

Curriculum Vitae

Dated: 30 September 2010

Current Position	Full Professor (W3) and Chair of Environmental Economics , Alfred Weber-Institute, Department of Economics, University of Heidelberg, Germany (since Summer Term 2005)
Other current positions and affiliations	Executive Director, Research Centre for Environmental Economics, University of Heidelberg (since Summer Term 2005) Director, Alfred-Weber-Institute, Department of Economics, University of Heidelberg (since Winter Term 2005) Member, Senate Commission on Biodiversity Research, German Research Foundation (DFG)
Previous Positions	<i>Visiting Professor</i> – University of Montpellier I and LAMETA, Montpellier, France (2010) <i>Assistant Professor</i> – Department of Applied and Agricultural Economics and INSITE, UW Business School, University of Wisconsin-Madison, USA (2003-2005) <i>University Lecturer in Environmental Economics</i> – Department of Land Economy, University of Cambridge, Cambridge, England (2000 - 2003) <i>Director, Cambridge Research for the Environment</i> , University of Cambridge, Cambridge, England (2001 – 2003) <i>Research Fellow</i> – ESRC Centre for Social and Economic Research on the Global Environment (CSERGE), Department of Economics, University College London, UK. (1998-1999). <i>Marie Curie Fellow</i> - Faculty of Economics and Politics, University of Cambridge, UK (1997- 1999)
Education	2000 Ph.D. in Economics , Faculty of Economics, University of Cambridge. 1996 M.Phil. in Economics , University of Cambridge, UK. 1995 Magister (with distinction) in Political Economy , Universität Innsbruck, Austria. 1994 M.A. in Economics , University of Notre Dame, Indiana, USA.
Research Interests	<ul style="list-style-type: none">• Environmental economics• Economics of natural resources• Economics of regulation• Economics of innovation and R&D

Monographs

Distributive Issues in Conservation Policy (with P. Bagnoli and E. Kovacs). Paris: OECD 2008

Refereed journal publications

- (1) The Biodiversity Bargaining Problem (with R. Gatti, B. Groom, and T. Swanson). *Environmental and Resource Economics*. Forthcoming.
- (2) The Political Economy of the Environmental Criminal Justice System: A Production Function Approach (with C. Almer). *Public Choice*. Forthcoming.
- (3) Environmental Crime and Punishment: Empirical Evidence from the German Penal Code (with C. Almer). *Land Economics* 86(4), November 2010: 707–726.
- (4) On Backstops and Boomerangs: Environmental R&D under Technological Uncertainty (with G. Perino). *Energy Economics* 31(5), September 2009, 800–809.
- (5) Optimal Conservation, Extinction Debt, and the Augmented Quasi-Option Value (with A. Leroux and V. Martin). *Journal of Environmental Economics and Management* 58(1), July 2009, 43–57.
- (6) The Value of Conserving Genetic Resources for R&D (with M. Sarr and T. Swanson). *Ecological Economics* 67(2), September 2008, 184–193.
- (7) Real options in biodiversity conservation (with A. Leroux and V. Martin), *Proceedings in Applied Mathematics and Mechanics (PAMM)* 7(1), December 2007, 1080801–1080802.
- (8) Innovation Without Magic Bullets: Stock Pollution and R&D Sequences (with G. Perino). *Journal of Environmental Economics and Management*, 54(2), Sept. 2007, 146–161.
- (9) Property Rights for Biodiversity Conservation and Development: An Analysis of Extractive Reserves in the Brazilian Amazon (with D. Iglori). *Development and Change* 37(2), March 2006, 427–451.
- (10) Non-Binding Linked-Issues Referenda: Analysis and an Application. *Public Choice* 124 (3–4), September 2005, 249–266.
- (11) Incentivizing Ecological Destruction: The Joint International Regulation of the Conservation and Use of Biodiversity (with R. Gatti, B. Groom and T. Swanson), *Indiana Law Review* 38(3), May 2005, 619–635.
- (12) Reconciling Conservation and Development: A Dynamic Hotelling Model of Extractive Reserves (with D. Iglori). *Land Economics* 80(3), Aug. 2004, 340–54.
- (13) Plagues, Pests, and Patents (with T. Swanson). *Journal of the European Economic Association*, Vol. 1(2–3), May–June 2003, 561–575.
- (14) The Development Impact of Genetic Use Restriction: A Forecast based on the Hybrid Crop Experience (with T. Swanson). *Environment and Development Economics* 8, 2003, 149–165.
- (15) The Social Value of Biodiversity for R&D (with T. Swanson).

