Vilà M., Vujic A., Woyciechowski M., Zobel M., Settele J., Schweiger O. 2011. Developing European conservation and mitigation tools for pollination services: approaches of the STEP (Status and Trends of European Pollinators) project. *Journal of Apicultural Research* 50: 152-164.

Klaus V.H., Kleinebecker T., Hölzel N., Blüthgen N., Boch S., Müller J., Socher S.A., Prati D., **Fischer M.** 2011. Nutrient concentrations and fibre contents of plant community biomass reflect species richness patterns along a broad range of land-use intensities among agricultural grasslands. *Perspectives in Plant Ecology, Evolution and Systematics* 13: 287-295.

Schleuning M., Templin M., Huamán V., Becker T., Durka W., **Fischer M.**, Matthies D. Effects of inbreeding, outbreeding, and supplemental pollen on the reproduction of a hummingbird-pollinated clonal Amazonian herb. *Biotropica* 43: 183-191.

Noël F., Prati D., van Kleunen M., Gyax A., Moser D., **Fischer M.** 2011. Establishment success of 25 rare wetland species introduced into restored habitats is best predicted by ecological distance to source habitats. *Biological Conservation* 144: 602-609.

Heinze E., Boch S., **Fischer M.**, Hessenmöller D., Klenk B., Müller J., Prati D., Schulze E.-D., Seele C., Socher S., Halle S. 2011. Habitat use of large ungulates in northeastern Germany in relation to forest management. *Forest Ecology and Management* 261: 288-296.

Chrobock T., Kempel A., **Fischer M.**, van Kleunen M. 2011. Introduction bias: Cultivated alien plant species germinate faster and more abundantly than native species in Switzerland. *Basic and Applied Ecology* 12: 244-250.

\*Kloss L., **Fischer M.**, Durka W. 2011. Land-use effects on genetic structure of a common grassland herb: A matter of scale. *Basic and Applied Ecology* 12: 440-448.

Boch S., Prati D., Werth S., Rüetschi J., **Fischer M.** 2011. Lichen Endozoochory by Snails. *Plos One* 6:4

Wells K., Böhm S.M., Boch S., **Fischer M.**, Kalko E.K.V. 2011. Local and landscape-scale forest attributes differ in their impact on bird assemblages across years in forest production landscapes. *Basic and Applied Ecology* 12: 97-106.

Nestmann S., Rajicic T.S., Dehmer K.J., **Fischer M.**, Schumacher J., Roscher C. 2011. Plant species diversity and composition of experimental grasslands affect genetic differentiation of *Lolium perenne* populations. *Molecular Ecology* 20: 2188-2203.

van Kleunen M., Schlöpfer D.R., Glaettli M., **Fischer M.** 2011. Preadapted for invasiveness: do species traits or their plastic response to shading differ between invasive and non-invasive plant species in their native range? *Journal of Biogeography* 38: 1294-1304.

Birkhofer K., Diekoetter T., Boch S., **Fischer M.**, Müller J., Socher S., Wolters V. 2011. Soil fauna feeding activity in temperate grassland soils increases with legume and grass species richness. *Soil Biology and Biochemistry* 43: 2200-2207

Raabova J., Munzbergova Z., **Fischer, M.** 2011. The role of spatial scale and soil for local adaptation in *Inula hirta*. *Basic and Applied Ecology* 12: 152-160.

Kempel A., Schädler M., Chrobock T., **Fischer M.**, van Kleunen M. 2011. Tradeoffs associated with constitutive and induced plant resistance against herbivory. *Proceedings of the National Academy of Sciences of the United States of America* 108: 5685-5689.

- Seifert B., **Fischer M.** 2010. Experimental establishment of a declining dry-grassland flagship species in relation to seed origin and target environment. *Biological Conservation* 143: 1202-1211.
- Scherber C., Eisenhauer N., Weisser W.W., Schmid B., Voigt W., **Fischer M.**, Schulze E.-D., Roscher C., Weigelt A., Allan A., Beßler H., Bonkowski M., Buchmann N., Buscot F., Clement L.W., Ebeling A., Engels C., Halle S., Kertscher I., Klein A.-M., Koller R., König S., Kowalski E., Kummer V., Kuu A., Lange M., Lauterbach D., Middelhoff C., Migunova V.D., Milcu A., Müller R., Partsch S., Petermann J.S., Renker C., Rottstock T., Sabais A., Scheu S., Schumacher J., Temperton V.M., Tschardt T., 2010. Bottom-up effects of plant diversity on biotic interactions in a biodiversity experiment. *Nature*, 468: 553-556.
- Dawson W., **Fischer M.**, van Kleunen M. 2010. Maximum relative growth rate of common UK plant species is positively associated with their global invasiveness. *Global Ecology and Biogeography* 20: 299-306.
- Schmidtke A., Rottstock T., Gaedke U., **Fischer M.** 2010. Plant community diversity and composition affect individual plant performance. *Oecologia*, 164: 665-677.
- Proulx R., Wirth C., Voigt W., Weigelt A., Roscher C., Attinger S., Baade J., Barnard R., Buchmann N., Buscot F., Eisenhauer N., Engels C., **Fischer M.**, Gleixner G., Halle S., Hildebrandt A., Kowalski E., Kuu A., Lange M., Marquard E., Milcu A., Niklaus P., Oelmann Y., Rosenkranz S., Sabais A., Scherber C., Scherer-Lorenzen M., Scheu S., Schulze E.-D., Schumacher J., Schwichtenberg G., Soussana J.-F., Temperton V., Tschardt T., Weisser W.W., Wilcke W., Schmid B.. Diversity Promotes Temporal Stability across Levels of Ecosystem Organization in Experimental Grasslands. *PLoS ONE* 5(10): e13382.
- Fischer M.**, Burkart M, Pasqualetto V & van Kleunen M 2010 Experiment meets biogeography: plants of river-corridor distribution are not more stress-tolerant but benefit less from more benign conditions elsewhere. *Journal of Plant Ecology* 3: 149-155.
- Fischer M.**, Bossdorf O., Gockel S., Hänsel F., Hemp A., Hessenmöller D., Korte G., Nieschulze J., Pfeiffer S., Prati D., Renner S., Schöning I., Schumacher U., Wells K., Buscot F., Kalko E.K.V., Linsenmair K.E., Schulze E.-D., Weisser W.W. Implementing large-scale and long-term functional biodiversity research: The Biodiversity Exploratories. *Basic and Applied Ecology*, 11: 473-485.
- Leimu R., **Fischer M.** Between-population outbreeding affects plant defence. *PLoS One* 5: e12614.
- van Kleunen M, Dawson W, Schlaepfer DR, Jeschke JM & **Fischer M** 2010 Are invaders different? A conceptual framework of comparative approaches for assessing determinants of invasiveness. *Ecology Letters* 13: 947-958. doi:10.1111/j.1461-0248.2010.01503.x.
- Nitschke N., Ebeling A., Rottstock T., Scherber C., Middelhoff C., Creutzburg S., Weigelt A., Tschardt T., **Fischer M.**, Weisser W.W. 2010 Time course of plant diversity effects on *Centaurea jacea* establishment and the role of competition and herbivory. *Journal of Plant Ecology* 3: 109-121.
- Odat N., Hellwig H., Jetschke G., **Fischer M.** 2010. On the relationship between plant species diversity and genetic diversity of *Plantago lanceolata* (Plantaginaceae) within and between grassland communities. *Journal of Plant Ecology* 3: 41-48.
- Schlaepfer D.R., Glaetli M., **Fischer M.**, van Kleunen M. 2010. A multi-species experiment in their native range indicates pre-adaptation of invasive alien plant species. *New Phytologist* 185: 1087-1099.
- Marquard E., Weigelt A., Temperton V.M., Roscher C., Schumacher J. Buchmann N., **Fischer M.**, Weisser, W.W., Schmid B. 2009. Plant species richness and functional composition drive overyielding in a six-year grassland experiment. *Ecology* 90: 3290-3302.
- Van Kleunen M., **Fischer M.** 2009. Release from foliar and floral fungal pathogen species does not explain the geographic spread of naturalized North American plants in Europe. *Journal of Ecology* 97: 385-392.
- Raabová J., Münzbergová Z., **Fischer M.** Consequences of near and far between-population crosses for offspring fitness in a rare herb *Plant Biology* 11: 829-836.
- Raabová J, **Fischer M**, Münzbergová Z. 2008. Niche differentiation between diploid and hexaploid *Aster amellus*. *Oecologia* 158(3): 463-472.
- Leimu R, Kloss L; **Fischer M.** 2008. Effects of experimental inbreeding on herbivore resistance and plant fitness: the role of history of inbreeding, herbivory and abiotic factors. *Ecology Letters* 11(10): 1101-1110.
- Stein C., Auge H., **Fischer M.**, Weisser W.W., Prati D. 2008 Dispersal and seed limitation affect diversity and productivity of montane grasslands. *Oikos* 117: 1469-1478.
- Fischer M.**, Rottstock T., Marquard E., Middelhoff C., Roscher C., Temperton V.M., Oelmann Y., Weigelt A. et al. 2008. L'expérience de Jena démontre les avantages de la diversité végétale pour les prairies agricoles. *Fourrages* 195: 275-286.
- Bowman G., Perret C., Hoehn S., Galeuchet D.J., **Fischer M.** 2008. Habitat fragmentation and adaptation: a reciprocal replant-transplant experiment among 15 populations of *Lychnis flos-cuculi* L. *Journal of Ecology* 96: 1056-1064.
- Rudmann-Maurer K., Weyand A., **Fischer M.**, Stöcklin J. 2008. The role of land use and natural determinants for grassland vegetation composition in the Swiss Alps. *Basic and Applied Ecology* 9(5): 494-503.
- van Kleunen M., Meier A., Saxenhofer M., **Fischer M.** 2008. Support for the predictions of the pollinator-mediated stabilizing-selection hypothesis. *Journal of Plant Ecology* 1(3): 173-178

**Fischer M.**, Winkler E., Schmid, B. 2008. Simulating the evolution of a clonal trait in plants with sexual and vegetative reproduction. *Journal of Plant Ecology* 1(3): 161-171.

van Kleunen M., **Fischer M.** 2008 Adaptive rather than non-adaptive evolution affects *Mimulus guttatus* in its invasive range. *Basic and Applied Ecology* 9: 213-223.

## 2. Reviews (peer-reviewed journals)

van Kleunen M, Weber E, **Fischer M.** 2010. A meta-analysis of trait differences between invasive and non-invasive plant species. *Ecology Letters* 13: 235-245.

Leimu R, **Fischer M.** 2008. A meta-analysis of local adaptation in plants. *PLOS One* 3(12): e4010

**Fischer M.**, Rudmann-Maurer K., Weyand A., Stöcklin J. 2008. Agricultural land use and biodiversity in the Alps: how cultural tradition and socio-economically motivated changes are shaping grassland biodiversity in the Swiss Alps. *Mountain Research and Development* 28: 148-155.

Leimu R, **Fischer M.** 2008. A meta-analysis of local adaptation in plants. *PLOS One* 3(12): e4010

van Kleunen M., **Fischer M.** 2007. Progress in the detection of costs of phenotypic plasticity in plants. *New Phytologist*, 176: 727-730.

van Kleunen M. **Fischer M.** 2005. Constraints on the evolution of adaptive phenotypic plasticity in plants. *New Phytologist* 166: 49-60.

**Fischer M.**, van Kleunen M. 2001. On the evolution of clonal plant life histories. *Evolutionary Ecology* 15: 565-582.

## 3. Books and peer-reviewed book chapters

**Fischer M.** 2012. Faszination, Bedeutung, Zustand und Zukunft unserer Lebensgrundlage : eine Einführung in Fragen der biologischen Vielfalt. In Beck E. (ed.) *Die Vielfalt des Lebens: wie hoch, wie komplex, warum?* Wiley-VCH: 3-9.

**Fischer M.**, Kalko E.K.V., Linsenmair K.E., Pfeiffer S., Prati D., Schulze E.D., Weisser W.W. 2010. Exploratories for large-scale and long-term functional biodiversity research In Müller F., Baessler C., Schubert H., Klotz, S. (eds) *Long-term ecological research – between theory and application*. Springer: 429-443.

Stöcklin J., Bosshard A., Klaus G., Rudmann-Maurer K., **Fischer M.** 2007. Landnutzung und biologische Vielfalt in den Alpen – Fakten, Perspektiven, Empfehlungen. vdf Verlag, Zürich, Switzerland. Also printed in French as:

Stöcklin J., Bosshard A., Klaus G., Rudmann-Maurer K., **Fischer M.** 2007. Utilisation du sol et diversité biologique dans les Alpes: faits, perspectives, recommandations. vdf Verlag, Zürich, Switzerland.

## 4. Other pertinent publications

Gunter J., Lachat T., Pauli D., **Fischer M.** 2013. Area required for the preservation of biodiversity and ecosystem services in Switzerland (in German only, German title: **Flächenbedarf für die Erhaltung der Biodiversität und der Ökosystemleistungen in der Schweiz**). Forum Biodiversity Switzerland, Swiss Academy of Sciences (SCNAT), Bern, Switzerland. 234 pages.

**Fischer M.** 2011. Biodiversität benötigt Fläche – Naturschutzbiologische Grundlagen. *Hotspot* 24: 17-19.

**Fischer M.** 2011. Integrative Biodiversitätsforschung in Deutschland. *VDL-Journal* 3/2011: 12-13.

Pfeiffer S, Gockel S, Hemp A, Wells K, Prati D, Nieschulze J, Kalko EKV, Buscot F, Linsenmair KE, Schulze E-D, Weisser WW, **Fischer M.** 2010. Exploratories for Functional Biodiversity Research. In *Atlas of Biodiversity Risk*. Settele J, Penev L, Georgiev T, Grabau R, Grobelsnik V, Hammen V, Klotz S, Kotarac M, Kühn I (eds.). Pensoft, Sofia, Moscow, 26-29.

Bossdorf O., Parepa M. and **Fischer M.** 2010. Climate-neutral ecology conferences: just do it. *Trends in Ecology and Evolution* 25: 61.

**Fischer M.**, Edwards P., Gessner M., Körner C., Müller-Schärer H., Nentwig W., Pauli D., Scheidegger C., Schmid B., Walter T. (Arbeitsgruppe des Forum Biodiversität der SCNAT) 2010. Zukunft Biodiversitätsforschung Schweiz: Herausforderungen, Potenziale, Visionen, Roadmap. Ein Strategiepapier zuhanden der Schweizerischen Forschungsförderung.

Marquard E., **Fischer M.** 2010. Ökologische Biodiversitätsforschung in Deutschland - Ein Überblick. *Diversitas-Deutschland*.

Prati D., **Fischer M.** 2009. Darwin's Erben: die Evolution der Evolutionstheorie. *Hotspot* 19: 16-17

Pfeiffer S, Bernert P., Grossmann M., Henne E., Kalko E.K.V., Linsenmair K.E., Prati D., Schulze E.-D., Weisser W.W., **Fischer M.** 2008. Exploratorien für funktionelle Biodiversitätsforschung. In: *Naturschutz und Ökologie – Ausgewählte Beiträge zur GfÖ-Jahrestagung 2007 in Marburg*. (Eds) V. Wolters & A. Krüss, ISBN 978-3-7843-3960-3 *Naturschutz und Biologische Vielfalt* 60: 183-188.

**Fischer M.** 2008 Book review: *Plant-Pollinator Interactions: From Specialization to Generalization*, N.M. Waser, J. Ollerton (Eds.). University of Chicago Press, Chicago, London (2006). *Basic and Applied Ecology* 9: 92.

**Fischer M.**, Beck E., Boetius A., Gemeinholzer B., Hillebrand H., Weisser W.W. 2008. Zukunft der deutschen Biodiversitätsforschung - Ein Strategiepapier für das Forum für Forschungsförderung der Allianz der Deutschen Wissenschaftsorganisationen. (This paper initiated the foundation of the DFG Forschungszentrum für Integrative Biodiversitätsforschung and of the German National Biodiversity Data Repository)

Pfeiffer S, Gockel S, Hemp A, Wells K, Prati D, Nieschulze J, Kalko EKV, Buscot F, Linsenmair KE, Schulze E-D, Weisser WW, **Fischer M.** 2010. Exploratories for Functional Biodiversity Research. In *Atlas of Biodiversity Risk*. Settele J, Penev L, Georgiev T, Grabau R, Grobelnik V, Hammen V, Klotz S, Kotarac M, Kühn I (eds.). Pensoft, Sofia, Moscow, 26-29.

