

August 2011

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Faculty Coordinator, UA Graduate Certificate in Water Policy (<http://gcwp.arizona.edu>)
Affiliated Faculty, School of Government & Public Policy; Arid Lands Resource Sciences Graduate
Interdisciplinary Program; Global Change Graduate Interdisciplinary Program

EXPERTISE / RESEARCH AND TEACHING INTERESTS

Comparative and International Water Law and Policy – History and Political Economy of Water

Water rights, water markets, and privatization Hydropower and river basin management

Legal and institutional aspects of water economics Hydropower as water/energy nexus

Water conflicts, courts, and regulatory governance Environmental flows

Regional expertise in Western United States and Latin America (especially Chile) – Familiar with international water policies and institutions

Law, Geography, and Environmental Studies

Property rights and natural resources Markets and environmental policy

Law and society, law and institutional economics History and political economy

EDUCATION

Ph.D. (1995), M.A. (1990) *Jurisprudence and Social Policy*, University of California-Berkeley Law School.

Interdisciplinary study of law, social science, and history. Fields in environmental law and regulation; geography and law (property rights and natural resources). Ph.D. dissertation: *Against the Current? Privatization, Markets, and the State in Water Rights: Chile, 1979-1993.*

M.S. (1988) *Geography*, University of Wisconsin-Madison. Fields in historical and economic geography of

United States; water resources policy and management. M.S. thesis: *Labor Without Brains: Water Development, Law, and Policy in Washington State, 1890-1940.*

B.A. (1983) *Geology*, Yale University, New Haven, CT. Thesis: *Reclamation of Land after Surface Mining for Coal.*

EMPLOYMENT

- 2006-present** **Associate Professor**, School of Geography and Development, University of Arizona, Tucson, AZ. **Acting Director, July-Dec. 2010.**
Director of Graduate Studies, 2008-present.
Faculty Coordinator, U. of Arizona Graduate Certificate in Water Policy, **2007-present.**
- 2006-2008** **Associate Director**, Water Resources Research Center, U. of Arizona, Tucson, AZ.
- 1999-2006** **Research Fellow**, Resources for the Future, Washington, DC. Policy research and public outreach about comparative and international water law and policy, focused on Latin America and the Western United States. Includes three years living and working in Chile and Argentina, 2001-2004.
- Jan.-Sept. 2004** **Visiting Professor**, Diego Portales University Law School, Santiago, Chile. Helped to create and build a new program in Environmental Law and Policy.
- Oct.-Nov. 2002** **Visiting Professor**, Catholic University Law School, Santiago, Chile. Taught course for doctoral students in Comparative Water Law (in Spanish).
- 1996-98** **Independent Consultant** on water law, policy, and economics to various international organizations, including United Nations, World Bank, Global Water Partnership, and others. Oakland, CA. (See also **PROFESSIONAL SERVICE AND OUTREACH.**)
- Jan.-May 1998** **Lecturer**, Dept. of Geography, University of California-Berkeley. Taught upper-level undergraduate course in Political Economy of Natural Resources.
- 1995-97** **Ciriacy-Wantrup Post-Doctoral Research Fellow**, Dept. of Environmental Science, Policy, and Management, University of California-Berkeley. Research about water rights, markets, and policy in Chile.
- Oct.-Dec. 1993, '95** **Visiting Professor**, Institute of Mining and Water Law, University of Atacama, Santiago, Chile. Taught course for lawyers in Comparative Water Law (in Spanish).
- Jan.-May 1995** **Lecturer**, Dept. of Environmental Science, Policy, and Management, University of California-Berkeley. Taught upper-level undergraduate course in Sociology of Natural Resources.
- 1989-91, '94** **Teaching Assistant**, University of California-Berkeley. Helped teach upper-level undergraduate courses in Dept. of Legal Studies (Theories of Law and Society; Law, Politics, and Society) and Dept. of Conservation and Resource Studies (U.S. Environmental Law and Policy; U.S. Agricultural Policy and Political Economy).
- 1986-88** **Teaching Assistant**, University of Wisconsin-Madison. Helped teach upper-level undergraduate course in Dept. of Geography (Environmental Conservation).
- 1980s** **Carpenter (journeyman)**, custom home-building and remodeling, San Francisco Bay Area, CA.
- 1980-81** **Legal Assistant / Interviewer**, Lawyer Referral Service, Bar Association of San Francisco, San Francisco, CA.