Environmental and Resource Economics 22(4) Aug. 2002, 477-504

- (16) Genetic use restriction technologies and the diffusion of yield gains to developing countries (with T. Swanson). *Journal of International Development* 12(8) Dec. 2000, 1159-1178.
- (17) Property Rights Issues Involving Plant Genetic Resources: Implications of Ownership for Economic Efficiency (with T. Swanson); *Ecological Economics* 32(1), Jan. 2000, 75-92.
- (18) An Analysis of the Impacts of Genetic Use Restriction Technologies (GURTs) on Developing Countries (with T. Swanson), *International Journal of Biotechnology* Vol. 2, Jan-Feb. 2000, 56-84.

**Publications
under review**

Instrument Choice and Motivation: Evidence from a Climate Change Experiment (with G. Perino).
Status: 1st review round at *Environmental and Resource Economics*.

The Sopranos Redux: The Empirical Economics of Waste Crime (with C. Almer)
Status: 1st review round at the *Canadian Journal of Economics*.

Monitoring and Enforcement: The L.B. Jefferies Problem (with O. Jürgens)
Status: 1st review round at the *Journal of Legal Studies*.

**Working
Papers**

Modern Agricultural Science in Transition: A Survey of U.S. Land-Grant Agricultural and Life Scientists (with J. Goldberger, J. Foltz, B. Barham). PATS Research Report No. 14. Program on Agricultural Technology Studies, University of Wisconsin-Madison (2005).

Biodiversity Conservation on Private Lands: Information Problems and Regulatory Choices (with T. Lin). *FEEM Working Paper 55.04*. Fondazione ENI Enrico Mattei, 2004.

Property Rights, Conservation, and Development: An Analysis of Extractive Reserves in the Brazilian Amazon. *FEEM Working Paper 60.04*. Fondazione ENI Enrico Mattei, 2004.

The Biodiversity Bargaining Game (with R. Gatti, B. Groom, and T. Swanson), *Cambridge Working Papers in Economics* No. 0447, Sept. 2004

On Biology and Technology: The Economics of Managing Biotechnologies (with T. Swanson). *FEEM Working Paper 42.03*. Fondazione ENI E. Mattei, 2003.

Lost Horizons in Antibiotic Resistance Management: Problems in the IPR-based Management of an Evolutionary Biological System (with T. Swanson). *FEEM Working Paper 89.02*. Fondazione ENI Enrico Mattei, 2002.

**Publications
in
preparation**

Long-Term Environmental Problems and Strategic Intergenerational Transfers (with D. Heyen and J. Moreno-Cruz).

Beyond Money: A Large-Scale Quasi-Field Experiment on WTP for GHG emissions reductions (with J. Diederich)

Environmental Monitoring By Citizens: When is Better Better? (with O. Jürgens)

The Russia Problem: Optimal Behavior under Simultaneous Market Power in Hydrocarbon and Abatement Markets (with U. Chakravorty).

Explaining the market structure in the environmental advocacy sector: Campaigning as a discovery process.

The Predictability of Motivation Crowding: An Experimental Test of the Frey Conjecture (with G. Perino).

Prices versus quantities in a public goods experiment (with D. van Soest)

Criminalizing environmental offences: When the prosecutor's helping hand hurts (with O. Jürgens).

Innovation in Antibiotics: Theory and Econometric Evidence from the US PTO Database (with S. Kim).

The optimal reward structure for private horizontal R&D (with G. Perino).

Can Science Help International Environmental Agreements? (with C.F. Mason).