**Fischer M.** 2008 Book review: Plant-Pollinator Interactions: From Specialization to Generalization, N.M. Waser, J. Ollerton (Eds.). University of Chicago Press, Chicago, London (2006). Basic and Applied Ecology 9: 92.

**Fischer M.**, Kuss P., Stöcklin J. 2007. Neophytische Opuntien im Sukkulantenbusch auf Teneriffa. *Bauhinia* 20: 35-44.

**Fischer M.**, Stöcklin J., Weyand A., Maurer K. 2004. Cultural and biological diversity of grasslands in the Swiss Alps. *Grassland Science in Europe* 9: 293-295.

**Fischer M.** 2003. Trockenwiesen und die funktionelle Kaskade der Biodiversität. *Bauhinia* 17: 58-59.

**Fischer M.**, Schütz W., Koch M., Bernhardt K.-G. 2003. Special feature: Plant population biology in a multidisciplinary context. *Basic and Applied Ecology* 4: 285-286.

**Fischer M.** 2002. Positive biodiversity-production relationships: towards mechanisms. *Trends in Ecology and Evolution* 17: 61 (invited commentary).

**Fischer M.** 2001. Landscape dynamics can accelerate metapopulation extinction. *Trends in Ecology and Evolution* 16: 225-226 (invited commentary).

**Fischer M.** 2000. Species loss after habitat fragmentation. *Trends in Ecology and Evolution* 15: 396 (invited commentary).

**Fischer M.** 1998. Über die Ursachen der Gefährdung lokaler Pflanzenpopulationen. *Bauhinia* 12: 9-22.

**Fischer M.**, Schmid B. 1998. Die Bedeutung der genetischen Vielfalt für das Überleben von Populationen. *Laufener Seminarbeiträge* 98: 23-30.

## CURRICULUM VITAE

JUDITH S WEIS

Professor, Dept. of Biological Sciences  
 Rutgers University, Newark NJ 07102  
 (973) 353-5387 Fax: (973) 353-5518  
 E-mail: jweis@andromeda.rutgers.edu

## Education:

| <u>Institution</u>           | <u>City</u>   | <u>Dates</u> | <u>Subject</u> |
|------------------------------|---------------|--------------|----------------|
| Bronx High School of Science | New York      | 1954-58      |                |
| Cornell University           | Ithaca NY     | 1958-62      | Zoology B.A.   |
| Marine Biological Lab.       | Woods Hole MA | 1961         | Marine Ecology |
| New York University          | New York      | 1962-64      | Biology M.S.   |
| New York University          | New York      | 1964-67      | Biology Ph.D.  |

## Scholarships and Fellowships

|                                                 |         |
|-------------------------------------------------|---------|
| New York State Regents Scholarship              | 1958-62 |
| Cornell Regents Scholarship                     | 1958-62 |
| National Science Foundation Graduate Fellowship | 1962-63 |
| N.S.F. Cooperative Graduate Fellowship          | 1963-64 |
| N.Y.U. Graduate Faculty Tuition Scholarship     | 1965-66 |
| N.Y. State College Teaching Fellowship          | 1966-67 |
| Congressional Science Fellowship, AAAS & ASZ    | 1983-84 |

## Honors:

Phi Beta Kappa, Phi Kappa Phi, Dean's List, Honors Program, Sigma Xi, N.Y.U. Founder's Day Award, Outstanding Young Women of America, Who's Who in the East, Who's Who of American Women, Supplemental Salary Adjustment Awards, Elected Fellow of AAAS, 1985, Governor's Science Advisory Committee, N.J., President's Council of Cornell Women, Marine Board of the National Research Council 1991, Environmental Award from Accabonac Protection Committee, 1996.

Rutgers Class of 1962 Presidential Public Service Award, 2003-2004,

Fulbright Senior Specialist - Visit to Indonesia (Hasanuddin University, Makassar, South Sulawesi) May 2006

Chancellor's Award for Faculty Community Research 2008

## Employment:

| <u>Title</u>        | <u>Institution</u>             | <u>Dates</u> |
|---------------------|--------------------------------|--------------|
| Lab Assistant       | Woods Hole Oceanographic Inst. | Summer 60    |
| Lecturer            | Hunter College, NYC            | 1964-67      |
| Assistant Professor | Rutgers Univ., Newark          | 1967-71      |
| Associate Professor | Rutgers                        | 1971-76      |
| Professor           | Rutgers                        | 1976-        |

|                                 |                                |                |
|---------------------------------|--------------------------------|----------------|
| Visiting Scientist              | Florida Atlantic Univ.         | 1975-76        |
| Visiting Scientist              | Southampton College NY         | Summers '80-99 |
| Congressional Science Fellow    | U.S. Senate                    | 1983-84        |
| Associate Dean-Academic Affairs | Rutgers                        | Jan85 -Jun86   |
| Program Director                | National Science Foundation    | 1988-90        |
| Visiting Scientist              | EPA Laboratory, Gulf Breeze FL | 1992           |
| Visiting Scientist              | EPA Ocean & Coastal Protection | 1993           |

Member of Rutgers Graduate Programs in Biological Sciences, Ecology, Toxicology, Environmental Science

Developer and Coordinator of Science, Technology & Society Program (STS) between Rutgers and NJ Institute of Technology  
Curriculum Development for Environmental Science Program

Associate Dean for Academic Affairs: overall responsibility for non-salaried budget and coadjutant hiring, curriculum, space, planning, program evaluations, faculty grievance procedures, acts as Deputy Dean when Dean of Faculty is not available.

Congressional Science Fellow: Legislative Assistant for the Environment and Public Works Committee. Analyzed policy, researched background information and scientific data for decision-making, participated in planning legislation and hearings, met with interested groups, and drafted floor statements. Specific areas: Safe Drinking Water Act, Clean Water Act, acid rain, pesticides, hazardous wastes, toxic substances, biotechnology, ground water.

Program Director, National Science Foundation, Division of Undergraduate Science, Engineering and Mathematics Education: Responsible for undergraduate education efforts in the field of biology and environmental science, including programs for faculty, students, curriculum development, laboratory development, and instrumentation; much program planning and grant administration, coordination with other divisions within NSF, and interaction with scientists in the academic community.

Courses Taught at Rutgers:

General Biology, Animal Ecology & Evolution, Marine Biology, Embryology, Human Sexuality, Environmental Issues, Intro. to Women's Studies, Topics in Science Technology & Society: Toxic Substances. Graduate Courses: Regeneration, Ichthyology, Biology of Pollution, Topics in Marine Ecology.

Service to Rutgers:

|                                                |                |
|------------------------------------------------|----------------|
| Curriculum Committee, Department               | 1969-70        |
| Delegate Assembly, AAUP                        | 1970-71        |
| Chair, Dept. Seminar Committee                 | 1970-71        |
| Senate ad hoc Committee on the Status of Women | 1971-72        |
| Planning Committee, College                    | 1971-72, 76-77 |

|                                                                   |                  |
|-------------------------------------------------------------------|------------------|
| Student Affairs Committee, College                                | 1971-72          |
| Chair, Student Affairs Committee                                  | 1972-73          |
| Executive Comm. Zoology Graduate Program                          | 1972-73          |
| Dean's Advisory Committee on Equal Opportunity                    | 1973             |
| Phi Beta Kappa Elections Committee                                | 1973             |
| Director, Graduate Program in Zoology                             | 1973-75          |
| Courses of Study Committee, College                               | 1974-75          |
| Review Committee, College                                         | 1977-79          |
| Director, Women's Studies Program                                 | 1978-79          |
| College Honors Council                                            | 1980-83          |
| Grievance Committee, College                                      | 1980-81          |
| Steering Committee, Women in Science Conference                   | 1980-81          |
| Admissions Committee, Graduate School                             | 1980-82          |
| Admissions Committee, Graduate Program                            | 1980-82,93-      |
| Appointments & Promotions Committee, College                      | 1981-82, 2004-05 |
| Chair, Appointments and Promotions Committee                      | 1984-85          |
| Biomedical Research Grants Awards Committee, Univ.                | 1983             |
| Marine Science Committee, University                              | 1984-87          |
| Search Committee for Director of Marine Science Inst.             | 1986-87          |
| Secretary, Zoology Section, University                            | 1984-85          |
| Curriculum Committee, College                                     | 1986-87          |
| Search Committee for Women's Studies Director                     | 1987-88          |
| University Industrial Hygiene and Toxicology Comm.                | 1990-91          |
| University Biosafety Committee                                    | 1993-            |
| Provost's Committee on Athletics and Recreation                   | 1995-96          |
| Departmental Search Committee s                                   | 1996,97,98,02    |
| Advisory Committee for Water Resources Research Inst.             | 1997-            |
| Advisory Committee to Center for Urban Restoration Ecology (CURE) | 2000-            |
| University Senate                                                 | 2003-2004        |

#### Professional Societies:

American Society of Zoologists (ASZ) (SICB), Estuarine Research Federation (ERF), American Inst. of Biological Sciences (AIBS), Association for Women in Science (AWIS), American Fisheries Soc. (AFS), Ecological Society of America (ESA), Society of Environmental Toxicology & Chemistry (SETAC), American Association for the Advancement of Science (AAAS)

#### Professional Society Activities:

|                                                    |               |
|----------------------------------------------------|---------------|
| Public Affairs Committee, Amer. Soc. of Zoologists | 1980-82,84-90 |
| Chair, Public Affairs Comm. ASZ                    | 1986-88,90-91 |
| Equal Opportunity Committee, ASZ                   | 1983-85       |
| Congressional Fellow Comm. ASZ                     | 1985-90       |
| ASZ Delegate to AIBS Council                       | 1983, 89-     |
| Awards Committee, Amer. Fisheries Soc.             | 1975-76       |
| Certification Committee, AFS                       | 1980-81       |

|                                                              |                        |
|--------------------------------------------------------------|------------------------|
| Environmental Concerns Comm., AFS                            | 1982-83                |
| Chair, Equal Opportunity Comm. AFS                           | 1982-83                |
| Public Responsibilities Comm. AIBS                           | 1984-92                |
| Congressional Fellow Comm. AIBS                              | 1984-91                |
| Chair, Congression Fellow Comm., AIBS                        | 1991                   |
| Governing Board, AIBS                                        | 1986-88,90-92, 1997-99 |
| Chair, Awards Committee, AIBS                                | 1998                   |
| AIBS Delegate to Agric. Biotech. Research Advisory Comm.     | 1988-90                |
| Chair, Technical Review Comm. SETAC Chapter                  | 1985,86                |
| Government Affairs Comm. SETAC                               | 1985-92                |
| Education Committee, SETAC                                   | 1986-92                |
| Governing Board, SETAC                                       | 1990-1993              |
| Co-chair, Society Relations Comm. SETAC                      | 1991-95                |
| Publications Committee, SETAC                                | 1992-95                |
| Awards Comm. NJ Academy of Sciences                          | 1985                   |
| Public Affairs Committee, Ecological Society                 | 1987-93, 94-97         |
| Ad Hoc Committee on Women & Minorities, E.S.A.               | 1989-92                |
| Committee on Women & Minorities, AIBS                        | 1991-94                |
| Member-at-Large, Biology Section Committee, AAAS             | 1992-96                |
| Chair-Elect, Chair, and past chair Biology Section AAAS      | 1998-2001              |
| Chair, Awards Committee AIBS                                 | 1998                   |
| President-Elect, President, and past President AIBS          | 2000-2003              |
| Councillor (Board Member) Assoc. for Women in Science (AWIS) | 2003-06                |
| Chair, Communications Committee, AIBS                        | 2003                   |
| Human Resources Committee, AIBS                              | 2005                   |

#### Society Meeting Presentations:

NJ Academy of Sciences 1969, 78, 81  
 Amer. Soc. of Zoologists 1968,71,78,79 (session chair),80,82,95  
 Amer. Assoc. of Anatomists 1969, 77, 78, 81, 82  
 Atlantic Estuarine Research Soc. 1976, 81, 82  
 Estuarine Research Federation 1983, 85, 87, 89, 91, 93,95,97,99,03  
 Soc. of Environ. Toxic. & Chem 1981, 83-01  
 Ecological Society of America 1992, 93, 98, 05  
 Natl. Assoc. for Science, Technology & Society 1989, 90  
 Coastal Society 1992  
 Shallow Water Conference 1994-6  
 Wetlands Regulatory Workshop 2000

#### Seminars Presented:

Dept. of Biology, N.Y.U. 1974.  
 Dept. of Anatomy, N.Y. Medical College, 1974.  
 Dept. of Biological Sciences, Florida Atlantic U. 1976.  
 Harbor Branch Foundation, Ft. Pierce, FL 1976.  
 New York Ocean Sciences Lab, Montak 1976.  
 Chesapeake Biol. Lab, Solomons MD 1977.  
 U.S. E.P.A. Narragansett R.I. 1978.

Dept. of Biology, Seton Hall Univ. 1980.  
 Marine Science Research Center SUNY Stony Brook 1980.  
 Biology Dept., Hofstra Univ. 1981.  
 Biology Dept. Ramapo College 1981.  
 Biology Dept. CCNY 1982.  
 Biology Dept., Ohio Univ., Athens 1982.  
 Biology Dept., Rutgers New Brunswick 1982.  
 Biology Dept. Rutgers Camden 1983.  
 Natl. Oceanic & Atmospheric Admin. Seattle 1983.  
 Natl. Bureau of Oceanography, Beijing China 1983.  
 Dalian Inst. of Environmental Protection, Dalian China 1983.  
 Second Inst. of Oceanography, Hangzhou China 1983.  
 South China Sea Inst. of Oceanography Guangzhou China 1983.  
 Honors Program Colloquium, Rutgers 1983.  
 Chesapeake Biological Lab. Solomons MD 1983.  
 U.S. E.P.A. Washington DC 1983.  
 Dept. of Biology, Georgetown Univ. 1984.  
 Dept. of Biology, George Washington Univ. 1984.  
 N.I.H. Graduate Course in Environmental Toxicology 1984-93.  
 Dept. of Ecology & Evolution SUNY Stony Brook 1984.  
 Women in Science & Engineering EPA Chapter 1984.  
 Dept. of Zoology, Rutgers 1984.  
 Marine Science Dept., Univ. Connecticut 1984.  
 Environmental Biology & Public Policy Prog., George Mason U. 1985  
 Dept. of Ecology & Behavioral Biology, U. Minnesota 1985.  
 Assoc. of Women in Science, Minneapolis Chapter 1985.  
 Biology Dept., York College CUNY 1985.  
 Center for Coastal & Environ. Studies, Rutgers, 1986.  
 Biology Dept. Fairleigh Dickinson Univ. 1986.  
 Environmental Science Program, N.J.I.T. 1987.  
 DuPont Corp. Wilmington 1987.  
 Toxicology Program Rutgers  
 U.S. E.P.A. Region III Phila. 1988.  
 Bergen County Wildlife Center 1988  
 Council of Botany/Plant Science Chairs, Purdue 1988.  
 Natl. Assoc. of Biology Teachers, Chicago 1988.  
 Univ. of Kentucky, Biology Dept. 1988, 89.  
 ENVIRON Corp Washington DC 1989.  
 Cornell University Environmental Toxicology Program 1989.  
 U.S. E.P.A. Ecological Research Needs Workshop 1989.  
 Dept. of Zoology, Univ. of Wisconsin 1990.  
 A.I.B.S. Council 1990.  
 Dept. of Bioscience, Drexel Univ. 1990.  
 Dept. of Environmental Science, Cook College 1990.  
 Dept. of Biology, Univ. of Mississippi 1990.  
 Savannah River Ecology Lab 1991.  
 SUNY Stony Brook Marine Sciences Research Center 1991.

