

## **PROFESSOR TIMOTHY SWANSON**

**ANDRÉ HOFFMAN CHAIR OF ECONOMICS & DIRECTOR-CIES**

**GRADUATE INSTITUTE OF INTERNATIONAL AND DEVELOPMENT STUDIES  
GENEVA, SWITZERLAND**

**PO Box 136  
1211 Geneva 21  
Switzerland  
+41 22 908 6217**

**[Tim.Swanson@graduateinstitute.ch](mailto:Tim.Swanson@graduateinstitute.ch)**

### **Current Affiliations:**

**Member of Department of Economics and Academic Co-Director of CIES  
The Graduate Institute - Geneva**

**Senior Departmental Fellow  
Cambridge University**

### **ACADEMIC SUMMARY:**

Professor Swanson has had a career that has spanned several disciplines relating to policy, resources and governance. He has been members of both law faculties and economics departments in several countries, teaching and providing policy guidance on issues relating to resource management, technological change, institutional governance and regulation. Professor Swanson's academic career commenced in London where he was first an assistant professor in law & economics at University College London, as well as a director of research for the Centre for Social and Economic Research on the Global Environment (CSERGE). He departed UCL for Cambridge University in 1991 where he was located wholly within the economics department and focused on regulation and resource management. There he did much of his work on genetic resources, biotechnology and agricultural development. In 1998 he departed Cambridge University when elected to the Chair in Law & Economics at UCL, but remained a Research Fellow at Cambridge University and co-director of the Centre for Law & Economics for Environment and Development. At UCL much of the focus of his work was on international institutions and global development. In 2010 he moved to the André Hoffmann Chair at the Graduate Institute-Geneva, where he is also academic director of the Centre for International Environmental Studies. Here he focuses on sustainable development. He has advised widely on issues dealing with resource management, regulation and development, at the country level (esp. Asia and Africa) and for international institutions and agencies (UNEP, IFPRI, World Bank, Asian Development Bank, China Council on International Cooperation for Environment and Development, UNDP, WIPO).

***POSITIONS/AFFILIATIONS:***

**2010-Present Andre Hoffmann Chair of Economics, Graduate Institute-Geneva**

**1998-2009 Professor of Law & Economics, University College London**

**1991-1998 Assistant Prof/Associate Prof in Economics, University of Cambridge**

**1987-1991 Assistant Professor in Law & Economics, University College London**

**1985-1987 Ph.D. Candidate & Teaching Fellow, London School of Economics**

**1982-1985 Associate Attorney, Perkins Coie Law Firm  
Member of Bar, State of Washington and 9<sup>th</sup> Circuit US Federal Court**

***VISITING APPOINTMENTS:***

1991-2001 Research Director, CSERGE - University College London

2004-2005 Visiting Professor, University of Washington

Spring 2016 Visiting Professor, Department of Economics, University of Cape Town

Spring 2016 Visiting Professor, Beijing University

2012-Present Senior Departmental Fellow, Cambridge University

***EDUCATION:***

**Ph.D. 1993**  
**LONDON SCHOOL OF ECONOMICS**  
Department of Economics  
Dissertation: Environment and Development  
Supervisor: Professor Nicholas Stern

**J.D. 1982**  
**UNIVERSITY OF MICHIGAN LAW SCHOOL**  
Concentrations in: Law & Economics, Regulation

**M.A. 1980**  
**UNIVERSITY OF MICHIGAN**  
Department of Economics  
Concentration on: Economics of Industry

***PERSONAL:***

U.K./U.S. Citizenship  
Swiss Resident Status

Born 25 July 1956  
Champaign, Illinois

## ***PUBLICATIONS/RESEARCH PAPERS***

### ***Current Research - Working Papers:***

Transfer of Improved Varieties in Informal Markets and the Diffusion of Embedded Innovation: Experimentation with Genetic Resources in Uganda, (with M. Bozzola and N. Tyack) CIES Research Paper no. 46, 2016.

Ancillary benefits of GHG abatement policies in developing countries: a literature survey (with C. Ravetti, et. al.) Geneva : The Graduate Institute, 2014, *CIES Research Paper ; no. 26*.

Evaluating the Propensity to Save in South Africa using the Weather-Income Relationship, (with H. Ting and M. Viarengo).

### ***Some Articles in refereed journals (over 100 published articles):***

The Return of Malthus? Resource Constraints in an Era of Declining Population Growth, (with P. Naso and B. Lanz), *European Economic Review*, 128:103499 (September 2020), <https://doi.org/10.1016/j.euroecorev.2020.103499>

An Introduction to the Economics of Malthusianism (with T. Aidt), *European Economic Review*, 128:103546 (September 2020) <https://doi.org/10.1016/j.euroecorev.2020.103546>

The Impact of Environmental Regulation on China's Spatial Development (with P. Naso and Y. Huang), *Economics of Transition and Institutional Change*, vol. 28(1), pages 161-194, (January 2020) [doi.org/10.1111/ecot.12234](https://doi.org/10.1111/ecot.12234)

Legal pluralism in post-conflict Sierra Leone, (with P. Naso and E. Bulte), *European Journal of Political Economy*, 61:101819 (January 2020), [doi.org/10.1016/j.ejpoleco.2019.101819](https://doi.org/10.1016/j.ejpoleco.2019.101819)

Discrimination and favoritism among workers: union membership and ethnic identity in the coal fields of South Africa, (with M. Sarr and C. Ravetti), *World Development*, 123:1-21 (November 2019)

A Dragon Eating Its Own Tail: Pollution Information and Pollution Control in China (with C. Ravetti, et. al.), *Environment and Development Economics*, 24:1-22 (November 2019)

Follow the Leader? Measuring the Internalization of Law, (with S. Larcom and L. Panzone), *Journal of Legal Studies*, 48(1):217-244 (January 2019).