PUBLICATIONS

Books

- 2004** *Siren Song: Chilean Water Law as a Model for International Reform* (Washington, DC: RFF Press). (<http://www.earthscan.co.uk/?tabid=102216>). Published in Spanish in 2004 as *Canto de Sirenas: El Derecho de Aguas Chileno como Modelo para Reformas Internacionales*, Colección Nueva Cultura del Agua No.13 (Bilbao, Spain: Bakeaz). (<http://www.bakeaz.org/es/publicaciones/mostrar/210-canto-sirenas-de>)
- 1998** *Against the Current: Privatization, Water Markets, and the State in Chile* (Boston, MA: Kluwer Academic Publishers). (<http://www.springer.com/earth+sciences+and+geography/hydrogeology/book/978-0-7923-8227-0>)
Published in Spanish in 2002 as *Contra la Corriente: Privatización, Mercados de Agua y el Estado en Chile* (Santiago, Chile: LOM Ediciones / Fundación Terram / Resources for the Future). (www.lom.cl)

Journal Articles

- Forthcoming** David Tecklin, Carl Bauer, and Manuel Prieto, “Making environmental law for the market: The emergence, character, and implications of Chile’s environmental regime,” *Journal of Environmental Politics*
- 2010** “El abanico de bancos de aguas en las Américas,” *Estudios de Economía Aplicada*, Vol. 28, No. 2, pp. 227-236 (Valladolid, Spain). [“The range of water banks in the Americas”]
- 2009** “Dams and markets: Rivers and electric power in Chile,” *Natural Resources Journal* Vol. 49, Nos. 3-4, pp. 583-651.
- 2009** Dustin Garrick, Mark Siebentritt, Bruce Aylward, Carl Bauer, and Andrew Purkey, “Water markets and freshwater ecosystem services: Policy reform and implementation in the Columbia and Murray-Darling Basins,” *Ecological Economics*, doi:10.1016/j.ecolecon.2009.08.004
- 2005** “In the image of the market: The Chilean model of water resources management,” *International Journal of Water* Vol. 3, No. 2, pp.146-165.
- 2004** “Results of Chilean water markets: Empirical research since 1990,” *Water Resources Research* Vol. 40, W09S06, doi:10.1029/2003WR002838.
- 2000** “Derechos de agua, hidroenergía, y la gestión ecológica de aguas: El caso del oeste norteamericano,” *Revista de Derecho Administrativo Económico* Vol. 2, No. 1, pp. 55-61 (Santiago, Chile). [“Water rights, hydropower, and ecological management of water resources: The case of the North American West,” *Journal of Administrative and Economic Law*]
- 1998** “Derecho y economía en la Constitución de 1980,” *Perspectivas en Política, Economía y Gestión* Vol. 2, No. 1, pp. 23-47 (Santiago, Chile). [“Law and economics in the 1980 Constitution,” *Perspectives in Politics, Economics, and Management*] Republished in 2000 in *El Otro Derecho [Beyond Law]* No. 24, pp. 129-158 (Bogotá, Colombia).

- 1998** “Slippery property rights: Multiple water uses and the neoliberal model in Chile, 1981-1995,” *Natural Resources Journal* Vol. 38, No. 1 (Winter), pp. 109-155. Republished in Pedro Arrojo and Javier Martinez, eds., *El Agua a Debate desde la Universidad*, Congreso Ibérico sobre Gestión y Planificación de Aguas, Zaragoza, Spain, 14-18 September 1998 [*Water in Debate from the University*, Iberian Conference on Water Management and Planning].
- 1997** “Bringing water markets down to earth: The political economy of water rights in Chile, 1976-1995,” *World Development* Vol. 25, No. 5, pp. 639-656.
- 1993** “Los derechos de agua y el mercado: Efectos e implicancias del Código de Aguas Chileno de 1981,” *Revista de Derecho de Aguas* Vol. 4, pp. 17-63 (Santiago, Chile). [“Water rights and the market: Effects and implications of the 1981 Chilean Water Code,” *Journal of Water Law*]
- 1993** “Water, property rights, and the State: The United States experience,” *CEPAL Review* No. 49 (April), pp. 75-89 (Santiago, Chile). Published in Spanish as “Régimen jurídico del agua: La experiencia de Estados Unidos,” *Revista de la CEPAL* No. 49, pp. 75-90. Republished in *Revista de Derecho de Minas y Aguas* [*Journal of Mining and Water Law*] Vol. 3, pp. 111-128 (Santiago, Chile).