SUNY College of Environmental Science & Forestry 1991.  
 SUNY Buffalo 1991.  
 Cornell U. 1991.  
 Univ. of Delaware Marine Lab 1991.  
 US EPA Gulf Breeze 1992.  
 Barnard College, NY, 1992.  
 Gulf Coast Research Lab, MS, 1992  
 Dauphin Island Marine Lab, AL, 1992  
 Biology Dept. George Mason Univ. VA , 1992  
 Ecology Program, Rutgers 1993  
 US EPA, Washington 1993  
 Rider College, 1993  
 University of Illinois 1993  
 University of Massachusetts, 1995  
 Essex County College 1995  
 Smithsonian Environmental Research Center 1996  
 Haskin Shellfish Lab., Rutgers 1996  
 Passaic County College, 1997  
 Ecology & Evolution Program, Rutgers New Brunswick 1999  
 US EPA, Research Triangle Park, NC 1999  
 Biosphere2, (Columbia Univ.) Arizona, 1999  
 Wetlands Institute, Stone Harbor NJ 2000  
 Connecticut College 2000  
 U. California, Davis, Environmental Toxicology Program 2001  
 U. California Davis – Bodega Marine Lab 2001  
 City College, CUNY 2001  
 Delaware Center for Inland Bays 2001  
 Operation Wallacea, Hoga Indonesia 2002  
 US EPA Pesticides Office 2002  
 NOAA Sandy Hook Laboratory 2003  
 Wilkes College 2003 (Annual Grace Kimball Memorial speaker)  
 JP Morgan-Chase Lincoln/Douglass Debates – Symposium speaker 2003  
 NJIT Environmental Science Program 2004  
 Sandy Hook Assoc. for Research & Education – Benthic Workshop 2004  
 Fairleigh Dickenson Univ. Biology Department 2004  
 Meadowlands Environmental Research Inst. May 2005  
 Life Sciences Department, Louisiana State Univ. March 2006  
 Hasanuddin Univ., Makassar, South Sulawesi, Indonesia May 2006  
 Sam Ratulangi Univ. Manado, North Sulawesi, June 2006  
 NJIT Dept. of Environmental Science, March 2008  
 Columbia Univ. Population Biology Seminar April 2008  
 Woods Hole Oceanographic Inst. May 2008  
 NOAA Laboratory, Sandy Hook NJ April 2009  
 Dept. of Biology, Fairleigh Dickinson University Sept. 2009  
 NOAA and EPA Offices in New York City Oct. 2009  
 Hudson River Foundation Nov. 2009  
 Montclair State University Dec. 2009

### Participation in Conferences:

New Alternatives for Women Science Graduate Students. NSF and Univ. of Arizona 1977.  
 Symposium on Environmental Pollutants, Univ. of CT and Natl. Research Council. Storrs CT 1977  
 Energy and Environmental Stress in Aquatic Ecosystems. Savannah River Ecology Lab, Augusta 1977.  
 Pollution & Physiology of Marine Organisms. Belle Baruch Inst & Natl. Marine Fish. Serv., S. Carolina 1977.  
 Panel of Women Scientists for Rutgers U. Training inst. for sex desegregation 1978.  
 Symposium on early life history of fishes. Int. Council for Exploration of the seas. Woods Hole MA 1979.  
 Estuarine Research Federation, Jekyll Is. GA 1979,  
 Fifth Aquatic Toxicology Symp. ASTM, 1979 (paper won award).  
 Water Conference, Ramapo College 1980  
 Pollution & Physiology of Marine Organisms, S. Carolina 1981  
 Heavy Metals in the NJ Environment. NJ Acad. Sciences 1982  
 Meaningful Measures of Marine Pollutant Effects NOAA, Pensacola FL 1982.  
 Fourth Internatl. Ocean Disposal Symp. Plymouth UK 1983.  
 AAAS Symp. of Heavy Metals and Aquatic Organisms, Detroit 1983.  
 Chair of "Contaminant Burdens and Indicator species health," 2nd Northeast Monitoring Program workshop NOAA 1983.  
 Pollution & Physiology of Marine Organisms, Mystic CT 1983  
 Workshop of National marine pollution research and monitoring issues, NOAA, Easton MD 1984.  
 Fifth Internatl. Ocean Disposal Symp, Corvallis OR 1984.  
 Amer. Soc. Zoologists panel on "Political influence and science policy." Baltimore MD 1985.  
 Gordon Research Conference on Chemical-biological interactions in estuaries, Plymouth NH. 1986.  
 Speaker and session chair.  
 EPA Workshop on finfish as indicators of toxic contamination. Airlie, VA 1986.  
 Batelle Workshop on Alternate approaches to toxicity testing: utility of non-mammalian organisms. Columbus OH 1986.  
 International Organotin Symposium, Halifax NS 1987.  
 Discussion Leader, "Environmental Gridlock" Conf. NJ 1988  
 EPA Workshop on Ecological Research Needs, Seattle WA 1989  
 Natl. Assoc. of State Univ. and Land Grant Colleges, Wash. DC, 1989. Urban impacts on coastal water quality.  
 Panel on "Science Literacy," ASZ Boston, MA 1989  
 Panel on "Biologists as Activists," ASZ Boston MA 1989  
 Panel on "Empowering Women in a Technological World." Technological Literacy Conference. Wash DC Feb 1990.  
 Workshop on "Sediment Genotoxicity," U.S. Army Engineer Waterways Experiment Station, Vicksburg Mar. 1990.  
 Roundtable on Environmental Internships, Philadelphia Mar. 1990  
 International Conference on "Metals in Soils, Waters, Plants and Animals" Orlando FL 1990.  
 Conference on Undergraduate Biology Curricula, Butler Univ., Indianapolis IN, July 1990.  
 Conf. on Marine and Estuarine Diseases, Pensacola FL, Oct. 1990  
 Conference on Environmental Science Programs, Guelph Ontario, Nov. 1990.  
 Workshop on Whole Animal Toxicity Testing, Wash. D.C. Nov. 1990

### Chesapeake Research Consortium

Discussant in "The Compleat Crab" Symposium, ASZ San Antonio 1990  
 Panel on "Science Policy for Women in Science: Lessons from historical and contemporary case studies." AAAS, Washington 1991.  
 Panel Discussion on Scientific Misconduct, AAUP 1991  
 Panel on Protecting Long Island's Estuaries, Southampton 1991  
 Symposium "Ecology Education for Undergraduates: Current Perspectives and Future Directions" Ecological Soc. of Amer., 1991  
 Conference on Environmental Values and the Liberal Arts College, Moorhead, MN, Oct. 1991.  
 Coastal Wetland Ecology and Management Symposium, New Orleans LA, 1991  
 Conference for Women Graduate Students on "Science Careers in the 1990's." AWIS, N.Y.C. 1991.  
 National Conference on the National Institutes for the Environment, Washington D.C. May 1992.  
 Sigma Xi University Colloquium on Environmental Research & Education, Raleigh, N.C. Sept. 1992.  
 Forest Products Society meeting on "Environmental Considerations in the use of Pressure Treated Wood Products," May 1993.  
 Strategic Planning Workshop for Women and Minorities - ESA, June 93.  
 "Pellston Workshop" on Sustainable Environmental Management Aug 93  
 Science and Management in Marine & Estuarine Shallow Water Environments, US EPA and others March 1994, April 1995  
 "Unusual Low Dose Responses" session at Society of Toxicology, March, 1994.  
 "Critical Issues in Assessing Ecological Risk" California EPA Jan. 1995  
 International Larval Fish Conference, Sydney, Australia, June 1995  
 Fisheries and Pollution - Population-level effects of Marine Contamination. Baltimore MD Oct. 1995  
 NSF Women and Science Conference, Dec. 1995  
 "Endocrine Disruption by Chemicals" EPA Workshop, May 1996  
 Atlantic Coast Fishery Managers' Habitat Workshop, June 1996  
 Fisheries and Pollution Conference, Bodega Bay, CA Nov. 1996  
 European Union, Chemical Toxicology Workshop, Italy, May 1999  
 Mercury as a Global Pollutant, Rio de Janeiro, May 1999  
 Pellston Workshop on Complex Stressors in Ecosystems SETAC, Sept. 1999  
 Wetland Symposium, Univ. of Mississippi May 2000  
 National Conference on Science, Policy and The Environment, Washington DC Dec. 2000  
 Chair of breakout session on Environmental Indicators  
*Phragmites*: A sheep in wolf's clothing? Cumberland County Coll. NJ Jan. 2002  
 Strategic Planning Workshop, USGS Fish Health Research Lab., WV. Feb. 2002  
 Workshop on Overwater Structures and Treated Wood. US Fish and Wildlife, Olympia WA 2002  
 Our Hudson Home - Liberty Science Center, Jersey City Dec. 2002  
 Newark Bay – Raritan Bay – Sandy Hook Workshop 2003  
 Workshop on Grass Shrimp as an Estuarine Indicator NOAA May 2003  
 Environmental Impacts of Pressure-Treated Wood, Orlando FL Feb. 2004  
 6<sup>th</sup> International Congress on the Biology of Fishes, Manaus Brazil Aug. 2004  
 Ecological Society of America Aug 2005  
 Invited Speaker – Women Evolving Biological Sciences, U. Washington Oct. 2008  
 Invited Keynote Speaker – World Oceans Congress, Manado Indonesia May 2009

## External Grants

Effects of methylmercury on development: its interactions with natural environmental factors and other heavy metals.

NOAA Office of Sea Grant, 1977-79

Professional and related services relative to establishment of a statewide listing of bioassay organisms.

NJ Dept. of Environmental Protection 1977-78.

A comprehensive monitoring and assessment program for selected heavy metals and organic contaminants in NJ aquatic fauna.

NJ Dept. of Environmental Protection via NJ Marine Science Consortium 1978-79.

Tolerance to methylmercury in Newark Bay area killifish, Fundulus heteroclitus.

NOAA Office of Sea Grant 1980-83.

Monitoring effects of pollution on regeneration and ecdysis in Cancroid crabs.

NOAA Ocean Pulse Program. 1982

Effects of environmental factors on methylation and release of mercury from Berrys Creek sediments and its uptake by killifish (Fundulus heteroclitus).

NJ Dept. of Environmental Protection 1982-83.

Cadmium tolerance in the killifish Fundulus heteroclitus.

NIH Minority Biomed. Research Support (Assoc. Inv.) 1984-87

Chemical-Biological interactions between fish and treated municipal waste water. (co-P.I.)

NOAA Office of Sea Grant 1986-89.

Effects of diflubenzuron on the fiddler crab, Uca pugnator.

NJ Dept. of Environmental Protection 1986-87

Development of Science, Technology & Society (STS) Courses

NJ Dept. of Higher Education 1986-87 and 87-88.

Development of the STS Faculty at Rutgers Newark and N.J.I.T.

NJ Dept. of Higher Education 1986-87 and 87-88.

Effects of tributyltin (TBT) on the mummichog, Fundulus heteroclitus.

N.J. Marine Sciences Consortium 1987-88.

Effects of heavy metal pollutants on feeding behavior of Fundulus heteroclitus.

NJ Marine Sciences Consortium 1987-88.

Effects of tributyltin on the mummichog, Fundulus heteroclitus.

NIH Minority Biomed. Research Support (Assoc. Inv) 1987-90

A Lectureship on A.I.D.S.

G.T.E. Lectureship on Science, Technology & Values 1988-89

Effects of mercury on burrowing behavior of the fiddler crabs Uca pugnax and U. minax and their effect on the marsh ecosystem.

NJ Marine Sciences Consortium 1988-89.

Effects of mercury on the predator-prey relationship between Fundulus heteroclitus and Palaemonetes pugio.

NJ Marine Science Consortium 1988-89.

Effects of the Arthur Kill oil spill on behavior, regeneration, and molting in fiddler crabs.

NJ Mar. Sci. Consort. 1990-91.

Biological assays of chromium copper arsenate-treated wood and its recycled plastic alternative in marine organisms.

Plastics Recycling Foundation 1990-91

Biological assays of treated wood and its recycled plastic alternative.

NOAA Sea Grant 1990-91  
 A Workshop in Undergraduate Environmental Science Education.  
 Educational Foundation of America, Shell Oil Foundation, and EPA, 1991.  
 Impacts of CCA Pressure-treated wood structures in estuaries.  
 US Geological Survey, Water Resources Prog. 1991-92, 92-93  
 Effects of CCA wood structures in estuaries. NOAA Sea Grant 1992-3  
 Coastal Environment and Pressure-Treated Wood.  
 PADI Fndn. 1993-4  
 Effects of CCA wood on estuarine benthos  
 NJ Sea Grant 1994  
 Benthic Impacts of wood treated with chromated copper arsenate (CCA) in Estuaries.  
 NOAA National Estuarine Research Reserves System, 1994-95  
 Bioavailability and benthic effects of chemicals leached from pressure-treated wood in estuaries.  
 U.S.D.A. 1994-96 (co- P.I.)  
 Impacts of CCA Pressure-treated wood structures in Chesapeake Bay.  
 MD and VA Sea Grant Toxics Program, 1995-97  
 Trophic transfer of contaminants from organisms attached to chromated copper arsenate treated wood to their consumers: a field study.  
 NOAA Sea Grant (NJ Sea Grant Program) 1996-97  
 Effects of CCA wood docks and boating activity on shellfish in NJ waters.  
 NJ Department of Environmental Protection 1996-97.  
 Fish as a model system for behavioral teratology.  
 NIH Minority Biomedical Research Support Program 1995-99  
 Pollution and predator/prey interactions in estuaries.  
 USGS Water Resources Research Program 1996-99  
 Wetland plants' roles in uptake and transport of heavy metals and remediation.  
 NSF 1998-2001  
 ROA Supplement to the above grant 2000  
 Meadowlands Environmental Research Institute.  
 Hackensack Meadowlands Development Commission. 1998-2003 P.I. N Adams.  
 Habitat and nutritional value of the invasive marsh plant Phragmites australis for estuarine animals, as compared with that of Spartina alterniflora.  
 USGS Water Resources Research Program 1999-2000  
 Effects of CCA treated wood walkways on salt marshes.  
 Delaware Center for Inland Bays 2001  
 Saltmarsh Biocomplexity Incubation Grant (co-I) NSF 2001-2002. M Levandowsky, PI.  
 Eight Day Swamp: Assessment of metal contamination and benthic biodiversity. P. Weis, PI  
 MERI 2001-2003  
 Diet and Reproductive Health of White Perch in the Meadowlands. MERI 2002-2004  
 Fish use of intertidal areas in the Wakatobi Marine Park, Indonesia Operation Wallacea 2002  
 Behaviour of different fiddler crab species in Wakatobi Marine Park. Operation Wallacea 2002  
 Effects of trophic transfer of contaminants in young-of-the-year bluefish. NOAA 2003-2005  
 Effects of extremely high levels of gill parasites on killifish. Meadowlands Env. Research Inst. 2005-2006  
 Trophic transfer of contaminants and mechanisms of behavioral effects on juvenile bluefish from the Hackensack River. MERI 2006-2007  
 Behavior of blue crabs in contaminated environments. MERI 2007-08

Soil Metals and Plant Communities at Liberty State Park, NJ Dept. Environmental Protection  
2007-2008

Wetlands and Water Quality Assessment – MERI 2007-2008

Growth of Blue Crabs in the Hackensack Meadowlands – MERI 2008-2009

RUF AIR Professorship: Advancing Women in Science at Rutgers-Newark. Newark component of  
NSF Advance Grant to Rutgers University 2009-2011

Behavior of fiddler crabs in the Meadowlands MERI 2009-2010

#### Review Panels:

|                                                                                                                  |                   |
|------------------------------------------------------------------------------------------------------------------|-------------------|
| Panel for NSF Graduate Fellowships                                                                               | 1976,77, 03,05,06 |
| Chair, Panel for NSF Graduate Fellowships                                                                        | 1978,79,82        |
| EPA Environmental Biology Grant Review Panel                                                                     | 1984-90           |
| EPA Water Ecology Centers Program Review Panel                                                                   | 1991              |
| NOAA Sea Grant Site Visit Review for Mass.                                                                       | 1986              |
| EPA Distinguished Visiting Scientist review panel                                                                | 1987,88           |
| EPA EMAP Ecological Indicators Award review panel                                                                | 1993              |
| EPA Peer Reviewer for Ecological Risk Assessment                                                                 | 1990              |
| EPA Peer Reviewer for Gulf Breeze Laboratory                                                                     | 1990              |
| NSF Faculty Enhancement Program                                                                                  | 1991              |
| NSF Instrumentation and Laboratory Improvement                                                                   | 1992              |
| NIH Minority Biomedical Res. Support, TN State                                                                   | 1992              |
| EPA Science Advisory Board Committee to review papers or Scientific & Tech. Achievement Awards                   | 1993-2002         |
| EPA SAB Subcommittee on Sediment Toxicity                                                                        | 1993              |
| Advisory Committee to Superfund Project of Minority Health Professions, Assoc. Toxic Substances Disease Registry | 1992-98           |
| 1993-NASA Panel- Grad. Student Fellowships on Global Change                                                      | 1993              |
| EPA Peer Review for EMAP/ University Partnership Agreement                                                       | 1994              |
| NOAA Peer Review of Coastal Ocean Program Proposals.                                                             | 1994              |
| NOAA Sea Grant Review Panel for Nonindigenous Species                                                            | 1997              |
| NRC/Ford Foundation Predoct. Minority Fellowships                                                                | 1996,97           |
| Endocrine Disruptors Screening and Testing Advisory Committee to EPA                                             | 1996-98           |
| Workshop on developing Biological Field Station, U. Mississippi                                                  | 1997              |
| National Sea Grant Review Panel, NOAA                                                                            | 1998-2009         |
| National Review Panel- Project on Economic Evaluation of Ocean Sector                                            | 1999-2000         |
| AAAS/Canon Graduate Fellowships for Research in National Parks                                                   | 1999              |
| EPA “Star” Graduate Fellowship Review Panel                                                                      | 2000-07           |
| EPA Reviewer for Alabama Center for Estuarine Studies                                                            | 2004              |
| EPA SAB Committee on Aquatic Life Criteria                                                                       | 2005              |
| EPA Air Quality Criteria Development for Pb – Ecological Effects                                                 | 2005              |
| EPA SAB Committee: Review of “State of the Environment 2007”                                                     | 2007              |
| NIH SCORE Research Review                                                                                        | 2008              |
| EPA SAB Committee Review of “State of the Environment 2011”                                                      | 2009-             |
| Pew Trust Review of Aquaculture Indicators                                                                       | 2009              |
| Fulbright Senior Specialists Fellowship Review Panel                                                             | 2009              |