Foreign Aid and Political Instability in Resource Rich Countries (with C. Ravetti and M. Sarr), *Resources Policy*, 58:277-294, (July 2018).

The expansion of modern agriculture and global biodiversity decline: an integrated assessment, (with B. Lanz and S. Dietz), *Ecological Economics*, 144, pp. 260-277, (Feb 2018).

The Behavioural Effect of Pigovian Regulation: evidence from a field experiment. (with B. Lanz, J. Wurlod and L. Panzone), *Journal of Environmental Economics and Management*, 87: 190-205, January 2018.

Economic growth and agricultural land conversion under uncertain productivity improvements in agriculture (with B Lanz, S Dietz), *American Journal of Agricultural Economics*, aax078, <https://doi.org/10.1093/ajae/aax078> (December 2017)

Will Technological Change Save the World? (with M. Sarr), *Environmental and Resource Economics*, Volume 66 (3), 577–604, March 2017.

Global population growth, Technology and Malthusian constraints: A quantitative growth theoretic perspective (with B. Lanz and S. Dietz), *International Economic Review*, 58(3), 973-1006, August 2017.

Resistance to the regulation of common water resources in rural Tunisia (with X. Liu and M. Sarr), *Land Economics*, v.91 no 3 (2015), 435-459, 2015.

Documenting legal dissonance: legal pluralism in Papua New Guinea, (with S. Larcom), *Review of Law & Economics*, Volume 11, Issue 1, Pages 25–50, 2015.

Policy implications of climate variability on agriculture: water management in the Po river basin, Italy (with M. Bozzola), *Environmental science and policy*, 43(2014), p 26-38, 2014.

Motivation Crowding in Real Consumption Decisions: who is messing with my groceries? (with G. Perino and L. Panzone), *Economic Enquiry*, 2013.

Regulating Global Biodiversity (with B. Groom), *Oxford Review of Economic Policy* 28 (1): 114-138. 2012.

On the Looting of Nations (with M. Sarr, C. Meissner, and E. Bulte), *Public Choice*, 148:353-380, 2011.

The Biodiversity Bargaining Problem (with R. Gatti, B. Groom, and T. Goeschl), *Environmental and Resource Economics*, 48(4):609-630, 2011.

Economics of IPR for Genetic Resources: North-South Cooperation in Sequential R&D (with M. Sarr), *International Journal of Ecological Economics & Statistics*, (conference issue), 26 (3), 67-82, 2011.

When should households be compensated for land-use restrictions? A decision-making framework for Chinese forest policy. (with A. Kontoleon, S. Zhang and K. Mullan), *Land Use Policy*, Vol 28 (2), pp 402-412, 2011.

Relaxing Rural Constraints: A win-win policy for environment and poverty in China? (with B Groom, P Grosjean, A Kontoleon and S Zhang). *Oxford Economic Papers*, Volume 62, Issue 1, pp. 132-156, 2010.

An evaluation of the impact of the Natural Forest Protection Programme on Rural Household Livelihoods' (with A Kontoleon, K Mullan and S Zhang). *Environmental Management*, Volume 45, Number 3, 513-525, 2010.

The Value of Genetic Resources for R&D: A Survey, (with Sarr and Goeschl), *Ecological Economics*, 2008.

The Law and Economics of Nuisance (with Kontoleon), in *The Encyclopedia of Law and Economics*, 2008.

Re-Telling the Tale of the Commons: Governance Problems as Commons Problems, *International Review of Environmental Economics*, 1(1), 2007.

Valuing Complex Goods: Or, can you get anything out of an expert other than an opinion? (with Groom and Kontoleon), *Research in Law & Economics*, 31:350-385, 2007.

Pests, Plagues and Patents: Of Biology and Technology (with Timo Goeschl) *The Journal of the European Economic Association*, 1(2-3):561-575, 2003.

A Kuznets Curve Analysis of CFCs and the Impact of the Montreal Protocol (with Robin Mason), *Oxford Economic Papers*, 55:1-24, 2003.

The Development Impact of Genetic Use Restriction Technologies in Agriculture, (with Timo Goeschl) *Environment and Development Economics*, 8:149-165, 2003.

Missing Markets and Redundant Reservoirs: Inefficiency as a source of dams, (with Ben Groom) *Environmental and Resource Economics*, 26:125-144, 2003.

The Willingness to Pay for Property Rights for the Panda (with Andreas Kontoleon), *Land Economics*, 79(4):483-499, 2003.

The Costs of Uncoordinated Regulation: Patents and Pesticide Bans, *European Economic Review*, (with Robin Mason), 46:143-167, 2002.

The Social Value of Biodiversity for Research and Development, (with Timo Goeschl), *Environmental and Resource Economics*, 22: 477-504, 2002.