Book Chapters

- 2011 (forthcoming)** Edella Schlager and Carl Bauer, “Governing water: Institutions, property rights, and sustainability,” *Treatise on Water Science* (Elsevier).
- 2005** (Contributing author) “Freshwater ecosystem services,” *Ecosystems and Human Well-Being: Policy Responses*, Vol. 3, pp. 213-255, Millennium Ecosystem Assessment (Washington, DC: Island Press).
- 2003** “Activos líquidos: Derechos de aguas, mercados de aguas y consecuencias para los mercados de tierras rurales,” in Pedro Tejo, ed., *Mercados de Tierras Agrícolas en América Latina y el Caribe*, pp. 85-125 (Santiago, Chile: Comisión Económica para América Latina y el Caribe). [“Liquid assets: Water rights, water markets, and consequences for rural land markets,” in *Agricultural Land Markets in Latin America and the Caribbean*]
- 1996** “El mercado de aguas en California,” in Antonio Embid, ed., *Precios y Mercados del Agua*, pp. 179-205 (Madrid, Spain: Editorial Civitas). [“The water market in California,” in *Prices and Markets for Water*] Republished as journal article in 1999 in *Revista de Derecho Administrativo Económico* Vol. 1, No. 2, pp. 231-241 (Santiago, Chile) [*Journal of Administrative and Economic Law*]

Short Articles and Other Publications

- 2011** Book review of *Out of the Mainstream: Water Rights, Politics and Identity*, by Rutgard Boelens, David Getches, and Armando Guevara-Gil, eds., *Journal of Peasant Studies*, Vol. 38, No. 3, pp. 653-657
- 2010** “Represas y mercados: Ríos y energía eléctrica en Chile,” *Ambiente y Desarrollo* Vol. XXIV, No. 2, pp. 5-9 [“Dams and markets: Rivers and electric power in Chile,” *Environment and Development*]
- 2010** “Market approaches to water allocation: Lessons from Latin America,” *Journal of Contemporary Water Research and Education* No. 144, pp. 44-49
- 2009** Book review of *Water, Place, and Equity*, by John Whiteley, Helen Ingram, and Richard Perry, eds., *Environmental Health Perspectives* Vol. 117, No. 8, p. A366

- 2003** “Marketing water, marketing reform: Lessons from the Chilean experience,” *Resources* No. 151 (Summer), pp. 11-14. Published in Spanish as “Vendiendo agua, vendiendo reformas: Lecciones de la experiencia chilena,” *Ambiente y Desarrollo* Vol. XIX, Nos. 3-4, pp. 6-9 [*Environment and Development*]
- 2002** “Veinte años del Código de Aguas chileno: Lecciones nacionales e internacionales para las reformas del derecho de aguas,” *Revista de Derecho Administrativo Económico* Vol. 4, No. 1, pp. 51-55 (Santiago, Chile). [“Twenty years of the Chilean Water Code: National and international lessons about water law reforms,” *Journal of Administrative and Economic Law*]
- 2000** Carl Bauer and Kate Probst, *Long-Term Stewardship of Contaminated Sites: Trust Funds as Mechanisms for Financing and Oversight*, Resources for the Future Discussion Paper 00-54.
- 2000** “Los resultados del mercado de aguas en Chile,” *Revista Tierra* No. 2, pp. 25-26 (Valencia, Spain). [“The results of the water market in Chile,” *Earth Journal*]
- 2000** Book review of *Derecho de Aguas* (1998) [*Water Law*] by Alejandro Vergara Blanco, *University of Miami Inter-American Law Review* Vol. 31, No. 1, pp. 197-202. Published in Spanish in *Revista de Derecho Público* [*Journal of Public Law*] Vol. 62, pp. 347-350 (Santiago, Chile).
- 1997** “Water and equity in Chile,” *Common Property Resource Digest* No. 43 (September), pp. 5-7.
- 1996** “Economic instruments in integrated water resource management: Advantages and constraints,” in Inter-American Development Bank, *Workshop on Strategies for Integrated Water Resource Management in Latin America and the Caribbean: Proceedings*, pp. 114-122 (Washington, DC: Inter-American Development Bank). Workshop held in San José, Costa Rica, 6-7 May 1996. Published in Spanish as “Instrumentos económicos del manejo integrado de recursos hídricos: Ventajas y obstáculos.”
- 1996** “Privatización y capacidades institucionales: Los resultados del mercado de aguas en Chile,” *Ambiente y Desarrollo* Vol. 12, No. 2, pp. 15-23 (Santiago, Chile). [“Privatization and institutional capacity: The results of the water market in Chile,” *Environment and Development*]
- 1992** “Estructura reglamentaria e implementación de derecho ambiental en Estados Unidos: Algunas lecciones,” in F. Faranda and O. Parra, eds., *Legislación Ambiental*, Centro EULA, Actas de Seminarios Científicos Vol. 3, pp. 13-18 (Concepción, Chile). [“Regulatory structure and implementation of environmental law in the United States,” in *Environmental Legislation*]