## Reviewing:

|                                                           |                                    |
|-----------------------------------------------------------|------------------------------------|
| Manuscripts for Estuaries                                 | 1978,79,93,94,96, 97, 09           |
| Manuscripts for Florida Scientist                         | 1978                               |
| Ms. for <u>Biological Monitoring of Marine Pollutants</u> | 1980                               |
| Ms. for Marine Ecology Progress Series                    | 1983, 2004, 2009                   |
| Ms for Marine Pollution Bulletin                          | 2005, 2008                         |
| Ms. for Arch. Environ. Contam. Toxicol.                   | 1983,86,87,88,89,92,94,97          |
| Ms. for ASTM Aquatic Toxicology Symposium                 | 1985                               |
| Ms. for U.S. Office of Technology Assessment              | 1985,86,87                         |
| Ms. for Journal of Crustacean Biology                     | 1986,93,94,97,98                   |
| Ms. for <u>Marine Pollution and Physiology</u>            | 1986                               |
| Ms. for J. Experimental Zoology                           | 1987,88,89,02                      |
| INFORM Report on Toxic Pollution in the Hudson River      | 1987                               |
| Ms for Ecological Applications                            | 2001                               |
| Ms. for BioScience                                        | 1988,89,04,06                      |
| Ms. for Environmental Toxicology & Chemistry              | 1988,92,94,96,97,98,99,02,03,04,05 |
| Ms. for Neurotoxicology and Teratology                    | 1990,93                            |
| Ms. for Marine Biology                                    | 1990, 97,02, 07                    |
| Ms for Environmental Research                             | 1994,95,98,01                      |
| Ms for Comparative Biochem. & Physiology                  | 1997, 04, 08                       |
| Ms for J. Exper. Marine Biol. Ecol.                       | 1997,98,99,00,02                   |
| Ms for J. Fish Biol.                                      | 1998, 04,05                        |
| Ms for Marine Environmental Research                      | 1991,98,06                         |
| Ms for Marine Ecology Progress Series                     | 2008                               |
| Ms for The Environmental Professional                     | 1991                               |
| Ms for Critical Reviews in Toxicology                     | 1992                               |
| Ms for Science, Technology & Human Values                 | 1992                               |
| Ms for Environmental Health Perspectives                  | 1994, 95,2000,05,08                |
| Ms for Estuarine, Coastal Shelf Science                   | 1997,04, 09                        |
| Ms for Science of the Total Environment                   | 2002,2004                          |
| Ms for Amer. Soc. Testing and Materials                   | 1998                               |
| Ms for J. Toxicology and Environmental Health             | 2000                               |
| Ms for Environmental Biology of Fishes                    | 2000, 2002,04, 05                  |
| Ms for Transactions of the American Fisheries Society     | 2000, 2001,2004                    |
| Ms for Restoration Ecology                                | 2000                               |
| Ms for Wetland Ecology and Management                     | 2002                               |
| Ms for Pharmacology Biochemistry and Behavior             | 2001                               |
| Ms for Environ. Sci. Tech.                                | 2001, 03, 04, 05                   |
| Ms for Water, Air and Soil Pollution                      | 2002                               |
| Ms for J. of Soil and Water Conservation                  | 2005                               |
| Ms for Aquatic Toxicology                                 | 2002,03,04,05,06                   |
| Ms for Environmental Management                           | 2003, 05                           |
| Ms for New Zealand J. of Marine & Freshwater Res.         | 2003                               |
| Ms for Proc. Nat. Acad. Sci.                              | 2003                               |
| Ms for Comparative Biochem. Physiol.                      | 2003,06                            |
| Ms for J. Shellfish Res.                                  | 2004                               |

|                                                                                                   |                  |
|---------------------------------------------------------------------------------------------------|------------------|
| Ms for Ecological Restoration                                                                     | 2004             |
| Ms for Ecotox & Environmental Safety                                                              | 2004,05,06,07    |
| Ms for J. Aquatic Animal Health                                                                   | 2004             |
| Ms for Environment International                                                                  | 2004             |
| Ms for Chemosphere                                                                                | 2005,06          |
| Ms for Environmental Pollution                                                                    | 2005             |
| Ms for J. Environ. Qual.                                                                          | 2005             |
| Ms for Estuaries and Coasts                                                                       | 2007             |
| Ms for North Amer. J. Aquaculture                                                                 | 2007             |
| Ms for Oikos                                                                                      | 2008             |
| Ms for Marine Ecology                                                                             | 2009             |
| Book, <u>Biosphere</u> , for Rutgers Univ. Press                                                  | 1990             |
| Book, <u>Biogeochemical Cycles</u> , for Acad. Press                                              | 1990             |
| Book, <u>Modern Biology</u> , for Holt Rinehart & Winston                                         | 1996             |
| Chapter in book, <u>Biogeochemistry and Environmental Change</u><br>for American Chemical Society | 1991             |
| Grants for NOAA Sea Grant                                                                         | 1978,80,85,86,99 |
| Grants for NSF Applied Biology                                                                    | 1980             |
| Grants for NSF Biotic Systems & Resources                                                         | 1982,86,87,88    |
| Grant for NSF Ecological Physiology                                                               | 1994,95,04       |
| Grants for NSF Ecology                                                                            | 2000,02,03       |
| Grant for NSF Behavior                                                                            | 2005, 06         |
| Grants for NSF/EPA Water & Watersheds                                                             | 1997             |
| Grants for NSF Polar Programs                                                                     | 2005, 06         |
| Grant for NSF Hydrology                                                                           | 2006             |
| Grant for NSF International Programs                                                              | 2009             |
| Grants for AWIS Educational Foundation                                                            | 1983-            |
| Grants for Grad. Women in Science                                                                 | 2002             |
| Grants for US Geological Survey                                                                   | 1985-86,94       |
| Grants for US Dept. of Energy                                                                     | 1985,88          |
| Grants for CUNY Research Foundation                                                               | 1986,96,99,00    |
| Grant for Great Lakes Research Consortium                                                         | 1991             |
| Grants for EPA EPSCoR Program                                                                     | 1993             |
| Grant for Hudson River Foundation                                                                 | 1994, 99, 05     |
| Grant for Wisconsin Sea Grant                                                                     | 1994,95          |
| Grant for Natl. Environ. Res. Council, UK                                                         | 1996             |
| Grant for NOAA Fisheries S-K Program                                                              | 1996             |
| Grant for Maryland Sea Grant                                                                      | 1997             |
| Grant for NC Sea Grant                                                                            | 2000             |
| Grant for Long Island Sound program                                                               | 2000             |
| Grant for NOAA Coastal Ocean Program                                                              | 2000             |
| Grant from Natl. Res.Council Collaboration on Basic Science & Engin.                              | 2000             |
| Grant for NOAA ECOHAB Program                                                                     | 2001             |
| Grant for Educational Foundation of America                                                       | 2001             |
| Grants from CALFED                                                                                | 2002             |
| Grants for Coastal Response Research Center UNH                                                   | 2004             |
| Grant for NSF                                                                                     | 2004,2005, 2009  |

|                                                                                                            |               |
|------------------------------------------------------------------------------------------------------------|---------------|
| Grant for US Civilian Research and Development Foundation                                                  | 2005          |
| Grant for Amherst College Faculty Research Program                                                         | 2006          |
| Grant for NSERC – Canada National Science & Engineering Research Council                                   | 2008          |
| EPA Document on release of genetically engineered organisms                                                | 1989          |
| EPA documents on algal toxicity testing                                                                    | 1986,89       |
| EPA Risk Assessment for Land Application of Pulp and Paper Mill Sludge                                     | 1991          |
| EPA Criteria for Utilization of Municipal Waste Combustion Residues in Concrete Medium Marine Applications | 1992          |
| EPA Aquatic Life Criteria for Acrolein                                                                     | 2008          |
| Proposals for symposia for AAAS Meeting,                                                                   | 1996,97,98,99 |
| EPA Graduate Fellowships                                                                                   | 1996          |
| Great Lakes Ballast Technology Demonstration Proj.                                                         | 1996          |
| EPA Biocriteria for Estuaries                                                                              | 1998          |
| Proctor and Gamble                                                                                         | 1982          |
| National Wildlife Federation re marine pollution                                                           | 1982          |
| SUNY Stony Brook re sex equity                                                                             | 1984          |
| EPA Office of Policy, Planning & Evaluation                                                                | 1984-85       |
| Evaluator, Biology Dept. Millersville U. PA                                                                | 1985          |
| Environmental Defense Fund re tributyltin paint                                                            | 1986          |
| Environmental Defense Fund re pesticides in groundwater                                                    | 1988          |
| NY Academy of Sciences - NY Bight Initiative                                                               | 1987          |
| Evaluator, Biology Dept. West. Connecticut State Univ.                                                     | 1988          |
| Evaluator, Biology Program, Southern Illinois Univ.                                                        | 1989          |
| Natl Resources Defense Council - sewage effluent toxicity                                                  | 1990          |
| Evaluator, Envir. Science Prog. U. Maine, Machias                                                          | 1991          |
| Science Advisory Committee to NYC DEP re Pelham landfill                                                   | 1991-93       |
| Evaluator, Envir. Science Prog. Mid Tennessee State U.                                                     | 1992, 1997    |
| Evaluator, Savannah River Ecology Lab, U. Georgia                                                          | 1992          |
| Evaluator, Biology Dept., Slippery Rock State U. PA                                                        | 1992          |
| Evaluator, Environmental Studies Prog., U.N.C. Asheville                                                   | 1995          |
| Site visitor, NSF Educational Programs, Northern AZ Univ.                                                  | 1995          |
| Reviewer of California Sea Grant Program                                                                   | 1998          |
| Biosphere2 - Columbia University                                                                           | 1999          |
| South Florida Water Management District on Everglades Restoration Plan                                     | 1999          |
| Reviewer of Virginia Sea Grant Program                                                                     | 1999          |
| Reviewer of Ohio Sea Grant Program                                                                         | 2000          |
| Battelle, for their Endocrine Disruptor screening program                                                  | 2001          |
| Reviewer of Puerto Rico Sea Grant Program                                                                  | 2001          |
| The VSA Group, Env. Consultants                                                                            | 2003          |
| Reviewer of Univ. New Hampshire Sea Grant Prog.                                                            | 2003          |
| Reviewer of Hawaii Sea Grant Program                                                                       | 2003          |
| Reviewer of Texas Sea Grant Program                                                                        | 2004          |
| Reviewer of Florida Sea Grant Program                                                                      | 2005          |
| Reviewer of Puerto Rico Sea Grant Program                                                                  | 2006          |
| Review Committee for Canada DFO Aquaculture Chemicals Document                                             | 2009          |

Meeting Organization:

The N.Y. Bight and its estuarine ecosystems: state of health. AAAS Meeting, N.Y.C. 1984  
 Pollution Tolerance: who, what, where, when, and how. AAAS Meeting, N.Y.C. 1984  
 Annual Meeting Co-Chair, SETAC Hudson-Delaware Chapter  
     Hazardous Wastes, Environmental Effects & Management 1985  
     New Perspectives in Water Quality, 1986  
 Pollution and Physiology of Marine Organisms, S.C. Planned and chaired session on "Relevance of physiological effects data to setting of Water Quality Criteria," 1985  
 Organizer of Panel Discussion at A.S.Z. on "Research Funding in the Age of Gramm-Rudman" Nashville TN, 1986.  
 Organizer of Panel Discussion at A.S.Z. on "Animal Use Issues and Zoological Research" New Orleans LA, 1987.  
 Planning Committee for Conference "The Biotechnology Explosion: Controversies for the Future." NJ, 1988.  
 Organizer of Panel Discussion at ASZ on "Biologists and the Media" San Antonio TX, 1990.  
 Workshop Organizer - "Undergraduate Environmental Science Programs." AIBS Meeting, San Antonio 1991  
 Pollution, Habitat and Marine Conservation Biology - Soc. for Conservation Biology, 1997, Victoria B.C.  
 Alien Invasions!: Impacts and control of non-indigenous species - AAAS 1999  
 Exotic/Invasive Wetland Species. Estuarine Research Federation, 1999  
 The Art and Science of Wetland Restoration AAAS Washington DC 2000  
 Evolution: Understanding Life on Earth AIBS Washington DC 2002  
 Sea Grant Activities in Ecosystem Based Management – International Marine Conservation Conference, Fairfax VA 2009  
 Sea Grant Focus on Sustainable Coastal Ecosystems: Restoration Coastal & Estuarine Research Federation. Nov. 2009 Portland OR

#### Editing:

Associate Editor, Transactions Amer. Fisheries Society 1979-81  
 Book Review Editor, BioScience 1984-95  
 Editorial Board, Bulletin of Environmental Contamination and Toxicology 1991-97  
 Editorial Board, Fish and Fisheries Res. (on-line) 1996  
 Associate Editor, Bull. Environ. Contam. Toxicol 1997-  
 Guest Editor, Northeastern Naturalist 1999  
 Editorial Board, BioScience 2003-  
 Ecology Editor, Ecology of Earth (on line) 2006-  
 Assoc. Editor, Journal of Marine Biology 2008-

#### Theses Written Under my Direction:

Teratogenic effects of the insecticides DDT, carbaryl, malathion and parathion on developing medaka eggs (*Oryzias latipes*). Howard Mark Solomon 1977 Ph.D.  
 Environmental effects on growth and fin regeneration in Poeciliid fishes. Edmund John Zimmerer 1980 Ph.D.  
 The life history and ecology of the eastern mudminnow (*Umbra pygmaea*) with notes on ecological and zoogeographic relationships to the central mudminnow (*Umbra limi*).  
     Frank Michael Panek 1981 Ph.D.  
 Comparative embryonic methylmercury susceptibility and reproductive biology in two populations

- of mummichog (*Fundulus heteroclitus*). Margarete Ann Heber 1981 M.S.
- Differences in regeneration rate and response to methylmercury in fiddler crabs, *Uca pugnax*, from a polluted vs non-polluted environment. Patrick F. Callahan 1982 M.S.
- Effects of polluted water and methylmercury on fin regeneration and swimming stamina of killifish (*Fundulus heteroclitus*): A comparison of two populations. Mark S. Renna 1982 M.S.
- Factors and mechanisms affecting the toxicity of methylmercury to the killifish, *Fundulus heteroclitus*. Swati Vaidya Toppin 1985 Ph.D.
- Differences in tolerance to mercury between two populations of grass shrimp, *Palaemonetes pugio*. Mark L. Kraus 1986 Ph.D.
- Effects of mercury on fertilization success of sperm and eggs of two populations of killifish, *Fundulus heteroclitus*. Abu T. Khan 1987 Ph.D.
- The relative effects of tidal currents, seston, and bottom sediments on individual growth of *Mercenaria mercenaria*, an infaunal suspension-feeding bivalve mollusc. Raymond E. Grizzle 1988 Ph.D.
- Biological versus physical control of stream fish communities: deterministic or stochastic regulation. Richard Cerri 1991, Ph.D.
- Effects of mercury and naphthalene on behavior, regeneration, and molting in fiddler crabs, *Uca pugnax*, from polluted and unpolluted environments. Judith Grebel 1995 Ph.D.
- Effects of leachates from pressure-treated wood in freshwater environments. William Romeo 1995 MS (NJIT)
- Mercury teratogenesis and uptake in mummichog (*Fundulus heteroclitus*) embryos. David Alan Harpell 1996 MS (NJIT)
- Population genetics of *Fundulus heteroclitus* in the NY/NJ estuaries. Nicolay Mugue 1996, Ph.D.
- Size-structure and population of *Palaemonetes pugio* and interactions with *Fundulus heteroclitus* in two NJ estuaries. Celine Santiago 1996 MS (NJIT)
- Behavioral development and neurobehavioral effects of methylmercury on larval mummichogs, *Fundulus heteroclitus* from polluted and reference environments. Tong Zhou 1997, Ph.D.
- Growth of *Palaemonetes pugio* from a polluted vs clean estuary. Suruchi Bhan 1997 MS (NJIT)
- Predatory behavior in mummichogs, *Fundulus heteroclitus*, from a polluted vs clean environment. Graeme Smith, 1998, Ph.D.
- Effect of cadmium on prey capture ability of the grass shrimp, *Palaemonetes pugio*. Catherine Davis, 1999 MS.
- Benthic Communities in *Spartina alterniflora* and *Phragmites australis*-dominated salt marshes. Catherine E. Yuhas 2001 MS (NJIT)
- Lethal and sublethal effects of the toxic dinoflagellate, *Alexandrium fundyense* on three species of larval fish. Jennifer C. Samson 2002, Ph.D.
- Development of thyroid abnormalities in *Fundulus heteroclitus* from a polluted environment and the relationship of thyroid to behavioral abnormalities. Mary Anne Carletta 2002, Ph.D.
- An Analysis of epifaunal communities associated with the marsh grasses *Phragmites australis* and *Spartina alterniflora*. Tish Robertson 2004, Ph.D.
- Nekton Use of *Spartina alterniflora* and *Phragmites australis* in the Hackensack Meadowlands. Craig A. Woolcott 2005 MS
- Parasite communities and effects on the mummichog (*Fundulus heteroclitus*) physiology, anatomy and behavior. Celine Santiago Bass 2007 PhD
- Behavioral ecology and population biology in populations of fiddler crabs *Uca pugnax* (Smith) on the New Jersey Coast. Lauren Bergey 2007 PhD

Variation among mangrove forests as fish habitat: The role of prop-root epibionts, edge effects, and behavior in neotropical mangroves. James MacDonald 2008 Ph.D.