The Law and Economics of Environmental Policy: Issues in Institutional Design, (editor) *Research in Law and Economics*, 20:1-22, 2002.

Monitoring for Intentional Harms to the Environment: When should it be done and Who should do it?, *Research in Law and Economics*, 20:387-412, 2002.

Should Valuation Have Its Day in Court? (with Kontoleon and Macrory), *Research in Law and Economics*, 20:177-214, 2002.

Genetic use restriction technology and the diffusion of yield gains to developing countries, (with Timo Goeschl), *Journal of International Development*, 12:1159-1178, 2001.

The Economics of Conserving Endangered Species in Developing Countries, (with A Kontoleon) *World Economics*, 1(4), pp.135-148, 2000.

Issues Concerning Property Rights in Plant Genetic Resources: Implications of Ownership for Efficiency, *Ecological Economics*, 32:75-92, 2000.

The Management of Genetic Resources for Global Agriculture, *Journal of Agricultural Economics*, proceedings and papers volume, 1999.

Endogenous Liquidation and Long Tail Liability Risks: Regulating Looting, (with Robin Mason) *Geneva Papers on Risk and Insurance*, 87:182-195, April 1998.

Nonbargaining in the Shadow of Law: A Case Study of the U.K. Civil System, (with Robin Mason), *International Review of Law and Economics*, 18(2):121-140, June, 1998.

Long term Liabilities and the Choice of Bankruptcy: Understanding the Toxic Wastes Problem, (with Robin Mason), *Geneva Papers on Risk and Insurance*, 79:204-223, April 1996.

Northern Reliance on Southern Biodiversity: Biodiversity as Information, *Ecological Economics*, 17:1-18, 1996.

Regulating International Trade for Environmental Protection, *Economic Affairs*, 1996.

Economic Instruments for Environmental Problems: A Critical Introduction, *Review of European Community and International Environmental Law*, 4(4):287-295, autumn, 1995.

A Generalised Framework for the Analysis of the Problems of Endangered Species and Biodiversity Losses, *Oxford Economic Papers*, 46:800-821, 1994.

Regulating Endangered Species, *Economic Policy*, 16:73-89, April, 1993.

### **Chapters in Volumes:**

The Distributive Impact of Intellectual Property Right Regimes: a report from the natural experiment of the green revolution (with T Goeschl) in Stiglitz, J. et. al. *The Economics of Intellectual Property Rights and Innovation, Knowledge and Technology Transfer*, Princeton University Press: 2014.

Regulating Global Biodiversity (with B Groom), in C Hepburn and D Helm (eds.) *Economic Approach to Biodiversity*, Oxford University Press: Oxford), 2013.

Economics of Green Economies: Investment in Green Growth and How it Works, (with S. Larcom) chap 5 in P.-M. Dupuy, J. E. Viñuales (eds.), *Harnessing Foreign Investment to Promote Environmental Protection: Incentives and Safeguards* (Cambridge: Cambridge University Press, 2013.

Bargaining over global public goods. (with R Gatti, T Goeschl and B Groom) in *Governing global environmental commons: Institutions, markets, social preferences and political games*. E. Brousseau, T. Dedeurwaerdere, P.-A. Jouvét M. Willinger, Oxford University Press, 2012.

Governance of the R&D Sector for Bio-Technology: Intellectual Property Rights and Bio-Prospecting (with M. Sarr), in Brousseau et al. (eds.), *Reflexive Governance for Global Public Goods*, MIT Press, 2011.

Sovereign Debt and the Resource Curse (with E. Bulte, C. Meissner, and M. Sarr), in R. Kolb (ed.), *Sovereign Debt: From Safety to Default*, John Wiley & Sons, 2011.

Economic growth and environmental regulation: what is the role of regulation? In: Economic growth and environmental regulation : the People's Republic of China's path to a brighter future. London : Routledge, 2010

"Development and Biodiversity", in Desai and Potter (eds.) *The Companion to Development Studies*, Hodder Education, 2008.