Book contributions

- (1) International experiences to inform The People's Republic of China's institutional choices for environmental policy. In: T. Lin and T. Swanson (eds.): *Economic Growth and Environmental Regulation*. Abingdon/New York: Routledge, 2010, 296-317.
- (2) Distributive Constraints on Environmental Policy in Central Asia. In: J. Qi., K. Evered (eds.): *Environmental Problems of Central Asia and their Economic, Social and Security Impacts*. New York: Springer 2009, 311-326.
- (3) Designing the Legacy Library of Genetic Resources: Approaches, Methods, Results (with T. Swanson). In: A. Kontoleon, U. Pascual and T. Swanson (eds.): *Frontiers in Biodiversity Economics*. Cambridge: Cambridge University Press 2007, 273-292.
- (4) Do patent-style intellectual property rights on transgenic crops harm the environment? In: J. Wesseler (ed.): *Environmental Costs and Benefits of Transgenic Crops in Europe: Implications for Research, Production, and Consumption*. Dordrecht, The Netherlands: Kluwer Academic Publishers 2005, 203-218.
- (5) Diffusion and Distribution: The Impacts on Poor Countries of Technological Enforcement within the Biotechnology Sector (with T. Swanson). In: K. Maskus and J. Reichman (eds.): *International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime*. Cambridge: Cambridge University Press, 2005, 669-694.
- (6) The Inappropriateness of the Patent System for Addressing Recurring Problems of Resistance (with T. Swanson). In: R. Laxminarayan: *Battling Resistance to Antibiotics and Pesticides: An Economic Approach*. Washington. D.C.: RFF Press 2003, 293 – 329.
- (7) Stakes in the Evolutionary Race. The Value of Medicinal Plants. In: C.

- Johnson and C. Franz (eds.): *Breeding Research on Medicinal Plants*. Haworth Press, NY 2002, 373-388.
- (8) The Impacts of GURTS: Agricultural R&D and Appropriation Mechanisms (with T. Swanson). In T. Swanson (ed): *Biotechnology, Agriculture and the Developing World. The Distributional Implications of Technological Change*. Cheltenham: Edward Elgar 2002, 44-66.
- (9) The Impacts of GURTS on Developing Countries: A Preliminary Assessment (with T. Swanson). In T. Swanson (ed): *Biotechnology, Agriculture and the Developing World. The Distributional Implications of Technological Change*. Cheltenham: Edward Elgar 2002, 177-197.
- (10) Forecasting the impact of genetic use restriction technologies: a case study on the impact of hybrid crop varieties (with T. Swanson). In T. Swanson (ed): *Biotechnology, Agriculture and the Developing World. The Distributional Implications of Technological Change*. Cheltenham: Edward Elgar 2002, 198-218.
- (11) Policy Options for the Biotechnology Revolution: What can be done to address the distributional implications of biotechnologies (with T. Swanson). In T. Swanson (ed): *Biotechnology, Agriculture and the Developing World. The Distributional Implications of Technological Change*. Cheltenham: Edward Elgar 2002, 249-270.
- (12) Intellectual Property Rights in Global Agriculture and their Impact on the Diffusion of Productivity Gains (with T. Swanson). In: D. O'Connor (ed.): *Technology and Poverty Reduction in Asia and the Pacific*. OECD Publications 2002.
- (13) On the Economic Limits to Technological Potential: Will Industry Resolve the Resistance Problem? (with T. Swanson). In: Swanson, T. (ed): *The Economics of Managing Biotechnologies*. Dordrecht: Kluwer Academic Publishers 2002, ch. 4.
- (14) The Diffusion of Benefits from Biotechnological Developments: The Impact of Use Restrictions on the Distribution of Benefits (with T. Swanson). In: Swanson, T. (ed): *The Economics of Managing Biotechnologies*. Dordrecht: Kluwer Academic Publishers 2002, ch. 10.
- (15) The Impact of Genetic Use Restriction Technologies on Developing Countries: A Forecast. In: Evenson, R., Zilberman, D. (eds.): *Economic and Social Issues in Agricultural Biotechnology*. Wallingford: CABI. 2002.
- (16) Of Terminator Genes and Developing Countries: What are the Impacts of Appropriation Technologies on Technological Diffusion (with T. Swanson). In: M. Qaim, A Krattiger and J.v. Braun: *Agricultural Biotechnology in Developing Countries: Towards Optimizing the Benefits for the Poor*. Dordrecht: Kluwer Academic Publishers 2000, 237-254.
- (17) Ecology, Information, Externalities and Policies: The Optimal Management of Biodiversity for Agriculture (with T. Swanson). In: G.H. Peters and J. von Braun (eds.): *Food Security, Diversification and Resource Management: Refocusing the Role of Agriculture*, Brookfield: Ashgate, 1999.