PROFESSIONAL SERVICE AND OUTREACH

Non-Academic Talks (Invited)

- 2008** “The experience of Chilean water markets,” Expo Zaragoza Water Tribune, Thematic Week on Economics and Financing: The Role of Market Instruments in Integrated Water Management, Zaragoza, Spain (July). Unpublished document, under review as chapter in Josefina Maestu, ed., *Global Water Crisis: How Can Water Trading be Part of the Solution?*
- 2007** “La sequía y los derechos de agua en el Siglo XXI,” International Forum on Drought, Sevilla, Spain (June). [“Drought and water rights in the 21st Century”]
- 2006** “25 years of pro-market water reforms in Chile: Impacts on the rural poor,” International Conference on Water Reform and Access to Water for the Rural Poor, Danish Water Forum / Danish Institute for International Studies / Danida, Copenhagen, Denmark (September).

- 2005** *Keynote lecture*, “La experiencia de los bancos de aguas en las Américas: Los casos de California y Chile,” Conference on Public Water Banks: An Effective Tool in Times of Drought, Ministry of Environment, Madrid, Spain (October). [“The experience of water banks in the Americas: California and Chile”] Also presented to Catalan Water Agency, Barcelona, Spain (October).
- 2005** “El Código de Aguas y la regulación ambiental en Chile,” International Conference on Hydroelectric Development in Chilean Patagonia: Challenges, Research Needs, and the Decision-Making Process, Coyhaique, Chile (January). [“The Water Code and environmental regulation in Chile”]
- 2004** “Canto de sirenas: El derecho de aguas chileno como modelo para reformas internacionales,” presentation to the Director and senior staff at General Water Directorate, the Chilean government agency for water rights and water resources management, Santiago, Chile (August). [“Siren song: Chilean water law as a model for international reform”]
- 2004** “Siren song: Chilean water law as a model for international reform,” Resources for the Future, Public Seminar Series, Washington, DC (June).
- 2003** “Canto de sirenas: El derecho de aguas chileno como modelo para reformas internacionales,” National Institute of Public Administration, Buenos Aires, Argentina (October). [“Siren song: Chilean water law as a model for international reform”]
- 2003** “Canto de sirenas: El derecho de aguas chileno como modelo para reformas internacionales,” Inter-American Development Bank, Washington, DC (June). [“Siren song: Chilean water law as a model for international reform”]
- 2003** “Gestión de cuencas hidrográficas en los EEUU,” General Department of Irrigation, Mendoza Province, Mendoza, Argentina (April). [“River basin management in the U.S.”]
- 2002** “Veinte años después del Código de Aguas de 1981: Lecciones de la experiencia chilena para las reformas del derecho y economía del agua,” Institute for Agricultural Development, Ministry of Agriculture, Santiago, Chile (September) and Santa Cruz, Chile (October). [“Twenty years after the 1981 Water Code: Lessons of the Chilean experience for reforming water law and economics”]
- 2001** “Water rights and markets in Chile: Lessons for Washington,” Washington Water Law Conference, Law Seminars International, Seattle, WA (May).
- 2000** “Activos líquidos: Derechos de agua, mercados de agua y las implicancias para los mercados de tierras rurales,” Regional Seminar about Land Markets in Latin America and the Caribbean, United Nations Economic Commission for Latin America and the Caribbean, Santiago, Chile (November-December). [“Liquid assets: Water rights, water markets, and the implications for rural land markets”]
- 1999** “Los mercados de aguas en la gestión de aguas,” EXPO-AGUA 2000, organized by State of Guanajuato Water & Sanitation Commission, León, Mexico (September). [“Water markets in water management”]
- 1998** “Mercados e instrumentos económicos en la gestión del agua,” 1st Latin American Parliamentary Session on Water Policies, organized by the Senate of Argentina and the United Nations Economic Commission for Latin America and the Caribbean, Buenos Aires, Argentina (November). [“Markets and economic instruments in water management”]
- 1998** “Los mercados de aguas y los organismos de cuencas,” 1st Congress of the Latin American Network of River Basin Organizations, Bogotá, Colombia (August). [“Water markets and river basin organizations”]

- 1997** “El Código de Aguas y la pequeña agricultura,” Institute of Agricultural Development, Ministry of Agriculture, Santiago, Chile (December). [“The Water Code and peasant agriculture”]
- 1997** “Instrumentos económicos en el manejo de aguas,” International Workshop on Water Resources Management, organized by Nicaragua Action Plan for Water Resources, Managua, Nicaragua (September). [“Economic instruments in water management”]
- 1995** “Privatización, regulación y los arreglos institucionales en Chile,” International Conference on Privatization of Water Utilities, United Nations Economic Commission for Latin America, Santiago, Chile (October). [“Privatization, regulation, and institutional arrangements in Chile”]