- “Intellectual Property Rights and Indigenous Knowledge: the Philippines case study”, (with R. Purdy and A. Uy), N. Karachepone, *Biodiversity Conservation and Economics*, Earthscan:London, 2008.
- “The Incidence of Water Pricing on the Poor in Beijing”, (with Groom, Liu and Zhang) in Koundouri, P. (ed.) *Water Pricing in the Developing World*, Kluwer:Dordrecht, 2007.
- “Economic Evaluation of Projects Involving Forced Population Displacements”, (with David Pearce) in Cernea and Mathur (ed.) *Can Compensation Prevent Impoverishment?*, Oxford University Press:2008.
- “Designing the Legacy Library for Genetic Resources” in Kontoleon, Pascual and Swanson (eds.), *Biodiversity Economics*, Cambridge University Press, 2006.
- “Conflicts in Conservation: the many values of the black rhinoceros”, (with Andreas Kontoleon) in Koundouri,P. (ed.) *Econometrics Informing Natural Resource Management*, Edward Elgar: Cheltenham, 2005.
- “Environmental Resource Information and the Validity of Non-Use Values: the case of remote mountain lakes” (with Groom and Kontoleon), in Koundouri,P. (ed.) *Econometrics Informing Natural Resource Management*, Edward Elgar: Cheltenham, 2005.
- “Cost Benefit Analysis and Efficient Water Allocation in Cyprus” (with Groom and Koundouri) in Brouwer,R and Pearce,D (eds) *Cost Benefit Analysis and Water Resource Management*, Edward Elgar:Cheltenham, 2005.
- “The Economics of Project Evaluation where Forced Migration is Involved”, in Cernea,M. (ed.) *Compensation for Displaced Peoples*, Oxford University Press:Oxford, 2005.
- “Diffusion and Distribution: the impacts of technological enforcement on poor countries”, in Maskus,K. and Reichman,J. (eds.) *International Public Goods & Transfer of Technology Under a Globalised Intellectual Property Regime*, Cambridge University Press:Cambridge, 2004.
- “What Future for Environmental Liability? The Proposed EU Directive on Civil Liability”, in Vig,N. and Faure,M. (eds.) *Green Giants: US and European Approaches to Environmental Policy*, Oxford University Press:Oxford, 2004.
- “Willingness to Pay for Migratory Species Preservation: the premium for cooperative agreements and implications for policy” (with Olsen and Groom), in *Managing Water Resources in Developing Countries*, (Koundouri, Pashardes, Swanson and Xepapadeas, eds.), 2003, Edward Elgar: Cheltenham.
- “The Impacts of International Environmental Agreements: The Case of the Montreal Protocol”, in Rauscher,M. (ed.) *The International Dimension of Environmental Policy*, Kluwer:Dordrecht, 2003.
- “Some Economics of Biotechnology” (with Timo Goeschl) in Laxminarayan,R. (ed.) *Battling Resistance*, John Hopkins University Press:Baltimore, 2002.
- “Conflicts in Conservation: The Many Values of the Black Rhinoceros” (with Kontoleon and others) in D. Pearce, *Valuing the Environment in Developing Countries*, Edward Elgar:Cheltenham, 2002.
- “Motivating Existence Value” (with Andreas Kontoleon), in D. Bromley (ed), *Ethics, Environment and Values*, Blackwell:Oxford, 2002.

- "The Law and Economics of Nuisance" (with Kontoleon) in *The Encyclopedia of Law and Economics*, Edward Elgar, 2000.
- "The Future of the Convention on International Trade in Endangered Species", in Hutton,J. and Dickson,B. *Endangered Species, Threatened Convention*, Earthscan:London, 2000.
- "The Source of Genetic Resource Values and the Reasons for their Management", in R. Evenson and D. Gollin (eds.), *Agricultural Values of Genetic Resources*, CAB Press, 1998.
- "Optimal Genetic Resource Conservation: In Situ and Ex Situ", (with Goeschl,T.) in Brush,S. (ed.) *In Situ Conservation of Plant Genetic Resources*, University of California Press:Berkeley, 1999.
- "The Optimal Regulation of Chemical Accumulation", in Swanson and Vighi (eds.) 1998, *The Regulation of Chemical Accumulation in the Environment*, Cambridge University Press:Cambridge.
- "Regulating Chemical Accumulation: An Integrated Approach" in Swanson and Vighi (eds.) 1998, *The Regulation of Chemical Accumulation in the Environment*, Cambridge University Press:Cambridge.
- "Managing Wildlife Resources: People, Parks and Policies" in Warford,J. (ed.) *Economics for Environmental Management*, 1999.
- "The International Regulation of Biodiversity Decline", in Perrings,C. (ed.) 1996, *Biodiversity Loss: Ecological and Economic Issues*, Cambridge University Press:Cambridge.
- "Diversity and Sustainability: Biological, Institutional, Cultural" and "Appropriating Evolution's Values" in Swanson (ed.), 1995, *Intellectual Property Rights and Biodiversity Conservation*.
- "Uniformity in Development and the Destruction of Diversity" in Swanson, *The Economics and Ecology of Biodiversity's Decline*, 1995.
- "The Regulation of Chemicals in Agricultural Production" (with R. Lloyd), in Bergman,L. and Pugh,M. (eds.) 1994, *Environmental Toxicology, Economics and Institutions*, Kluwer:Dordrecht.
- The Economics of Global Biodiversity Conservation*, (with David Pearce), 1993, World Bank Global Environmental Facility:Washington,D.C.
- "The Regulation of Oceanic Resources", in Helm,D. (ed.), *Economic Policy Toward the Environment*, Basil Blackwell:Oxford, 1992.
- "The Use of Liability Rule Systems in the Regulation of the Environment" in Pearce, D. and Opschoor,H. (eds.) *Persistent Pollutants*, Kluwer:Nordrecht, 1991.
- "Policies for the Conservation of Biological Diversity" in *Economics for the Wilds: Wildlife, Wildlands, Diversity and Development*, Swanson,T. and Barbier,E. (eds.), Island Press:Washington, 1992.
- "Wildlife and Wildland Utilisation and Conservation" in *Economics for the Wilds: Wildlife, Wildlands, Diversity and Development*, Swanson,T. and Barbier,E. (eds.), Island Press:Washington.
- "Conserving Biological Diversity" in Pearce,D. (ed.), *Blueprint II: Greening the World Economy*, Earthscan:London (1991).



"Policies for the Conservation of Biological Diversity", in *Global Biodiversity 1992*, World Conservation Monitoring Centre:Cambridge,, 1992.