(18) Optimal Genetic Resource Conservation: In Situ and Ex Situ (with T. Swanson). In: Brush, S. (ed.): *Genes in the Field: On-Farm Conservation of Crop Diversity*. IDRC/Lewis 1999.

(19) Market/Non-Market Incentives and Agricultural Policies for On-Farm Conservation. In: Jarvis, D. and T. Hodgkin (eds.): *Strengthening the Scientific Basis of On Farm Conservation of Agricultural Biodiversity*. Rome: IPGRI/FAO, 1998.

Academic Service

- Referee for
 - *International Economic Review*
 - *Journal of Environmental Economics and Management*
 - *Journal of Economic Dynamics and Control*
 - *American Journal of Agricultural Economics*
 - *Environment and Resource Economics*
 - *Energy Economics*
 - *Land Economics*
 - *Journal of Economic Education*
 - *Environment and Development Economics*
 - *Water Resources Journal*
 - *Natural Resource Modeling*
 - *Ecological Modelling*
 - *Journal of Environmental Management*
 - *Royal Geographic Society*
- Scientific Committee Member
 - *3rd World Congress of Environmental and Resource Economists, Kyoto, Japan, 2006.*
 - *European Environmental and Resource Economics Conference, Thessaloniki, Greece 2007.*
 - *European Environmental and Resource Economics Conference, Amsterdam, Netherlands, 2009.*
 - *BIOECON Workshop, Cambridge, UK, 2007 and 2008.*
- Member, Research Committee on Environmental and Resource Economics, German Economic Association (Verein für Socialpolitik)
- Faculty Member, EAERE-FEEM European Summer School in Environmental and Resource Economics 2007.
- External Lecturer, Ecole Nationale Supérieure d'Études Agronomique de Montpellier, 2003.
- External Lecturer, CIHEAM Summer Course on *Economics of Biodiversity Conservation*, Ege University, Izmir, Turkey, 2001
- Expert evaluator, *European Commission, Directorate General for Research*, Brussels, BE.
- Referee, *National Science Foundation*, USA
- Referee, *German Science Association*, Germany
- Referee, *Economic and Social Research Council*, UK
- Referee, *The Research Council of Norway*, Norway.
- Organizer, Workshop '*Beyond the Economics of Crime*', Heidelberg, March 2009
- Organizer, *ECOCRIME Workshop*, Heidelberg, Nov. 2007

- Organizer, *Workshop on Contract Mechanisms in Biodiversity Conservation*, Montpellier, May 21-25, 2003.
- External Dissertation Examiner, Ecole Nationale Supérieure d'Études Agronomique de Montpellier.

Public Service

- Member, *Expert Advisory Group on GM Crops*, Prime Minister's Strategy Unit, Cabinet Office, United Kingdom, 2003.
- Member, *International Expert Advisory Group, 50-year Macro- Strategy for Environment and Energy*, People's Republic of China, 2008.
- Member, *Expert Advisory Group, Economics for Sustainability*, Ministry of Science and Research, Republic of Austria, 2008.