Behavioral ecology and population genetics in two populations of blue crab, *Callinectes sapidus* Rathbun, in New Jersey. Jessica Reichmuth 2009 PhD.

#### Postdoctoral Associates

Tong Zhou 1997-98, Lisamarie Windham 1998-2000, Ildiko Pechmann 2007-08

#### On Ph.D. committees of:

Richard Graham, Dawn Hassinger, Peter Takvorian, Steven Zipko, Stephen Brown, Betty Borowsky (CUNY), Doris Bull Kraus, Joseph DePari, Joseph Kinneary, Carolyn Bentivegna, Chen Mien Chen, Gary Buchanan, Ann Schmitz, Jennifer Stauber (U. Tasmania), Sam Yu (NJIT), Margy Wintermyer, Amy Blankenship, Susan Adair, Dale Haroski Matey, Jacques Khoury (CUNY), Beth Ravit, Greg Sakowicz, Josh Stout, Frank Gallagher, Kristine Kuruiwa (CUNY), David Seebaugh (CUNY), Richard Piola (Univ. of South Wales, Australia)

#### Participation in Science Outreach:

##### Science Fairs:

Livingston H.S. 1973-75, Summit H.S. 1979, St. Elizabeth's College 1979, NY Academy of Sciences 1980; Chair of Biology Workshop, Women in Science Conference, Rutgers 1981; Wayne Hills H.S. 1982, Futures Unlimited 1981, 82

##### Outreach/Public Service:

Talks on population and resources to Zero Population Growth and to National Organization for Women, 1972.

Submitted testimony to Congress - Research Modernization Act, 1981

Advisor to Essex County, and towns of Maplewood, West Orange, and Caldwell on gypsy moth control and pesticide use, 1981, 82

Testified at EPA hearings on ocean dumping of acid wastes, 1982

Appeared on "Pro or Con" Cable TV Debate on use of carbaryl for gypsy moth control, 1982.

Testified at EPA hearings on water quality standards, 1983

Essex County Task Force on integrated pest management, 1983

Testified at NJ hearings on Pesticide Reform Bill, 1984

Speech on Environmental Policy at National Women's Day Celebration, East Hampton NY, 1984, 88

Member of Drinking Water Quality Institute, State of NJ 1984-87

Chair of Subcommittee on Water Testing

Testified at NJ Dept. of Environmental Protection hearings on pesticide regulations, 1985.

NJ DEP Review Committee for Salem Nuclear Generating Station 1986

NJ DEP Review Committee for Oyster Creek Generating Station 1987

Board of Directors, Group for the South Fork 1985-

Executive Committee, NJ Chapter Sierra Club 1986-89

National Coastal Committee, Sierra Club 1989-

Testified at Corps of Engineers hearings on dredging for home port, 1986

Testified at NY State Senate hearings on tributyltin antifouling paints, 1987.

Testified at US Senate Appropriations Comm. Subcomm. on Commerce, Justice, State and Judiciary on appropriation for NOAA, 1987

Testified at US House Merchant Marine & Fisheries Comm. Hearings on tributyltin antifouling paint, 1987

Toxics Work Group for NOAA Marine Pollution Program, 1987-88

Science & Tech. Advisory Comm. NY-NJ Harbor Estuary 1988-

Speech on "Life in the Harbor" to Accabonac Protection Comm. 1989, 90

Submitted testimony to N.J. D.E.P. on Salem Nuclear Power Plant, 1990.

Water Quality 2000 -Panel on Preserving Aquatic Ecosystems, Water Pollution Control Federation 1991

Speech on "Pollution of the Oceans" to Warren County Convocation for Gifted and Talented Students, 1991

EPA Scientific & Technical Committee for Hudson River PCBs Site Reassessment 1991

Science Advisory Committee for Congressman Herbert Klein 1994

Submitted comments on Hackensack Meadowlands Special Area Management Plan 1995

Technical advisory committee for Passaic River watershed, NJDEP. 1998-

Advisory Committee to Liberty Science Center for exhibit on Hudson River 2003-2006

Marine Leadership Committee, World Wildlife Fund 2004-2009

NY/NJ Harbor Consortium (NY Academy of Sciences) 2003-2008

Panel on Global Warming for NJ PIRG 2009

Co-Chair, NY/NJ Harbor Estuary Program Science & Tech Advisory Committee 2009-

Miscellaneous Service to Academia and Govt.:

Evaluated promotion materials for Univ. of Oklahoma 1982

Evaluated promotion materials for Univ. of Maryland 1984

Evaluated promotion materials for St. John's Univ. 1984

Evaluated promotion materials for Univ. of Manitoba 1984

Evaluated promotion materials for Univ. of Georgia 1989,1995,96

Evaluated promotion materials for Purdue University 1990

Evaluated promotion materials for Virginia Tech. 1996

Evaluated promotion materials for U. Southwestern LA 1997,99

Evaluated promotion materials for U. Maryland 1998

Evaluated promotion materials for U. Mississippi 1999

Evaluated promotion materials for U. Connecticut 2000

Evaluated promotion materials for Seton Hall Univ. 2000

Evaluated promotion materials for Colorado State Univ. 2000

Evaluated promotion materials for CUNY 2003

Evaluated promotion materials for Univ. of West Virginia 2006

Evaluated promotion materials for Smithsonian Environmental Research Center 2008

Member, Delegation of Estuarine scientists visiting the People's Republic of China, 1983

Member, site visit team to EPA Laboratory, Gulf Breeze FL, 1983

Advisor in Student Science Training Prog. Long Island U 1985-88

Environmental Policy Working Group -Natl. Assoc. State Univ & Land Grant Colleges (NASULGC), 1987, 1990

NJ Coastal Water Quality Panel, 1987

National Research Council Marine Board Committee on Ballast Water Management to prevent introduction of non-indigenous species 1994

Advisory Board for NYU Cave Biology Research Group 2000-

Leader, Delegation of American Biologists visiting South Africa 2002

|                                                                                                                 |           |
|-----------------------------------------------------------------------------------------------------------------|-----------|
| Participating Scientist in Operation Wallacea                                                                   | 2002      |
| Technical Advisory Committee for Florida Interdisciplinary Center for Environmentally Sound Solutions (FICCESS) | 2003-2004 |
| National Research Council Water Science and Technology Board committee on Advancing Desalination Technologies   | 2006-2007 |

Book:

Weis, J.S. and C.A. Butler 2009. Salt Marshes: A Natural and Unnatural History. Rutgers University Press

Refereed Publications:

- Weis, J.S. and A. Perlmutter 1967. A technique for microinjecting materials into the eggs of fishes. Trans. Amer. Fish. Soc. 96: 57-60.
- Weis J.S. 1968. Analysis of the development of the nervous system of the zebrafish, Brachydanio rerio. I. The normal morphology and development of the spinal cord and ganglia. J. Embryol. Exper. Morphol. 19:109-120.
- Weis J.S. 1968. Analysis of the development of the nervous system of the zebrafish, Brachydanio rerio. II. The effect of nerve growth factor and its antiserum on the development of the spinal cord and ganglia. J. Embryol Exp. Morph. 19:121-135.
- Weis, J.S. 1967. Experimental studies in nerve growth factor in teleost fishes. Amer. Zool. 7: 761-762.
- Weis, J.S. 1968. The occurrence of nerve growth factor in teleost fishes. Experientia 24: 736-737.
- Weis, J.S. 1968. Taxonomic correlation of the position of spinal ganglia in teleost fishes. J Fish Res Bd Can. 25:1739-1740.
- Weis, J.S. 1968. Fauna associated with pelagic Sargassum in the Gulf Stream. Amer. Midland Nat. 80: 554-556.
- Weis, J.S. 1969. The effects of nerve growth factor on the spinal ganglia of Ambystoma maculatum. J. Exper. Zool. 170:481-488.
- Weis, J.S. 1970. The effect of nerve growth factor antiserum on Ambystoma. Experientia 26: 155-156.
- Weis, J.S. and P. Weis 1970. The effect of nerve growth factor on limb regeneration in Ambystoma. J. Exper. Zool. 174:73-78.
- Weis, J.S. and E. Kalmar 1970. The transition from neural crest to spinal ganglia in Ambystoma. Bull. NJ Acad. Sci 15:36-37.
- Weis, J.S, P. Weis and R. Graham 1970. Species difference in limb regeneration in Ambystoma. Copeia 1979 #2:383-384.
- Weis, J.S. 1972. The effects of nerve growth factor in bullfrog tadpoles (Rana catesbeiana) after limb amputation. J. Exper. Zool. 180: 385-392.
- Weis, J.S. 1972. The effect of nerve growth factor on tail regeneration in the goldfish (Carrassius auratus). Growth 36: 151-161.
- Weis, J.S. and P. Weis 1972. Behavioral changes in the goldfish, Carrassius auratus, produced by treatment with nerve growth factor. Physiology and Behavior 9: 367-372.
- Weis, J.S. 1972. The population crisis and women's liberation. Biology and Human Affairs 37: 42-

44.

- Weis, J.S. and L. Bleier 1973. The effect of hydrocortisone on limb regeneration in the bullfrog tadpole, Rana catesbeiana. J. Embryol. Exper. Morphol. 29: 65-71.
- Weis, J.S. and P. Weis 1973. Nerve growth factor vs insulin. Science 180: 1301.
- Weis, P. and J.S. Weis 1974. DDT causes changes in activity and schooling behavior in goldfish. Environ. Res. 7:68-74.
- Weis, P. and J.S. Weis 1974. Cardiac malformations induced by insecticides in embryos of the killifish, Fundulus heteroclitus. Teratology 10: 263-268.
- Weis, P. and J.S. Weis 1974. Schooling behavior of Menidia in the presence of the insecticide Sevin (carbaryl). Marine Biol. 28: 261-263.
- Weis, J.S. and P. Weis 1975. Retardation of fin regeneration in Fundulus by several insecticides. Trans. Amer. Fish. Soc. 104: 135-137.
- Weis, J.S. 1975. The effect of DDT on tail regeneration in Rana pipiens and R. catesbeiana tadpoles. Copeia 1975: 765-767.
- Weis, J.S. and P. Weis 1976. Optical malformations induced by insecticides in embryos of the silversides, Menidia menidia. Fish. Bull. 74: 208-211.
- Weis, J.S. and L.H. Mantel 1976. DDT as an accelerator of regeneration and molting in fiddler crabs. Estuar. Coast. Mar. Sci. 4: 461-466.
- Weis, P. and J.S. Weis 1976. The effects of heavy metals on fin regeneration in Fundulus heteroclitus. Bull. Envir. Contam. Toxicol. 16: 197-202.
- Weis, J.S. 1976. The effects of environmental factors on limb regeneration and molting in fiddler crabs Biol. Bull. 150: 152-162.
- Weis, J.S. 1976. The effects of mercury, cadmium, and lead salts on limb regeneration in the fiddler crab, Uca pugilator. Fish. Bull. 74: 464-467.
- Weis, P. and J.S. Weis 1976. Abnormal locomotion associated with skeletal malformations in the sheepshead minnow, Cyprinodon variegatus, exposed to malathion. Environ. Res. 12:196-200.
- Weis, J.S. 1976. Regeneration in the fiddler crab, Uca pugilator, after multiple autotomy followed by injury or reamputation of some limb buds. J. Exper. Zool. 197: 21-30.
- Weis, J.S. and P. Weis 1976. The vertical distribution of pea crabs (Pinnotheres maculatus) in mussels (Mytilus edulis) from Montauk, New York. Veliger 19: 79-81.
- Weis, J.S. and P. Weis 1977. The effects of heavy metals on embryonic development of the killifish, Fundulus heteroclitus. J. Fish Biol. 11: 49-54.
- Weis, J.S. 1977. Limb regeneration in fiddler crabs: species differences and effects of methylmercury. Biol. Bull. 152: 263-274.
- Weis, J.S. 1977. Regeneration of limbs autotomized at different times in the fiddler crab, Uca pugilator. Can. J. Zool. 55: 656-660.
- Weis, P. and J.S. Weis 1977. Methylmercury teratogenesis in the killifish, Fundulus heteroclitus. Teratology 16: 317-326.
- Weis, P. and J.S. Weis 1978. Methylmercury inhibition of fin regeneration in fishes and its interaction with salinity and cadmium. Estuar. Coast. Mar. Sci. 6: 327-334.
- Weis, J.S. and P. Weis 1978. Behavior of coral reef fishes in a tidal environment. Florida Scientist 41: 53-56.
- Weis, J.S. 1978. Interactions of methylmercury, cadmium, and salinity on regeneration in the fiddler crabs Uca pugilator, Uca pugnax and Uca minax. Mar. Biol. 49: 119-124.
- Solomon, H.M. and J.S. Weis 1979. Abnormal circulatory development in medaka caused by the insecticides carbaryl, malathion, and parathion. Teratology 19: 51-62.