"International Regulation and National Resource Management: Policy Options for African Elephant Conservation", in Cobb, S., (ed.), *The Ivory Trade and the Future of the African Elephant*, Ivory Trade Review Group, Oxford, October, 1989.

"The Holdout Problem in International Resource Law" in Weigel, W. (ed.) *Current Issues in Law and Economics*, Austrian Academy of Sciences (1990).

### ***Edited Volumes:***

*Economic Growth and Environmental Regulation: China's Path to a Brighter Future*, (with Tun Lin), Routledge:London, 2010.

*Biodiversity Economics*, (editor with Kontoleon and Pascual) 2007, Cambridge University Press:Cambridge.

*Managing Water Resources in Developing Countries*, (editor with Koundouri, Pashardes and Xepapadeas), 2003, Edward Elgar: Cheltenham.

*The Economics of Managing Biotechnologies*. (editor), Kluwer: Dordrecht, 2002.

*Biotechnology, Agriculture and the Developing World* (editor), Edward Elgar: London, 2002.

*Current Issues in the Economics of Water Resource Management*, (editor with Panos Pasharades and Anastasios Xepapadeas), Kluwer: Netherlands, 2002.

*The Regulation of Chemical Accumulation in the Environment* (editor With M. Vighi), Cambridge University Press: Cambridge, 1998.

*Intellectual Property Rights and Biodiversity Conservation*, (editor), Cambridge University Press: Cambridge, 1995.

*The Economics and Ecology of Biodiversity's Decline: The Forces Driving Global Change*, (editor), Cambridge University Press: Cambridge, 1995

### ***Authored Volumes:***

*Global Environmental Problems and International Environmental Agreements*, (with Sam Johnston), Edward Elgar: London, 1999 (reprinted 2001, 2003).

*Tragedy for the Commons? The Economics of Environmental Degradation*, Edward Elgar: London, 1996.

*The International Regulation of Extinction*, MacMillan: London and New York University Press: New York, 1993.

*Elephants, Economics, and Ivory*, (with Barbier,E., Burgess,J. and Pearce, D.) Earthscan: London, 1990.

## ***Editorships and Refereeing:***

*Editorial Board*, International Environmental Agreements.

*Editorial Board*, Review of European Community and International Environmental Law.

*Editorial Board*, Environmental Science and Policy.

*Guest Editor*, Environmental and Resource Economics.

*Guest Editor*, Environment and Development Economics.

*Guest Editor*, Research in Law and Economics.

Referee for numerous journals: American Economic Review, Journal of Public Economics, International Economic Review, European Economic Review, Economic Journal, Oxford Economic Papers, Ecological Economics, Econometrica, International Review of Law and Economics, Environmental and Resource Economics, Environment and Development.

## **Research Grants and Research Council Awards:**

### ***Research Council Awards:***

SNF Research Program, Compulsory Schooling Laws in Developing Countries: Impacts on Fertility and Child Labour (Co-PI with Martina Viarengo), 500k CHF, 2018-2021.

SNF Research Program, Environmental Regulation and Competitiveness, 2015-2018, 350k CHF (Co-PI with Richard Baldwin).

SNF Research Program, Sinergia Network – Green Economy: Innovation and Diffusion, 2014-2017, 1.4 million CHF (Coordinator).

EU Research Program, Marie Curie Fellowship, “Green Economy Spillovers”, 2012-2015, 250k Euro.

EU Research Program, “FoodSecure – Global Management of Innovation for Food Security”, 2010-2015, 450k Euro.

EU Research Program, “Global IQ – Evaluating Climate Impacts (China)”, 2010-2014, 250k Euro.

EU Research Program, “POPP: Evaluating Information-based Instruments”, 2008-2010, 235,000 Euro.

EU Research Program, “RefGov: Intellectual Property Rights and Governance Issues”, 2004-2007, 100,000 Euro.

EU Research Program, “ExioPol: Environmental Policy and Impacts”, 2006-2009, 150,000 Euro.

EU Research Program, “RefGov: Intellectual Property Rights and Governance Issues”, 2004-2007, 100,000 Euro.

EU Research Program, “Aquascarcity: water resource management in the EU”, 2004-2007, 100,000 Euro.

EU Research Program, (Scientific Coordinator), “BioEcon: Economics of biological resource conservation”, 1999-2003, 2 million Euro.

EU Research Program, (Scientific Coordinator), “Water and Conflict: Water management in Cyprus”, 1999-2003, 250,000 Euro.

European Science Foundation, (Scientific Coordinator), “Economic Analysis of Biotechnology”, 1999-2002, 20,000 Euro.

European Science Foundation, “Integrated Analysis of Chemical Accumulation”, 1995-1998, 25,000 Euro.

EU Research Program, (Scientific Coordinator), “Liability Institutions and Toxic Waste Management”, 1995-1997, 50,000 Euro.

UK Social Science Research Program (ESRC), (Research Director), Centre for Social and Economic Research on the Global Environment, 1991-2001, 100,000 GBP annually.

### ***Other Competitive Research Project Awards:***

MAVA Foundation, “A Sustainable Human Niche? Implications of Global Land Use for Food Security”, September 2012-present, \$1.3m CHF.

Asian Development Bank and Chinese Academy of Sciences, “National Long Term Strategies for Environmental Management in Peoples Republic of China”, 2008, \$2m.