Prizes, Awards

- **Professeur Invité**, University Montpellier I, 2009-2010.
- **Fulbright-Schuman Fellow**, 2009-2010 (declined)
- **Marsilius Fellow**, University of Heidelberg, 2008-2009.
- **Marie Curie – Fellow**, European Commission, 1997-1999.
- **Cambridge European Trust Scholar** (1996-1999)
- **Austrian Academy of Sciences Doctoral Scholarship** (1997)
- **Postgraduate Scholarship** of the Republic of Austria and the British Council (1995-1997)
- “**Würdigungspreis**”: Award given to the 40 best graduates across all Austrian Universities in each year (1995)
- **Fulbright Scholarship** (1994)

External Grants

- *Climate Change and Aging (CLIMAGE)*. Federal Ministry of Science and Research Germany (EUR 460,000). Co-Principal Investigator. 2010-2013
- *Public Information Disclosure in Environmental Policy (INFINUM)*. Federal Ministry of Science and Research Germany (EUR 475,000). Principal Investigator. 2010-2013.
- *Disentangling the Micro-Structure of the Willingness to Pay for Climate Protection*. German Research Foundation – DFG (EUR 168,000), 2010 - 2012
- *Climate Change: Preferences, Instruments, and Implementation*. International Research Sabbatical Grant, Federal Ministry of Science and Research Germany (EUR 3,000)
- *Global Change and Globalization*. Ministry of Science and Research, State of Baden-Württemberg, Germany (EUR 1,250,000), 2009-2011. Co-Principal Investigator.
- *Beyond the Economics of Crime*. Workshop funded by Thyssen-Foundation, March 2009 (EUR 15,000). Principal Organizer.
- *The Economics of Environmental Crime*. Funded by Federal Ministry of Science and Research, Germany (EUR 330,000), 2007-2009. Principal Investigator.
- *The Rate and Direction of Life Science R&D at U.S. Land Grant Universities*. Funded by National Science Foundation and NRI-USDA (\$550,000), 2004-2007. Co-Principal Investigator.
- *The Optimal Trade-Off Between Treatment and R&D Strategies in the Management of Pest and Pathogen Evolution*. Hatch Grant, US

Department of Agriculture (\$52,000), 2004 - 2006. Principal Investigator.

- *Biodiversity and Economics for Conservation (BioECon)*. Funded by the European Commission (EUR 1,150,000), 2001-2004. Co-Principal Investigator and Steering Committee Member,
- *Sustainable Development and the Environmental Regulation of Regulated Industries (SDERI)*. Funded by Anglian Water Group plc. (\$275,000). 2003-2006. Principal Investigator.
- *The Management of Traditional Knowledge*. Funded by World Bank (\$45,000), 2002-2003. Co-investigator.
- *Impacts of Genetic Use Restriction Technologies on Livelihoods in Developing Countries*. Funded by the Department for International Development, UK (\$30,000). Co-investigator.

Papers at Conferences and Workshops

Conference presentations at the *American Economic Association Meetings (2007, 2000)*, *American Agricultural and Applied Economics Meeting (2008)*, *European Economic Association Meetings (2007, 2001)*, *World Congresses of Environmental and Resource Economists (1998, 2006, 2010)*, *European Association of Environmental and Resource Economics*, *Global Change and Terrestrial Ecosystems*, and others

Workshop papers at *Harvard University*, *Massachusetts Institute of Technology*, *University of Minnesota*, *Iowa State University*, *Resources for the Future*, *Imperial College London*, *University College London*, *Tilburg University*, *University of Cambridge*, *Fondazione ENI Enrico Mattei*, etc.

Research Supervision

Completed PhD students

- (1) *Danilo Iglori, University of Cambridge*: "Biological Resources, Property Rights, and Regional Development"
Placement: Assistant Professor, Department of Economics, University of São Paulo; Adam Smith Fellow in Political Economy, Pembroke College, Cambridge.
- (2) *Tun Lin, University of Cambridge* (jointly with P. Dasgupta): "Information Discovery in Regulatory, Legislative and Media Processes".
Placement: Researcher, Economic Research Division, Asian Development Bank.
- (3) *Anke Leroux, University of Cambridge*: "Ecological Constraints to Economic Growth".
Placement: University Lecturer, Department of Economics, LaTrobe University, Melbourne, Australia.
- (4) *Grischa Perino, University of Heidelberg*: "The Economics of Environmental Innovation, Regulation, and Commitment".
Placement: University Lecturer, Department of Economics, University of East Anglia, Norwich, UK.
- (5) *Christian Almer, University of Heidelberg*: "The Economics of Environmental Crime: An Empirical Analysis".
Placement: Postdoctoral Researcher, Department of Economics, University of Berne, Switzerland.