- Weis, P. and J.S. Weis 1979. Congenital abnormalities in estuarine fishes experimentally induced by environmental contaminants. In: Animals as Monitors of Environmental Pollutants. Proc. Symp. on Pathobiology of Environmental Pollutants, 1977. Natl. Acad. Sci. Washington DC pp 94-107.
- Weis, J.S. and P. Weis 1979. Effects of mercury and cadmium compounds on regeneration in estuarine fishes and crabs. In: Marine Pollution: Functional Responses. Ed. W.B.Vernberg, A. Calabrese, F. Thurberg & F.J.Vernberg. Acad. Press NY pp 151-169.
- Weis J.S. 1980. The effect of zinc on regeneration in the fiddler crab, Uca pugnator, and its interactions temperature, salinity and food intake on the excretion of  $Zn^{65}$  in small marine fishes. Biol.Bull. 121:378.
- Weis P. and J.S. Weis 1980. The effect of zinc on fin regeneration in the mummichog, Fundulus heteroclitus, and its interaction with methylmercury. Fish. Bull. 78:163-166.
- Lee, P.H. and J.S. Weis 1980. Effects of magnetic fields on regeneration in fiddler crabs. Biol. Bull. 159: 681-691.
- Weis, J.S., P. Weis and J. Ricci 1981. Effects of cadmium, zinc, salinity and temperature on the teratogenicity of methylmercury to the killifish Fundulus heteroclitus. Second Internat. Symp. on Early Life History of Fishes. Rapp. P-v Reun. Cons. Int. Explor. Mer 178: 64-70.
- Weis, J.S. and P. Weis 1981. Interactions of heavy metals affecting growth and development of estuarine animals. In: Water Conference, Ramapo College. L. Ciaccio & A. Cristini eds. pp 220-235.
- Weis, J.S., P. Weis, M. Heber and S. Vaidya 1981. Methylmercury tolerance of killifish (Fundulus heteroclitus) embryos from a polluted vs nonpolluted environment. Mar. Biol. 65:283-287
- Weis, J.S., P. Weis and M. Heber 1982. Variation in response to methylmercury by killifish (Fundulus heteroclitus) embryos. In: Aquatic Toxicology and Hazard Assessment: Fifth Conference. ASTM STP 766. J.G. Pearson, R. Foster and W.E. Bishop eds. Amer. Soc. for Testing and Materials pp 109-119.
- Weis, P. and J.S. Weis 1982. Toxicity of methylmercury, mercuric chloride, and lead in killifish (Fundulus heteroclitus) from Southampton, New York. Environ. Res. 28: 364-374.
- Weis, P. and J.S. Weis 1982. Toxicity of the PCBs Aroclor 1254 and 1242 to embryos and larvae of the mummichog, Fundulus heteroclitus. Bull. Environ. Contam. Toxicol. 28: 298-304.
- Weis J.S. 1982. Studies on limb regeneration in the anomurans Pagurus longicarpus and Emerita talpoida. J. Crust. Biol. 2: 227-231.
- Weis J.S., P. Weis, M. Heber and S. Vaidya 1982. Investigations into mechanisms of methylmercury tolerance in killifish (Fundulus heteroclitus) embryos. In: Physiological Mechanisms of Marine Pollutant Toxicity. ed. W. Vernberg, A. Calabrese, F. Thurberg & F.J. Vernberg. Acad. Press N.Y. pp 311-330.
- Weis J.S. and P Weis 1983. Intraspecific differences in susceptibility to toxicants due to short term or chronic pre-exposure. In: Aquatic Toxicology ed. J. Nriagu. Advances in Environmental Science & Technology, John Wiley, NY pp 190-205.
- Bush C.P. and J.S. Weis 1983. Effects of salinity on fertilization success in two populations of killifish, Fundulus heteroclitus. Biol. Bull. 164: 406-417.
- Callahan, P. and J.S. Weis 1983. Methylmercury effects on regeneration and ecdysis in fiddler crabs (Uca pugnator, U. pugnax) after short-term and chronic pre-exposure. Arch. Environ. Contam. Toxicol. 12: 707-714.
- Weis P. and J.S. Weis 1983. Effects of embryonic pre-exposure to methylmercury,  $Hg^{2+}$  and  $Cu^{2+}$  on larval tolerance in Fundulus heteroclitus. Bull. Environ. Contam. Toxicol. 31: 530-534.
- Weis J.S. and P. Weis 1984. A rapid change in methylmercury tolerance in a population of killifish,

- Fundulus heteroclitus, from a golf course pond. Mar. Envir. Res. 13:231-245.
- Weis J.S., P. Weis, M. Renna and S. Vaidya 1985. Search for a physiological component of methylmercury tolerance in the mummichog, Fundulus heteroclitus. In: Marine Pollution and Physiology: Recent Advances. Ed. F.J.Vernberg, F. Thurberg, A. Calabrese and W.B. Vernberg. Univ. S. Carolina Press, Columbia. pp 309-326.
- Weis, J.S. 1985. Cadmium acclimation and limb regeneration in the fiddler crab, Uca pugilator: Sex differences. Mar. Environ. Res. 16: 199-214.
- Weis, J.S. and P. Weis 1985. Acclimation to cadmium by Fundulus heteroclitus as demonstrated by fin regeneration and cadmium accumulation. Mar. Env. Res. 17: 269-271. (full version below)
- Weis P. and J.S. Weis 1986. Cadmium acclimation and hormesis in Fundulus heteroclitus during fin regeneration. Environ. Res. 39: 356-363.
- Weis P., J.S. Weis and J. Bogden 1986. Effects of environmental factors on release of mercury from Berry's Creek sediments and uptake by killifish, Fundulus heteroclitus. Environ. Poll. 40: 303-315.
- Weis, J.S., N. Donellon and F. Barnwell 1986. Regeneration of tubercles on the limbs of Uca pugilator and effects of mercury and cadmium on their growth. J. Crust. Biol. 6: 648-651.
- Weis, J.S. and J. Kim 1986. Specificity of acquired cadmium tolerance in the fiddler crab Uca pugilator. Bull. Environ. Contam. Toxicol. 37: 362-368.
- Weis J.S., M. Renna S. Vaidya and P. Weis 1987. Mercury tolerance in killifish: A stage-specific phenomenon. In: Oceanic Processes in Marine Pollution vol. 1. Biological Processes and Wastes in the Ocean. ed. J. Capuzzo and D. Kester. Krieger Pub. Co. Malabar, FL pp 31-36.
- Klerks P. and J.S. Weis 1987. Genetic adaptation to heavy metals in aquatic organisms: a review. Envir. Poll. 45: 173-206.
- Weis J.S. and P. Weis 1987. Pollutants as developmental toxicants in aquatic organisms. Environ. Health Persp. 71: 77-86.
- Weis J.S., J. Gottlieb and J. Kwiatkowski 1987. Tributyltin retards regeneration and produces deformities of limbs in the fiddler crab, Uca pugilator. Arch. Envir. Contam. Toxicol. 16: 321-326.
- Weis, J.S. and A. Ma 1987. Effects of the pesticide diflubenzuron on larval horseshoe crabs, Limulus polyphemus. Bull. Environ. Contam. Toxicol. 39: 224-228.
- Toppin, S.V., M. Heber, J.S. Weis and P. Weis 1987. Changes in reproductive biology and life history in Fundulus heteroclitus in a polluted environment. In: Pollution Physiology of Estuarine Organisms. Ed. W. Vernberg, A. Calabrese, F. Thurberg and F.J. Vernberg. Univ. S. Carolina Press, Columbia. pp 171-184.
- Khan, A.T. and J.S. Weis 1987. Effects of methylmercury on sperm and egg viability of two populations of killifish, Fundulus heteroclitus. Arch. Environ. Contam. Toxicol. 16: 499-505.
- Weis, J.S. and J. Perlmutter 1987. Burrowing behavior by the fiddler crab, Uca pugilator: inhibition by the insecticide diflubenzuron. Mar. Ecol. Prog. Ser. 38: 109-113.
- Khan, A.T. and J.S. Weis 1987. Effects of mercuric chloride on eggs and juvenile viability in two populations of killifish. Mar. Poll. Bull. 18: 504-505.
- Weis J.S., R. Cohen and J. Kwiatkowski 1987. Effects of diflubenzuron on limb regeneration and molting in the fiddler crab, Uca pugilator. Aquat. Toxicol. 10: 279-290.
- Khan, A.T. and J.S. Weis 1987. Effects of methylmercury on egg and juvenile viability in two populations of Fundulus heteroclitus. Environ. Res. 44: 272-278.
- Khan, A.T. and J.S. Weis 1987. Effects of mercuric chloride on sperm and egg viability in two populations of the mummichog Fundulus heteroclitus. Environ. Poll. 48: 263-273.

- Weis, J.S. and J. Perlmutter 1987. Effects of tributyltin on activity and burrowing behavior in the fiddler crab, Uca pugilator. *Estuaries* 10: 342-346.
- Kraus, M. and J.S. Weis 1988. Differences in effects of mercury on telson regeneration in two populations of the grass shrimp, Palaemonetes pugio. *Arch. Environ. Contam. Toxicol.* 17: 115-120.
- Khan, A.T., J.S. Weis and P. Weis 1988. Studies of cadmium tolerance in two populations of the grass shrimp Palaemonetes pugio. *Bull. Envir. Contam. Toxic.* 40: 30-35.
- Kraus, M., J.S. Weis and P. Weis 1988. Effects of mercury on larval and adult grass shrimp, Palaemonetes pugio. *Arch. Environ. Contam. Toxicol.* 17: 355-363.
- Perry, D.M., J.S. Weis and P. Weis 1988. Cytogenetic effects of methylmercury in embryos of the killifish, Fundulus heteroclitus. *Arch. Environ. Contam. Toxicol.* 17: 569-587.
- Weis, J.S. and K. Kim 1988. Tributyltin is a teratogen in producing deformities in limbs of the fiddler crab, Uca pugilator. *Arch. Environ. Contam. Toxicol.* 17: 583-587.
- Weis, J.S. and P. Weis 1989. Tolerance and stress in a polluted environment: the case of the mummichog. *BioScience* 39: 89-96
- Weis, J.S. and P. Weis 1989. Effects of environmental pollutants on early fish development. *Reviews in Aquatic Sci.* 1:45-74.
- Khan, A.T., J.S. Weis and L. D'Andrea 1989. Bioaccumulation of four heavy metals in two populations of grass shrimp, Palaemonetes pugio. *Bull. Envir. Contam. Toxic.* 42:339-343.
- Weis, J.S. and L.A. Cole 1989. Tributyltin and public policy. *Environ. Impact Assess. Review* 9: 33-47.
- Weis, P., J.S. Weis and L. Coohill 1989. Biological impact of wood treated with chromated copper arsenate on selected estuarine organisms. In: Pesticides in Terrestrial and Aquatic Environments, Ed. D. Weigmann. VA. Polytech. Inst. Water Resources Inst., Blacksburg, pp 19-28.
- Weis, P., J.S. Weis and A. Greenberg 1990. Treated municipal wastewaters: effects on development and growth of fishes. *Mar. Environ. Res.* 28: 527-532.
- Weis, J.S., P. Weis and E. Zimmerer 1990. Utility of fin regeneration in testing sublethal effects of wastes. In: *Oceanic Processes in Marine Pollution vol 6. Physical and chemical processes: transport and transformation*, ed. D. Baumgartner and I. Duedall, pp 189-196. Kreger Pub. Co., Malabar FL.
- Weis, J.S. 1990 Status of undergraduate programs in environmental science. *Envir. Sci. & Tech.* 24:1116-1121.
- Weis, J.S. and A.A. Khan 1990. Effects of mercury on the feeding behavior of the mummichog, Fundulus heteroclitus from a polluted habitat. *Mar. Environ. Res.* 30: 243-249.
- Weis, P. J.S. Weis and L. Coohill 1991. Toxicity to estuarine organisms of leachates from chromated copper arsenate treated wood. *Arch. Environ. Contam. Toxicol.* 20: 118-124.
- Weis, J.S. and A.A. Khan 1991. Reduction in prey capture ability and condition in mummichogs from a polluted habitat. *Trans. Amer. Fish. Soc.* 120: 127-129.
- Weis, J.S. 1991. Educational Programs for Women in Science: What the National Science Foundation is Doing Now. *J. Coll. Sci. Teach.* 21: 11-13.
- Weis, J.S., A. Cristini and K.R. Rao 1992. Effects of pollutants on molting and regeneration in crustacea. *Amer. Zool.* 32: 495-500.
- Weis, P. and J.S. Weis 1992. The Developmental Toxicity of Metals and Metalloids in Fish. In: *Metal Ecotoxicology: Concepts and Applications*. M.C. Newman, ed. Lewis Pub. Co. pp 145-169.
- Weis, J.S. and P. Weis, 1992. Construction materials in the marine environment: Reduction in the

- epibiotic communities on CCA-treated wood. Mar. Ecol. Prog. Ser. 83: 45-53.
- Weis, P., J.S. Weis, A. Greenberg and T. Nosker 1992. Toxicity of construction materials in the marine environment: A comparison of CCA-treated wood and recycled plastic. Arch. Environ. Contam. Toxicol. 22: 99-106.
- Weis, P. and J.S. Weis 1992. Metal Toxicology and Fish Development. In: The Deposition and Fate of Trace Metals in Our Environment. E. Verry and S. Vermette, eds. USDA Forest Service, pp 157-171.
- Weis, P., J.S. Weis, C. Chen and A. Greenberg 1992. Treated municipal waste waters: Effects of organic fractions on development and growth of fishes. Environ. Toxicol. Chem. 11: 1451-1459.
- Robbins, L. and J.S. Weis 1992. Why do people drop out of the scientific pipeline? A study of graduates of the Bronx High School of Science. J. Coll. Sci. Teach. 22?Sept-Oct. 92: 6-7.
- Weis, J.S. and P. Weis, 1992. Transfer of contaminants from CCA-treated lumber to aquatic biota. J. Exper. Mar. Biol. Ecol. 161: 189-199.
- Khan, A.T., J.S. Weis, C.E. Saharig and A.E. Polo 1993. Effect of tributyltin on mortality and telson regeneration of grass shrimp, *Palaemonetes pugio*. Bull. Environ. Contam. Toxicol. 50: 152-157.
- Gillett, J.W., J. Johnson, D.G. Arey, R. Costanza, I. Tinsley, J.S. Weis and A.R. Yanders 1992. The need for an integrated urban environmental policy. J. Urban Affairs 14: 377-398.
- Weis, J.S., J. Lemons, R. Foust, G. Godshalk, G. Miller and R. Wenger 1992. Report of the workshop on undergraduate environmental science education. The Environ. Professional 14: 363-370.
- Weis, P. J.S. Weis and T. Proctor 1993. Copper, chromium and arsenic in sediments adjacent to wood structures treated with chromated copper arsenate (CCA). Estuar. Coast. Shelf Sci. 36: 71-79.
- Khan, A.T. and J.S. Weis 1993. Bioaccumulation of heavy metals in two populations of mummichogs (*Fundulus heteroclitus*). Bull. Environ. Contam. Toxicol. 51: 1-5.
- Weis, J.S. and P. Weis 1993. Trophic transfer of contaminants from organisms living by chromated copper arsenate (CCA)-treated wood to their predators. J. Exper. Mar. Biol. Ecol. 168: 25-34.
- Khan, A.T. and J.S. Weis 1993. Differential effects of organic and inorganic mercury on the micropyle of eggs of *Fundulus heteroclitus*. Environ. Biol. Fishes 37: 323-327.
- Weis, P., J.S. Weis and E. Loes 1993. Uptake of metals from chromated copper arsenate (CCA)-treated lumber by epibiota. Mar. Poll. Bull. 26: 428-430.
- Weis, J.S. and P. Weis 1994. Impacts of Xenobiotics on Estuarine Ecosystems. In: Basic environmental Toxicology, ed. B. Shane and L. Cockerham. CRC Press, Boca Raton. Pp 385-407.
- Weis, P. J.S. Weis and J. Couch 1993. Histopathology and bioaccumulation in oysters (*Crassostrea virginica*) living on wood preserved with chromated copper arsenate. Dis. Aquat. Org. 17: 41-46.
- Weis, J.S. and P. Weis 1994. Effects of contaminants from chromated copper arsenate (CCA)-treated lumber on benthos. Arch. Environ. Contam. Toxicol. 26: 103-109.
- Weis, J.S. and P. Weis 1995. Effects of embryonic exposure to methylmercury on larval prey capture ability in the mummichog, *Fundulus heteroclitus*. Environ. Toxicol. Chem 14: 153-156.
- Smith, G.M., A.T. Khan, J.S. Weis and P. Weis 1995. Behavior and brain correlates in mummichogs (*Fundulus heteroclitus*) from polluted and unpolluted environments. Mar.