UNDP/EU, “Governance in the People’s Republic of China: the case of biodiversity in Xinjiang”, 2008-2010, \$1m.

China Council on International Cooperation on Environment and Development (CCICED), Team Leader, “Assessing the Impacts of China’s Environmental Policies on Poor People”, 2002-2005. (in collaboration with Beijing University), \$200k.

UK Department for International Development (DfID), “Assessing the Impacts of Use Restriction Technologies in Biotechnology”, 2000-2002, 100,000 GBP.

World Bank, “The Role of Traditional Knowledge within Intellectual Property Right Systems”, 2000-2002, \$50k.

### ***Selected Workshops and Conferences Organised***

BioEcon I – XIX (Scientific Committee) 1998-2017  
Annual Workshop on the Economics of Biodiversity Conservation  
Funded by European Union, FAO, Diversitas- International Council of Scientific Unions  
Kings College Cambridge, Venice University, Montpellier University

Governance in the Peoples Republic of China (Scientific Director and Coordinator) 2008-2013  
Funded by the Asian Development Bank  
Beijing, China

Designing the Green Economy 2011-2012  
Funded by UNEP/CIES  
Geneva, Switzerland

International Conference on Groundwater Research, September 2002  
Funded by European Union DG Research  
University of Cyprus

Workshop on Economics of Biotechnology, June 2002  
Funded by European Science Foundation  
Rome, Italy

Research in Law & Economics Workshop on Environmental Policy, September 2001  
Funded by CSERGE  
University College London

Workshops on Regulating Chemical Accumulation  
Funded by European Science Foundation

## **ADVISORY AND POLICY:**

### ***Existing Advisory Work:***

Advisor, United Nations Environment Program, Green Economy Report, 2012-2015

Advisor, Long Term Macroeconomic Strategy, Ministry of Environment, Peoples Republic of China and Asian Development Bank, 2007-2012.

### ***Past Advisory Work:***

#### **Advisor to International Agencies on Institution-building-**

Member, Scientific Advisory Panel, DIVERSITAS, International Council of Scientific Unions. 2002-present. Advise on research agenda for investigation of development impact of conservation policies.

Secretariat to the Convention on Biological Diversity (CBD), 1992-2000. Aided in the initial staffing of the Secretariat. Advised first Executive Secretary on valuation of biological diversity and role of incentive mechanisms.

International Union for the Conservation of Nature (IUCN); 1989-present. Policy adviser on the issue of the ivory trade ban. Presented IUCN policy position at conference of the parties to CITES on role of ivory exchange in 1989. Appointed to IUCN Experts Group on sustainable use in 1995. Appointed to IUCN Experts Group on international policy making in 2004.

Secretariat for the Convention on International Trade in Endangered Species (CITES); 1990-present. Advised Secretariat on enforcement mechanisms for international trade. Attended meetings on economic analysis of trade issues in 2003. Co-authored paper on formation of ivory exchange for channelling of legal trade. Nominated to sit on Trade Specialist Group.

United Nations Environment Programme - Environment and Trade Unit (UNEP); 1996-1998. Advised Unit on the impact of Multilateral Environmental Agreements to inform UNEP's discussions with WTO. Constructed studies on the impact of Montreal Protocol and Basel Convention.

International Plant Genetic Resources Institute (IPGRI); 1995-1998. Advised Commission on Plant Genetic Resources on issues dealing with property rights in genetic resources. Drafted report on the valuation of genetic resource inputs in global agriculture.

World Bank; 2000-2002. Drafted paper on role of traditional knowledge in intellectual property rights system, a case study of the Philippine legal reforms.

Global Environmental Facility (STAP-GEF); 1992-1994. Sat on initial STAP panel in the formulation of the concept of incremental cost. Advised on issues dealing with compensation of developing countries in environmental conservation agreements.

United Nations Conference on Trade and Development (UNCTAD); 1995-1999. Drafted volume to inform developing country negotiators on the issues to consider in the negotiation of multilateral environmental agreements. Published as volume Global Environmental Problems and International Environmental Agreements.

World Wide Fund for Nature (WWF-UK and WWF-International); 1990-2000. Drafted initial studies on the role for a Biodiversity Convention and the means of funding international conservation. Advised on the development of a Convention on Biodiversity, and on the implementation of the draft subsequently adopted. Published report as volume entitled Global Action for Biodiversity.

World Water Council; 1998. Advisor on issues concerning the resolution of water-related conflicts. Drafted paper for World Water Council General Assembly.

#### **Advisor to Development Agencies and Development Banks on Resource Management :**

World Bank; 1998-present. Advisor on various missions concerning natural resource development and conservation (Indonesia, Amazon states).

China Council on International Cooperation on Environment and Development (CCICED); 2002-2007. Coordinator of research programme on Poverty Alleviation in Environmental Policy. Collaboration with Beijing University in undertaking studies on impacts of water pricing on urban and rural communities. Also devised and undertook studies on impacts of land use policies on rural communities (logging ban and sloped land conversion programme).

UK Department for International Development; 1998-2000. Coordinator of study on the development impact of biotechnologies on rural agricultural households in developing countries. Developed panel of experts and drafted report on the expected impacts of biotechnologies across developing countries. Resulted in publication of *Biotechnology, Agriculture and the Developing World*.