PhD students in progress

Jorge Gutierrez; Ole Jürgens; Johannes Diederich; Johannes Jarke

**Outside
Recognition -
Academia**

- Invited Keynote, Conference on “Modeling Technology and Climate Change”, Kiel Institute for the World Economy, Oct. 14-15, 2010.
- Invited Contribution. DFG-Roundtable on Geo-Engineering.
- Invited Contribution, *DFG-Roundtable on Geo-Engineering*, University of Kiel, June 3-4, 2009.
- Invited Keynote Lecture, European Science Foundation Workshop on *Public Goods, Externalities, and the Environment*. University of Montpellier, France, June 2008.
- Invited Keynote Lecture, REFGOV Workshop on “*The Supply of Global Public Goods*”, Université Louvain-la-Neuve, Belgium, June 2006
- Invited Keynote Lecture, DAAD Symposium on *Economy and Ecology*, Fortaleza, Brazil, July 2005.
- Invited Paper, WZB Conference on ‘*Incentive Politics in the First Ten Years of the Convention on Biodiversity*’, Wissenschaftszentrum Berlin, July 2003.
- Invited Paper, ESF-CEPR Workshop on “The Impact of Institutions on Innovation”, IESE, Barcelona, Spain, Sept. 2003.
- Invited Paper, FRONTIS Workshop on “*The Environmental Impacts of Transgenic Crops*”. Wageningen University (NL), June 2003.
- Invited Paper, 2nd EPIP Conference on *European Programme on Intellectual Property*, European Patent Office, Munich, April 2003
- Invited Paper, *European Economic Association Meeting*, Venice, Aug. 2002.
- Invited Keynote Lecture, Closing Symposium, *Finnish Academy of Sciences Biodiversity Research Programme*, Espoo, Nov. 2002.
- Invited Paper, Symposium on the *Economics of Resistance*, Resources for the Future, Airlie Center, Virginia, USA, April 2001.
- Invited Keynote Lecture: International Symposium on Medicinal Plants, *Mediterranean Agronomic Research Institute*, Chania, July 2000.
- Invited Paper, Symposium on *Managing Antibiotics Resistance*, Center for International Development, Kennedy School of Government, Harvard University, Feb. 2000.
- Invited Keynote Lecture: Symposium on *The Value of Biodiversity*, Austrian Academy of Sciences. Vienna, Dec. 1999.

**Outside
Recognition -
Policy**

- *Keynote Speech, 5th Energy Economics Seminar, The Hague, Netherlands*
- Keynote Speech, Symposium on *Biodiversity: Between Climate Change and Economic Considerations*, Ministry of the Environment, Forests, and Consumer Protection, Rhineland-Palatinate, Mainz, April 14, 2008.
- Invited Expert, UNEP/IUCN Technical Discussion on *International Payments for Ecosystem Services*, Geneva, September 12-12, 2006
- Invited Expert, OECD Workshop on Distributive Issues in Biodiversity Policy, Oaxaca, Mexico, April 2006.
- Invited Discussant, ‘Biodiversity: Science and Governance’, International Scientific Conference hosted by UNESCO, Paris, Jan. 2005.
- Invited Paper: IPR regimes and the diffusion of innovations to developing countries. *Asian Development Bank* and *OECD* Joint meeting, Paris, Jun. 18-19, 2001.

Consulting

- Invited expert, consultation meeting, *Biotechnology and Rural Livelihoods*, ISNAR, The Hague, 2001.
- Asian Development Bank, Manila, The Philippines.
- Organisation of Economic Cooperation and Development, Paris.
- The World Bank, Washington. D.C., USA
- Department for International Development, London, UK.
- British Petroleum plc., London, UK.
- International Plant Genetic Resources Institute, Rome, Italy.
- Anglian Water plc., Huntington, UK.
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