- Environ. Res. 39: 329-333.
- Weis, P., J.S. Weis, J. Couch, C. Daniels and T. Chen 1995. Pathological and genotoxicological observations in oysters (*Crassostrea virginica*) living on chromated copper arsenate (CCA)-treated wood. Mar. Environ. Res. 39: 275-278.
- Weis, J.S. and P. Weis 1995. Effects of embryonic and larval exposure to methylmercury on larval swimming performance and predator avoidance in the mummichog, *Fundulus heteroclitus*. Can. J. Fish. Aquat. Sci. 52: 2168-2173.
- Weis, J.S. and P. Weis 1995. Environmental effects of chromated copper arsenate (CCA)-treated wood in the aquatic environment. Ambio 24: 269-274.
- Weis, J.S. and P. Weis 1996. Reduction in toxicity of chromated copper arsenate (CCA)-treated wood as assessed by community study. Mar. Environ. Res. 41: 15-25.
- Weis, J.S. and P. Weis 1996. The effects of using wood treated with chromated copper arsenate in shallow water environments: a review. Estuaries 19: 306-310.
- Zhou, T., R. Scali, P. Weis and J.S. Weis 1996. Behavioral effects in mummichog (*Fundulus heteroclitus*) larvae following embryonic exposure to methylmercury. Mar. Environ. Res. 42: 45-49.
- Weis, J.S. 1996. Scientific Uncertainty and Environmental Policy: Four Pollution Case Studies. In: Scientific Uncertainty and Environmental Problem Solving. J. Lemons, ed. Blackwell pp 160-187.
- Ososkov, I. and J.S. Weis 1996. Development of social behavior in larval mummichogs after embryonic exposure to methylmercury. Trans. Amer. Fish. Soc. 125: 983-987.
- Smith, G. and J.S. Weis 1997. Predator/prey interactions of the mummichog, *Fundulus heteroclitus*: Effects of living in a polluted environment. J. Exper. Mar. Biol. Ecol. 209: 75-87.
- Weis, J. and P. Weis 1997. Aquatic testing with early life stages of killifishes. In: Microscale Aquatic Toxicity Techniques and Practises. Ed. Wells, Lee and Blaise. CRC Press. Pp 479-490.
- Weis, J.S., P. Weis and T. Proctor 1998. The extent of benthic effects of CCA-treated wood in marine environments. Arch. Environ. Contam. Toxicol. 34: 313-322.
- Weis, J.S. and P. Weis 1998. Effects of lead on behaviors of larval mummichogs, *Fundulus heteroclitus*. J. Exper. Mar. Biol. Ecol. 222: 1-10.
- Zhou, T., P. Weis and J.S. Weis 1998. Mercury burden in two populations of *Fundulus heteroclitus* after sublethal methylmercury exposure. Aquat. Toxicol. 42: 37-47.
- Zhou, T. and J.S. Weis 1998. Swimming behavior and predator avoidance in three populations of *Fundulus heteroclitus* larvae after embryonic and/or larval exposure to methylmercury. Aquat. Toxicol. 43: 131-148.
- Zhou, T. and J. S. Weis 1999. Predator avoidance in mummichog larvae from a polluted habitat. J. Fish Biol. 54: 44-57.
- Weis, J.S., N. Mague and P. Weis 1999. Mercury tolerance, population effects and population genetics in the mummichog, *Fundulus heteroclitus*. In: Genetics and Ecotoxicology, ed. V. Forbes, Taylor and Francis, Phila. pp 31-54.
- Weis, P. and J.S. Weis 1999. Accumulation of metals in consumers associated with chromated copper arsenate-treated wood panels. Mar. Environ. Res. 48: 73-81.
- Weis, J.S., G.M. Smith and T. Zhou 1999. Altered predator/prey behavior in polluted environments: implications for fish conservation. Environ. Biol. Fishes 55: 43-51.
- Zhou, T., H. John-Alder, P. Weis and J.S. Weis, 1999. Thyroidal status of mummichogs (*Fundulus heteroclitus*) from a polluted vs a reference habitat. Environ. Toxicol. Chem. 18: 2817-

2823.

- Santiago Bass, C. and J.S. Weis 1999. Behavioral changes induced in the grass shrimp, *Palaemonetes pugio* (Holthuis) induced by the parasitic isopod *Probopyrus pandalicola* (Packard). J. Exper. Mar. Biol. Ecol. 241: 223-233.
- Zhou, T., D. Rademacher, R.E. Steinpreis and J.S. Weis 1999. Neurotransmitter levels in two populations of larval *Fundulus heteroclitus* after methylmercury exposure. Comp. Biochem. Physiol. Part C 124: 287-294.
- Weis, J.S., G. Smith and C. Santiago-Bass 2000. Predator/prey interactions: A link between the individual level and both higher and lower level effects of toxicants in aquatic systems. J. Aquat. Ecosyst. Stress & Recovery 7: 145-153.
- Zhou, T., H. John-Alder, P. Weis and J.S. Weis 2000. Endocrine disruption: thyroid abnormalities in mummichogs from a polluted environment. Mar. Envir. Res. 50: 393-397.
- Burke, D.J., J.S. Weis and P. Weis, 2000. Release of metals by the leaves of the salt marsh grasses *Spartina alterniflora* and *Phragmites australis*. Estuar. Coast. Shelf Sci. 51: 153-159.
- Samson, J.C., F. Olobatuye, R. Goodridge and J.S. Weis 2001. Delayed effects of embryonic exposure of zebrafish (*Danio rerio*) to methylmercury (MeHg) Aquat. Toxicol. 51: 369-376.
- Weis, J.S., G. Smith, T. Zhou, C. Bass and P. Weis 2001. Effects of contaminants on behavior: biochemical mechanisms and ecological consequences. BioScience 51: 209-218.
- Weis, J.S. and P. Weis 2001. Behavioral responses and interactions of three animals with an invasive marsh plant: a laboratory analysis. Biol. Invasions 2: 305-314.
- Zhou, T., R. Scali and J.S. Weis 2001. Effects of methylmercury on ontogeny of prey capture ability and growth in three populations of larval *Fundulus heteroclitus*. Arch. Environ. Contam. Toxicol. 41: 47-54.
- Windham, L., J.S. Weis and P. Weis, 2001. Lead uptake, distribution, and effects in two dominant salt marsh macrophytes *Spartina alterniflora* (cordgrass) and *Phragmites australis* (common reed). Mar. Pollut. Bull. 42: 811-816.
- Weis, J.S., J. Samson, T. Zhou, J. Skurnick and P. Weis 2001. Prey capture ability by mummichogs (*Fundulus heteroclitus*) as a behavioral biomarker for contaminants in estuarine systems. Can J. Fish. Aquat. Sci. 58: 1442-1452.
- Bass, C.S., S. Bhan, G. Smith and J.S. Weis. 2001 Factors affecting size distribution and density of grass shrimp (*Palaemonetes pugio*) populations in two New Jersey estuaries. Hydrobiologia 450: 231-241.
- Maltby, L., T.J. Kedwards, V.E. Forbes, K. Grassman, J.E. Kammenga, W.R. Munns, A.H. Ringwood, J.S. Weis, and S.N. Wood. 2001. Linking individual-level responses and population-level consequences. In: Ecological Variability: Separating Natural from Anthropogenic Causes of Ecosystem Impairment. Eds. D.J. Baird and G.A. Burton. SETAC Press, Pensacola FL. pp 27-82.
- Windham, L., J.S. Weis and P. Weis. 2001. Patterns and processes of mercury release from leaves of two dominant salt marsh macrophytes, *Phragmites australis* and *Spartina alterniflora*. Estuaries 24: 787-795.
- Weis, J.S., L. Windham and P. Weis. 2002. Growth, survival and metal content in marsh invertebrates fed diets of detritus from *Spartina alterniflora* and *Phragmites australis* from metal-polluted and clean sites. Wetlands Ecology and Management, 10: 71-84.
- Weis, J.S. and P. Weis 2002. Contamination of saltmarsh sediments and biota by CCA treated wood walkways. Marine Pollution Bulletin 44: 504-510.
- Weis, P., L. Windham, D.J. Burke and J.S. Weis 2002. Release into the environment of metals by two vascular salt marsh plants. Mar. Envir. Res. 54: 325-329

- Weis, J.S. 2002. Tolerance to environmental contaminants in the mummichog, *Fundulus heteroclitus*. Human and Ecological Risk Assessment 8: 933-953.
- Carletta, M.A., P. Weis and J.S. Weis 2002. Development of thyroid abnormalities in mummichogs, *Fundulus heteroclitus*, from a polluted site. Mar. Envir. Res. 54: 601-614.
- Bergey, L., J.S. Weis and P. Weis. 2002. Mercury uptake by the estuarine species *Fundulus heteroclitus* and *Palaemonetes pugio* compared with their parasites, *Eustrongylides* and *Probopyrus pandalicola*. Mar. Poll. Bull. 44: 1046-1050.
- Weis, J.S., J. Samson, T. Zhou, J. Skurnick and P. Weis 2003. Evaluating prey capture by larval mummichogs (*Fundulus heteroclitus*) as a potential biomarker for contaminants. Mar. Environ. Res. 55: 27-38.
- Windham, L., J.S. Weis and P. Weis 2003. Uptake and distribution of metals in two dominant salt marsh macrophytes, *Spartina alterniflora* (cordgrass) and *Phragmites australis* (common reed). Estuarine and Coastal Shelf Science. 56: 63-72.
- Weis, J.S. and P. Weis 2003. Is the invasion of the common reed, *Phragmites australis*, into tidal marshes of the Eastern US an ecological disaster? Marine Pollution Bulletin. 46: 816-820.
- Weis, J.S., L. Windham and P. Weis 2003. Patterns of metal accumulation in leaves of the tidal marsh plants *Spartina alterniflora* (Loisel) and *Phragmites australis* (Cav. Trin ex Steud) over the growing season. Wetlands 23: 459-465.
- Weis, J.S. and P. Weis. 2004. Metal uptake, transport, and release by wetland plants: Implications for phytoremediation and restoration. Environ. Internat. 30: 685-700.
- Windham, L., J. Weis and P. Weis 2004. Metal dynamics of plant litter of *Spartina alterniflora* and *Phragmites australis* in metal-contaminated marshes. Part 1. Patterns of decomposition and metal uptake. Envir. Toxicol. Chem. 23: 1520-1528.
- Weis, J. and P. Weis 2004. Behavior of four species of fiddler crabs, genus *Uca*, in Southeast Sulawesi, Indonesia. Hydrobiologia 523: 47-58.
- Weis, J.S., T. Glover and P. Weis. 2004 Interactions of metals affect their distribution in tissues of *Phragmites australis*. Environ. Pollution 131: 409-415.
- Weis, J.S., J. Skurnick and P. Weis. 2004 Studies of a contaminated brackish marsh in the Hackensack Meadowlands of New Jersey: Metal contamination and benthic community. Marine Pollution Bulletin, 49: 1025-1035
- Robertson, T. and J. S. Weis 2005 A comparison of epifaunal communities associated with the stems of salt marsh grasses *Phragmites australis* and *Spartina alterniflora*. Wetlands 25: 1-7.
- Weis, J. and P. Weis 2005. Use of two different intertidal habitats by coral reef fishes in the Wakatobi Marine Park, Indonesia. Raffles Bulletin of Zoology 53: 119-124.
- Weis, J.S. 2005. Diet and food web support of the white perch, *Morone americana* in the Hackensack Meadowlands. Environ. Biol. of Fishes 74: 109-113
- Yuhas, C., J.M. Hartman and J.S. Weis 2005. Benthic communities associated with *Spartina alterniflora* and *Phragmites australis* in the Hackensack Meadowlands of NJ. Urban Habitats 3 #1: 158-191.
- Bergey, L., and Weis, J.S. 2006. Immobility in five species of fiddler crabs, genus *Uca*. J. Crust. Biol. 26: 82-84.
- Weis, J.S. and P. Weis. 2006. Effects of wood treated with chromated copper arsenic on aquatic biota. In: Environmental Impacts of Treated Wood, ed. T. Townsend & H. Solo-Gabriele. CRC Press pp 173-190.
- Wirgin, I., J.S. Weis, and A. McElroy 2006. Physiological and Genetic Aspects of Toxicity in Hudson River species. In: J. Levinton and J. Waldman, eds. The Hudson River Estuary. Cambridge University Press pp 441-464.

- Robertson, T.A. and J.S. Weis 2007. Interactions between the grass shrimp, *Palaemonetes pugio* and the salt marsh grasses *Phragmites australis* and *Spartina alterniflora*. *Biol Invasions* 9: 25-30.
- Mac Donald, J., R. Roudez, T. Glover and J.S. Weis. 2007 The invasive green crab and Japanese shore crab: behavioral interactions with a native crab species, the blue crab. *Biol Invasions* 9: 837-848.
- Bass, C.S. , S. Khan and J.S. Weis.2007. Associations of gill branching with gill parasite infections in *Fundulus heteroclitus*. *J. Fish Biol.* 71: 920-925.
- Bergey, L. and J.S. Weis 2007. Molting as a mechanism of depuration of metals in the fiddler crab, *Uca pugnax*. *Marine Environmental Research* 64: 556-562
- Samson, J.C., S. Shumway and J.S. Weis. 2008 Effects of the toxic dinoflagellate *Alexandrium fundyense* on three species of larval fish: a food web approach. *J. Fish Biol.* 72: 168-188.
- Bergey, L. and J.S Weis 2008. Aspects of population ecology in two populations of fiddler crabs, *Uca pugnax*. *Marine Biology* 154: 435-442.
- Bass, C.S. and J.S. Weis 2008. Increased abundance of snails and trematode parasites of *Fundulus heteroclitus* (L.) in restored New Jersey wetlands. *Wetland Ecol. Mgmt.* 16:173-182.
- Roudez, R.J., T. Glover and J.S. Weis 2008. Learning in an invasive and a native predatory crab. *Biol. Invasions* 10: 1191-1196.
- MacDonald, J., T. Glover, and J.S. Weis.2008 The impact of mangrove prop-root epibionts on juvenile reef fishes: a field experiment using artificial roots and epifauna. *Estuaries and Coasts* 31:981-993.
- Reichmuth, J.M., R. Roudez, T. Glover and J.S. Weis 2009. Differences in prey capture behavior in populations of blue crab (*Callinectes sapidus* Rathbun) from contaminated and clean estuaries in New Jersey. *Estuaries and Coasts* 32: 298-308.
- Bass, C.S. and J.S. Weis 2009. Conspicuous behavior of *Fundulus heteroclitus* associated with high digenean metacercariae gill abundances. *J. Fish Biol.* 74: 763-772.
- Weis, J.S., P. Weis, L. Pearson, J. MacDonald.2009 Rapid changes in fish utilization of mangrove habitat in Western Madagascar. *Wetland Ecol. Management* 17: 345-354
- MacDonald, J., S. Shahrestani and J.S. Weis 2009. Behavior and space utilization of two common fishes within Caribbean mangroves: implications for the protective function of mangrove habitats. *Estuarine, Coastal and Shelf Science*, 84: 195-201
- Weis, J.S. 2009. Reproductive, Developmental, and Neurobehavioral Effects of Methylmercury in Fishes. *Journal of Environmental Science and Health, Part C* 27: 212-225.
- Reichmuth, J.M., P. Weis and J.S. Weis. Bioaccumulation and depuration of metals in blue crabs (*Callinectes sapidus* Rathbun) from a contaminated and clean estuary. *Environ. Pollut.* In press

Refereed Articles in Encyclopedia of Earth (EoE) on line:

Bottom-up Control

Anadromous Behavior

Chlorinated Pesticides

DDT

Estuary

Marine Invasive Species

Metal Pollution in Coastal Environments

PCBs  
 Phytoplankton  
 Plankton  
 Planktonic Larvae  
 Salt Marsh  
 Top-down Control  
 Tributyltin (TBT)  
 Zooxanthellae

Published Abstracts:

- Shulman, J. (Weis), I.L. Brisbin and W. Knox 1961. The effects of temperature, salinity and food intake on excretion of Zn<sup>65</sup> in small marine fishes. Biol. Bull. 121: 378
- Weis, J.S. 1967. Experimental studies on nerve growth factor in teleost fishes. Amer. Zool. 7: 761-762.
- Weis, J.S. 1968. Fauna associated with pelagic *Sargassum* in the Gulf Stream. Bull. N.J. Acad. Sci. 13: 96.
- Weis, J.S. and P. Weis 1969. Studies on nerve growth factor in Ambystoma maculatum. Anat. Rec. 163: 331.
- Weis, J.S. 1969. Letter to the editor. Science 165:336
- Weis, J.S. 1972, Letter to the editor. Science 176:855.
- Weis P. and J.S. Weis 1978. Methylmercury-induced congenital anomalies in the killifish, Fundulus heteroclitus: interaction with cadmium and salinity. Anat. Rec. 190:579.
- Weis, J.S. 1978. Effects of zinc on regeneration in fiddler crabs and its interactions with methylmercury and cadmium. Amer. Zool. 18:611.
- Weis, J.S., P. Weis and M. Heber 1979. Tolerance to methylmercury teratogenesis. Amer.Zool. 19: 976.
- Weis, J.S. and P. Weis 1979. Heavy metal interactions in estuarine organisms: effects on growth. 5th International Estuarine Research Conf. Jekyll Isl. GA
- Weis, J.S. and M. Heber 1980. Comparative reproductive biology in two populations of Fundulus heteroclitus. Amer. Zool. 20:880
- Weis P., J.S. Weis and M. Heber 1981. Variation in teratogenic response to methylmercury by killifish (Fundulus heteroclitus) embryos - differences within and between populations. Anat. Rec. 199: 270a-271a.
- Renna, M. and J.S. Weis 1981. Effect of polluted water on fin regeneration in two populations of killifish (Fundulus heteroclitus). Bull. NJ Acad.Sci. 26:66.
- Weis, P. and J.S. Weis 1982. Resistance of killifish (Fundulus heteroclitus) embryos to methylmercury as compared to Hg<sup>2+</sup> and Pb<sup>2+</sup>. Anat. Rec. 202: 200a.
- Weis, J.S. and P. Weis 1982. Experiments in mercury tolerance in killifish (Fundulus heteroclitus) embryos. Bull. NJ Acad. Sci. 27: 37-38.
- Vaidya, S. and J.S. Weis 1982. Tolerance of killifish larvae to methylmercury. Amer. Zool. 22: 858.
- Bush, C.P. and J.S. Weis 1982. Effects of salinity on fertilization of killifish eggs. Amer. Zool. 22: 870.
- Vaidya, S. and J.S. Weis 1983. Factors affecting embryo tolerance to methylmercury in killifish. Bull. NJ Acad. Sci 28:12.
- Weis, J.S. and P. Weis 1983. A rapid change in methylmercury tolerance in a population of killifish, Fundulus heteroclitus. Estuaries 6:321.