China Council on International Cooperation on Environment and Development (CCICED); 1998-2002. Advised on protected area management. Collaboration with Beijing University in undertaking study of protected areas in Wolong, Sichuan Province, China. Advised on enhancing development impacts of protected areas and eco-tourism.

Government of Cyprus; 1998-2001. Advised Cyprus government on impacts of water pricing and implications of joining EU for Cyprus water management policies. Coordinated studies on income-related impacts of water use policies. Organised workshop in Cyprus and edited journal publications resulting from the workshop. Resulted in publication *The Economics of Water Management in Developing Countries*.

Russian Academy of Sciences; 1998-2000. Advised Russian government and led study tour in UK investigating the use of economic instruments in the regulation of environmental problems.

Chinese State Environmental Protection Agency; 1996-7. Advised Chinese agency on the application of economic instruments to environmental problems. Formulated plans of action for control of local pollutants. Devised and implemented study on the regulation of water pollution in urban waterways.

### ***Major Policy Publications, Papers and Reports:***

Cost-Effective Attainment of Environmental Compliance : Governance Solutions for the Peoples Republic of China, Asian Development Bank Report and CIES Working Paper, September 2012.

Economic Frameworks for Thinking about Growth, Sustainability and State Intervention: Pathways to Green Economies, (with Z. Ziegelhofer), United Nations Environment Program, 2012.

"Biodiversity Governance in China: the case of medicinal herbs", EU/UNDP project on Chinese governance, Beijing and Xinjiang, China, 2010.

"Environmental Regulation and Economic Growth: China's Path to a Brighter Future", Report to the Ministry for Environmental Protection, Beijing, China, 2008.

"Income Related Incidence of the Welfare Impacts of Water Pricing", China Council for International Cooperation on Environment and Development, Beijing and Vancouver, 2006.

"Assessing the Impacts of the Sloping Land Conversion Programme on Local Community Welfare", China Council for International Cooperation on Environment and Development, Beijing and Vancouver, 2006.

"Assessing the Impacts of the Natural Forest Protection Programme on Local Community Welfare, China Council for International Cooperation on Environment and Development, Beijing and Vancouver, 2006.

"Creating Markets for Biodiversity", OECD Monograph, 2004.

"International Management of R&D in the Biological Industries", World Bank Discussion Paper, (with Timo Goeschl), 2003.

"Policy for the Management of Sulphur Dioxide Emissions", Report to the European Commission, 2003.

*Conserving China's Biodiversity*, 2001. China Council for International Cooperation on Environment and Development.

"The Impacts of Biotechnologies on the Developing Countries: Frontier Growth and Diffusion of Innovations, paper prepared for the UK Department for International Development, 1999.

"Water Resources: Management for Efficiency and Equity", Report to the World Water Council, 1998.

"Key Economic Concepts in the Determination of Benefit Sharing in regard to Genetic Resources", Paper prepared for the experts group on the conservation of biological diversity, OECD:Paris, 1997.

*Industrial Reliance on Biodiversity*, (with Luxmoore and Fernandez), World Conservation Monitoring Centre:Cambridge, 1997.

"Social and Economic Valuation of Biodiversity", (with Fernandez), paper prepared for the Secretariat of the Convention on Biological Diversity and adopted as a paper of the Secretariat presented to the Subsidiary Body on Science and Technology, 1996.

“The Impact of Intellectual Property Right Regimes on the Conservation of Biological Diversity”, paper prepared for the Secretariat of the Convention on Biological Diversity and adopted as a paper of the Secretariat to the Conference of the Parties, 1996.

"Sui Generis Property Rights for Biodiversity Conservation", Report to the European Commission, 1996.

*Joint Implementation of the Second Sulphur Protocol: Cost Effective Mitigation of Acid Rain*, Report to the UN Economic Commission for Europe, 1994.

"The Role of the Gene Bank Network in the Conservation of Plant Genetic Resources", *Plant Genetic Resources Bulletin*, 1995.

*Regulating Chemical Wastes: Alternative Policies and Approaches*, Report to the Commission of the European Community, 1995.

*The Appropriation of the Global Value of Plant Genetic Resources*, Report prepared for and published by the Commission on Plant Genetic Resources , 1994.

"The Environmental Economics of Trade and Development", Report prepared for the United Nations Conference on Trade and Development, 1994.

"The International Environmental Law of Environmental Agreements", Report prepared for the United Nations Conference on Trade and Development, 1994.

"Efficient Mechanisms for Financial Transfers: International Franchise Agreements", paper prepared for and published by the experts group on biodiversity, OECD, 1994.

*Economics and the Conservation of Global Biodiversity*, (with Kate Brown, David Pearce and Charles Perrings), Global Environmental Facility discussion paper number 1, GEF:Washington 1992

"International Regulation of the Ivory Trade: The Ivory Exchange", (with Pearce,D.), Paper prepared for the International Union for the Conservation of Nature, September, 1989.



## Some Invited Talks:

Food Security and Global Public Goods, Beijing University, IFPRI, UCT, Gates Foundation, 2019.

Spatial Development and Environmental Regulation in China, Beijing University School of Development, 2018.

Green Economy and Growth, WIPO and UNEP, 2013.

Resources, Corruption and Growth, New York University Law School, April 2005.

Economics of International Institutions, Duke University Seminar on Environmental Institutions, April 2005.

The Importance of IPR in Development, Catholic University of Leuven, April 2004.

The Management of Biotechnologies, Keynote Address, European Economic Association, September 2003.

International Institution Building and Burden Sharing, Keynote Address, DIW- Berlin, June 2003.

IPR and Biotechnology, Duke Law School, Conference on International Public Goods and Technology Transfer, April 2003.

Growth and Scarcity, Resources for the Future Workshop, Washington, D.C., November 2002.

Problems Resistant to Resolution, Keynote address, European Association of Political Economy, Siena, October 2002.

The Management of Water Resources in Developing Countries, Cyprus, September 2002.

The Economics of Biotechnology, Address to OECD Ministers for Environment, Paris, May 2002.

Economics and Biodiversity Conservation, Keynote Address to Finland Academy, Turku, November 2001.

Managing Antibiotic Resistance, Paper delivered to the Center for International Development, Harvard University, USA, February 2000.

Biotechnologies' Impacts on Developing Countries, Paper delivered to the Center for International Development, Harvard University, USA, September 1999.

Valuing Environmental Assets, Address to the UK Royal Society, London, February 2000.

Systems and Economics, Invited Lecturer at the Erice Institute, Sicily, November 1999.

Genetic Resources in Agricultural Technology, Invited Address to 23<sup>rd</sup> Meeting of International Association of Agricultural Economists, Davis, CA, 1997.

## ***TEACHING AND SUPERVISION RESPONSIBILITIES:***

### **Current:**

Academic Director of the Centre of International Environmental Studies,  
Supervision of 6 Ph.D. students.

Organiser of the Research Seminar on Environmental and Resource Economics, Joint with Univ of Geneva

**Economics Teaching:** Natural Resource Economics, Growth and Development, Law and Economics, Microeconomics, Topics in Environmental and Resource Economics, Global Environmental Problems.

**Law Teaching:** International Environmental Law, Environmental Law and Policy, Law and Regulated Industries, Law & Economics.

### **Previous:**

M.Sc. in Resource Economics, University College London Department of Economics, 1998-2010.

Leader on the LL.M. in Law & Economics, University College London Faculty of Law, 1998-2010.

### ***Ph.D Supervision Completed (16 Economics, 2 Law & Economics):***

Jonathan Aldred, Essays on Sen and Altruism, Cambridge University Faculty of Economics, 1993. *Research Fellow at Cambridge University.*

Robin Mason, Dynamic Problems in Resource Management, Cambridge University Faculty of Economics, 1995. *Chair of Economics and Dean at Birmingham University.*

Timo Goeschl, Managing Biological Resources, Cambridge University Faculty of Economics, 1998. *Chair of Economics at Heidelberg University.*

Phoebe Koundouri, (co-supervisor with Paul Seabright, Cambridge) Essays on the Economics of Groundwater Management, Cambridge University Faculty of Economics, 2000. *Associate Professor of Economics at Athens University, UK.*

Andreas Kontoleon, Economics and Policy of Resource Valuation, University College London Department of Economics, 2003. *Full Professor of Economics at Cambridge University.*

David O'Connor, Valuing the Indirect Benefits of Climate Change Policies in Developing Countries, University College London School of Public Policy, 2003. *Senior Development Economist at UNDP.*

Ekin Birol, Valuation of Genetic Resource Use in Developing Countries, University College London Department of Economics, 2004. *Research Economist at IFPRI.*

Ben Groom, Essays in Environmental Policy Making, University College London Department of Economics, 2005. *Associate Professor in Economics at London School of Economics.*

Katia Karousakis, Policy for Solid Waste Management, University College London School of Public Policy, 2006. Senior *Research Economist*, OECD.

Shin Wei Ng, Property Rights in Rural Land in China, University College London School of Law, 2008, *Consultant in Peoples Republic of China*.

Mare Sarr, Resources and Institutions, University College London Department of Economics, 2008, *Now Assoc. Professor of Economics, University of Capetown*.

Javier Tapia, Regulation of Industry, University College London, 2010, *Head of Research, Fair Trade Commission, Chile*.

Shaun Larcom, Economics of Legal Pluralism, University College London, 2011, *Assistant Professor of Law & Economics, Department of Land Economy, University of Cambridge*.

Martina Bozzolla, Adaptation of Agriculture to Climate Variability: Po Valley Study, Graduate Institute-Geneva, 2014. *Postdoctoral Fellow at European University Institute; Assistant Professor, Trinity College, Belfast*.

Chiara Ravetti, Essays in Development, Growth and Trade. Graduate Institute-Geneva, 2014. *Postdoctoral Fellow at Oxford University CARRE and Assistant Professor, Politecnico Torino*.

Jules-Daniel Wurlod, Technological Change, Diffusion and Green Economic Growth, Graduate Institute – Geneva, 2015. *Consultant in Paris*.

Giulia Valacchi, Innovation and Globalisation, 2017. *Postdoctoral Researcher, World Intellectual Property Organisation*.

Suchita Srinivasan, Diffusion of technology to developing countries, 2017. *Postdoctoral Researcher, ETH-Zurich*.

Pedro Naso, Essays on Environment and Regulation in Development, 2019. *Postdoctoral Researcher, One Acre Fund, Burundi*.

***Current Dissertations Supervised:***

Supervising 6 Ph.D. Students and 5 Masters Students p.a.