- Weis, J.S. 1985. Politics of Ocean Dumping. *Estuaries* 8: 13a
- Weis, J.S. 1985. Sex differences in cadmium acclimation in the fiddler crab, *Uca pugilator*. *Estuaries* 8: 92A.
- Weis, J.S. 1987. Toward a more universal definition of teratology. *Teratology* 36: 273.
- Weis, J.S. and P. Weis 1988. Effects of tributyltin (TBT) on limb regeneration in the fiddler crab (*Uca pugilator*). *Mar. Environ. Res.* 24: 253-254.
- Weis, P., J.S. Weis and L. Coohill 1989. Biological impact of wood treated with chromated copper arsenate on selected estuarine organisms. *Symp. on Pesticides in Terrestrial and Aquatic Environments*, Richmond VA., p 4.
- Weis, J. and P. Weis 1993. Reduction in toxicity of chromated copper arsenate (CCA)-treated wood over time as assessed by epibiotic community analysis. *Bull. Ecol. Soc. Amer.* 74:482.
- Zhou, T. and J.S. Weis 1995. Effects of embryonic methylmercury exposure on larval behavior of mummichogs. *Amer. Zool.* 35: 20A.
- Mugue, N. and J.S. Weis 1995. Two mummichog subspecies produce a sharp tension zone with evidence for formation of a third, intermediate, race between them. *Amer. Zool.* 35: 188A.
- Zhou, T., J.S. Weis and P. Weis 1997. Comparison of thyroid of mummichogs (*Fundulus heteroclitus*) from a polluted vs reference habitat. *Amer. Zool* 37:119A.
- Samson, J.C., T. Robertson and J.S. Weis 1999. Behavioral effects of the toxic dinoflagellate *Alexandrium* on larval mummichogs, *Fundulus heteroclitus*. *Amer. Zool.* 39: 129A.

#### Book Reviews:

- Pettingill, O. Another Penguin Summer, and
- Soule, G. Remarkable Creatures of the Seas. AAAS Science Books and Films (SB&F) 12: 105, 1976.
- Parks, P. Underwater Life. AAAS SB&F 13: 78 1977.
- Applebaum, S. and V. Cox. Going My Way? Nature's Hitchhikers. AAAS SB&F 13: 165, 1977.
- Nilsson, L. et al. A Child is Born. AAAS SB&F 14:101, 1978
- Salvadori, F. and P. Florio. Rare and Beautiful Animals. AAAS SB&F 15: 153, 1979.
- Reidman, S. Have You Ever Seen a Shell Walking? AAAS SB&F 15: 167-168, 1979.
- Albert, B. Sharks and Whales. AAAS SB&F 16: 32, 1980.
- McGovern, A. Little Whale. AAAS SB&F 16:33, 1980.
- Finley, M.T., J.G. Eaton, J.J. Lech, F.L. Mayer and J.S. Weis. Malathion. Review of the EPA Red Book: Quality Criteria for Water. R.V. Thurston, R.C. Russo, C.M. Fetterolf, T.A. Edsall and Y.M. Barker Jr., eds. Water Quality Section, Amer. Fisheries Soc. Bethesda MD pp 36-1 and 36-2, 1978.
- Ibid. Parathion In above pp 39-1 and 39-2, 1978.
- Killer Whales - Lords of the Sea. Filmstrip. AAAS SB&F 16:48-49, 1980.
- The Ocean: Resource for the World. Film. AAAS SB&F 16:161, 1981.
- Beluga Baby. Film. AAAS SB&F 17:43, 1981.
- The Great Lakes. Filmstrip Series. 1. The Beginnings, 2. Voices, 3. Clearing. AAAS SB&B 17:177, 1981.
- Daiber, F. Animals of the Tidal Marsh. AAAS SB&F 17:257, 1982
- Scientific American: Life in the Sea. AAAS SB&F 18:77, 1982.
- Mammals in Water. Film AAAS SB&F 18: 287, 1983.
- Inquiry into Prehistoric Life. Filmstrip. AAAS SB&F 19:56, 1983
- Manatees: a Living Resource. Filmstrip. AAAS SB&F 20:320, 1985.
- Moss, S. Natural History of the Antarctic Peninsula. Columbia U. Press. AAAS SB&F 24:84, 1988.

- Moscucci, O. The Science of Woman: Gynaecology and Gender in England, 1800-1929. Quart. Rev. Biol. 68: 417-418, 1993.
- Church, T and R. Nakamura. Cleaning up the Mess: Implementation Strategies in Superfund. AAAS SB&F 29:197, 1993.
- Fuiman, L.(ed) Water Quality and Early Life Stages of Fish. Copeia
- Keatts, H. Beachcomber's Guide: From Cape Cod to Cape Hatteras. AAAS SB&F 32:47, 1996
- Sayre, A. P. Seashore. Twenty-first Century Books. SB&F 33:50
- Anatomy of the Shark. Film. AAAS SB&F 33:216, 1997
- Steene, Roger. Coral Seas. AAAS SB&F 34:262-63 1998
- DeFur, Crane, Ingersoll and Tattersfield: Endocrine Disruption in Invertebrates: Endocrinology, Testing and Assessment. SETAC Globe 1, #2: 32-33., 2000
- Brauenbeck, T., D. Hinton and B. Strett eds. Fish Ecotoxicology. Environ. Practise 2: 108 2000
- Langston and Bebianno Metal Metabolism in Aquatic Environments. Mar. Poll Bull. 40: 799-800, 2000
- Busch: Salmon Country AAAS SB&F 37:61.2001
- Love: Reefscape: Reflections on the Great Barrier Reef AAAS SB&F 37:159-160. 2001
- Sea of Sharks. Video. AAAS SB&F 38: 478, 2002
- Facts on File Handbook of Marine Science. AAAS SB&F 39: 265,2003
- Newman and Unger: Fundamentals of Ecotoxicology. BioScience 54: 268-270, 2004
- Charton, B. A to Z of Marine Scientists. AAAS SB&F 40: 71-72, 2004
- Biomedica Associates: The Biology of Sponges (Video -VHS). SB&F 40:183, 2004
- Seaman, B. 2004. The Greatest Experiment Ever Performed on Women. AWIS Magazine 33 #1: 17-20.
- Goldsmith, B. 2005 Obsessive Genius (Biography of Marine Curie). East Hampton Star March 3, 2005 P. C4
- Spotila, J. 2004. Sea Turtles: A Complete Guide to their Biology, Behavior and Conservation. SB&F 41: 29-30.
- Does Pollution Affect Fisheries? 2005 Critique of Lawrence and Hemingway (eds) 2003. Effects of pollution on Fish. Blackwell Science Pub. Oxford. 368 pp. Environ. Biol. Fish 72:357-359

#### Reports, Unrefereed Articles, Editorials etc.:

- Weis, J.S., E. Zimmerer, J. Galandak and A. Marchisin 1979. Establishment of a statewide list of bioassay organisms pursuant to the New Jersey Surface Water Standards. For the N.J. Dept. of Environmental Protection, 63 pp.
- Cheng, S.L., R.H. Ellis, S.J.Koepp, E.D. Santoro and J.S. Weis 1980. A comprehensive monitoring and assessment program for selected heavy metals in New Jersey Aquatic Fauna. For the N.J. Dept. of Environmental Protection. 166 pp.
- Weis, J.S. and P. Weis 1981. Methylmercury tolerance in the killifish. Coastal Ocean Pollution Assessment News.1:35-36.
- Weis, P., J. Bogden and J.S. Weis 1984. Effects of environmental factors (D.O., pH, and sediment perturbation) on release of mercury from Berry's Creek sediments and its uptake by killifish (*Fundulus heteroclitus*). For N.J. Dept. of Environmental Protection. 47 pp.
- Weis, J.S. 1984. Biologists and Policy-Making. Editorial, BioScience 34: 541.
- Weis, J.S. 1984. Pesticide Policies Change Slowly. Washington Watch Column, BioScience 34: 549.
- Weis, J.S. 1984. Environmental Policies. East Hampton "Star" Oct. 11, 1984.

- Weis, J.S. 1984. Environmental Policies. South Orange-Maplewood "News-Record" Nov. 1, 1984.
- Weis, J.S. 1986. Where are the voices for the environment? New York Times, Sunday June 8 Op-Ed, New Jersey Section p 32.
- Weis, J.S. 1986. How are drinking water standards set? The Jersey Sierran, vol 14 #3 July/Aug. p 2.
- Weis, J.S. 1986. Anti-fouling Paints. East Hampton Star, July 17, p 14.
- Weis J.S. 1986. Anti-fouling paint presents marine hazard. The Jersey Sierran vol. 14 #6 Nov/Dec, p 1.
- Weis, J.S. 1986. Whatever happened to environmental policy? Viewpoint Column, BioScience 36: 706.
- Weis, J.S. 1987. How Risk Standards are Set. East Hampton "Star." Feb.26, p II 1.
- Mitteldorf, A. and J.S. Weis 1987. No safe harbor for marine life. Sierra Magazine 72 #5: 27-32.
- Weis, J.S., P. Weis and F.S. Wang 1987. Developmental effects of tributyltin on the fiddler crab, Uca pugnator, and the killifish, Fundulus heteroclitus. In: Organotin Symposium, Proc. Oceans '87 Conference, pp 1456-1460.
- Weis, J.S. 1988. Action on Antifouling Paints. Washington Watch Column, BioScience 38: 90.
- Barnett, N. and J.S. Weis 1988. A place for biologists in Congress. Viewpoint Column, BioScience 38: 586.
- Weis, J.S. Development of STS courses at Rutgers Newark. In: The Machine in the Garden State. Technological Literacy and STS Curriculum Development in New Jersey. Ed. J. O'Connor. Center for Technology Studies. N.J.I.T. pp 81-82.
- Weis, J.S. and J. O'Connor 1988. The N.J.I.T./Rutgers-Newark Faculty Seminar in Science, Technology & Society. pp 83-91 in above.
- Weis, J.S. 1988. Ocean Dumping Revisited. Washington Watch Column, BioScience 38: 749.
- Weis, J.S. 1989. Action on Pesticides. Washington Watch Column, BioScience 39: 14.
- Weis, J.S. 1989. The status of women on college campuses. Assoc. for Women in Science Newsletter 18:13.
- Weis, J.S. 1989. News on Science Education. Washington Watch Column, BioScience 39: 763.
- Weis, J.S. 1989. Environmental Scientists and Policy Making: The Case of Tributyltin. Ecological Society of America, Applied Ecology Section Newsletter 17, no. 2: 1-2.
- Weis, J.S. 1990. Marine Life: Up the Creek. Op-Ed article. N.Y. Newsday, Jan. 15, 1990, p. 40. (Reprinted in Rutgers Focus 44 #14, April 20, 1990, p 3).
- Weis, J.S. 1990. Environmental Education. Washington Watch Column, BioScience 40:433.
- Weis, J.S. 1991. RU-486 and Freedom of Scientific Inquiry. Viewpoint Column, Bioscience 41:370.
- Weis, J.S. and P. Weis 1992. NPS from Treated Wood Structures in the Coastal Environment. EPA News-Notes #20: 9-10.
- Weis, J.S. 1992. Undergraduate Environmental Science Report. Environ. Sci. Tech. 26: 1296-97.
- Weis, J.S. 1993. The Congressional Science Fellow Program. Bull. Ecol Soc. Amer. 74:183-184
- Weis, J.S. 1993. Toxic Wood Along the Coast. Coastlines, vol 3 #3: 4-5
- Weis, J.S. and P. Weis 1994. Studies on biological effects of CCA-treated wood structures in estuaries. pp 79-81 In: Environmental Considerations in the Manufacture, Use and Disposal of Preservative-Treated Wood. Forest Products Society, Madison, WI
- Weis, J.S. and P. Weis 1994. Ecological effects of CCA-treated lumber in coastal areas. pp 525-535 In: Organizing for the Coast. Coastal Society 13th Conference Proceedings, 1992. Gloucester MA.
- Weis, J.S. 1994. You can't go home again. In: From the Lab to the Hill: Essays Celebrating 20 Years of Congressional Science and Engineering Fellows, ed. A. Fainberg. AAAS Press,

- Washington DC pp 129-132.
- Mugue, N. and J.S Weis 1995. Population genetics of *Fundulus heteroclitus* in the Hudson River and North New Jersey Estuaries: Evaluation of subspecies boundary and hybridization with *F. diaphanus*. Section VII in E. Blair and J. Waldman (eds), Final Reports of the Tibor Polgar Fellowship Program, 1995. Hudson River Foundation, New York. pp VII-1 - VII-38.
- Weis, J.S. 1997. Effects of pollution on the behavior and subsequent fitness of salt marsh killifish. pg. 127-131 in: Management of Atlantic Coastal Marine Fish Habitat: Proceeding of a workshop for habitat managers, Philadelphia, June 3-6 1996. Atlantic States Marine Fisheries Commission.
- Weis, J.S. and P. Weis 1997. Effects of bulkheads made of pressure-treated wood and other materials on shallow water benthos in estuaries. In: Proc. 2nd Marine and Estuarine Shallow Water Science & Management Conf. Atlantic City, Apr. '95. USEPA, Philadelphia pp 327-337.
- Samson, J.C. and J.S. Weis 1998. Investigations into cadmium resistance in *Fundulus* from a metals contaminated site. Pages III-1 - III-24 in: J.R. Waldman and W.C. Nieder (eds.) Final reports of Tibor Polgar Fellowship Program 1997. Hudson River Foundation.
- Weis, J.S. 2000. AIBS and the Congressional Science Fellowship Program. *BioScience* 50: 99.
- Weis, J.S. 2001. Survival of the fittest – or the best organized. *BioScience* 51: 3.
- Weis, J.S. 2001. Working on Science Funding. *BioScience* 51: 603
- Weis, J.S. 2001. Controversy over Evolution is not scientific, it's political. *BioScience* 51: 995
- Weis, J.S. 2001. Open letter about the events of September 11. *BioScience* 51: 996.
- Weis, J.S., et al. 2002. Biology, Environment, and Conservation in South Africa. *BioScience* 52: 782-790.
- Weis, J.S. 2003. Fish flounder through captive breeding. *BioScience* 53: 536
- Weis, J.S. 2003. Don't let fishermen off the hook. *Bergen Record Op-Ed*, May 20.
- Weis, J.S. 2003. The Tang Commercial, or My Brief Career in Show Biz. *AWIS Magazine* 32 #4: 23-24
- Weis, J.S. 2004. Effects of CCA wood in Estuarine Environments. Proceedings of the conference on Environmental Impacts of Preservative-Treated Wood. Feb 2004, Orlando FL.
- Weis, J.S. 2005 Fundraiser in New York City: AWIS Meets Hollywood! *AWIS Magazine* 34#3: 47
- Weis, J.S. 2005. The Personal and the Political: Thoughts after the AWIS Conference. *AWIS Magazine* 34#3: 45.
- Weis, J.S. 2007. New Jersey's latest poison de jour. *Bergen Record Editorial* Feb. 2007