International Consulting

- Dec. 2009** Diego Portales University Law School, Santiago, Chile. Taught short course on Water as an Environmental and Economic Resource (in Spanish) for lawyers at Council for Defense of the State, Environment Division, Government of Chile. See **Short Courses for Professionals**.
- Nov. 2007- Feb. '08** Member, Advisory Committee, Ministry of Environment, Government of Spain. Co-author of report, *Estado de la Cuestión en Materia de Transferencia de Derechos Privativos de Uso de Aguas en España*, about current issues in transferring private water rights in Spain; wrote appendix, “El Abanico de Bancos de Aguas en las Américas” [“The range of water banks in the Americas”].
- Jan.-May 2004** World Bank, Mexico City, Mexico. Wrote report, “El PADUA y los Mercados de Derechos de Agua en México,” analyzing water rights markets in Mexico in relation to conservation of groundwater.
- July 2002** Center of Applied Economics, University of Chile, Santiago, Chile. Taught short course on Regulation of Water Resources (in Spanish), for staff at the Chilean government’s regulatory agency for drinking water and sanitation (*Superintendencia de Servicios Sanitarios*). See **Short Courses for Professionals**.
- Oct. 1998** World Bank, Washington, DC. Wrote report, “Recent Trends in Water Law and Management in Latin America: A Review of the Literature about Empirical Assessment.”
- June-Aug. 1998** Associate Economic Affairs Officer, United Nations Economic Commission for Latin America and the Caribbean, Agricultural Development Unit, Santiago, Chile. Wrote report on the significance of water rights and water markets for rural land markets, for ECLAC / GTZ Project on Rural Land Markets in Latin America.
- Nov. 1997** United Nations Economic Commission for Latin America and the Caribbean, Agricultural Development Unit, Santiago, Chile. Taught short course on Water as a Productive Resource in Agriculture (in Spanish) for U.N. professional staff. See **Short Courses for Professionals**.
- Oct. 1997-Mar. '98** Carl Bro International / Danish International Development Assistance. Taught short course on Water Economics and Use of Economic Instruments in Water Management (in Spanish), for government staff and other stakeholders; analyzed the use of economic instruments in the Nicaragua Action Plan for Water Resources, Ministry of Environment and Natural Resources, Managua, Nicaragua. See **Short Courses for Professionals**.

- April 1997** United Nations Dept. for Development Support and Management Services. Invited by China's Ministry of Water Resources to participate in International Seminar on the Role of Laws, Institutions and Capacity Building: Sustainable Water Management for China, held at Nanjing Institute of Hydrology and Water Resources, Nanjing, China, 21-25 April 1997. Presented the United States experience in river basin management (Tennessee Valley Authority) and water markets.
- Sept. 1996** Global Water Partnership / Swedish International Development Agency, Stockholm, Sweden. Wrote paper on water markets in relation to the Principles of Dublin.
- Apr.-May 1996** Inter-American Development Bank, Environment Division, Washington, DC. Wrote and presented paper on economic instruments in integrated water resource management (in Spanish) at IADB Workshop on Strategies for Integrated Water Resource Management, with Latin American government officials, San José, Costa Rica, 6-7 May 1996.
- Oct.-Dec. 1993** United Nations Economic Commission for Latin America and the Caribbean, Agricultural Development Unit, Santiago, Chile. Wrote report analyzing recent evolution and tendencies of U.S. agricultural policies (in Spanish).

Short Courses for Professionals (all taught in Spanish)

- 2009** *Water as an Environmental and Economic Resource*, for lawyers at Council for Defense of the State, Environment Division, Government of Chile; taught at Diego Portales University Law School, Santiago, Chile.
- 2002** *Regulation of Water Resources*, for staff of the Superintendency of Sanitary Services, Government of Chile (regulatory agency for drinking water and sanitation); taught at Center of Applied Economics, University of Chile, Santiago, Chile.
- 1998** *Water Economics and Use of Economic Instruments in Water Management*, for government officials and other stakeholders, Managua, Nicaragua.
- 1997** *Water as a Productive Resource in Agriculture*, for staff at United Nations Economic Commission for Latin America and the Caribbean, Agricultural Development Unit, Santiago, Chile.

Other Professional Service

Professional memberships:

Association of American Geographers (member, Water Resources Specialty Group, Energy & Environment Specialty Group; member, Constitution & By-Laws Committee, 2011-2014)
 International Water Association
 Law and Society Association (member, Collaborative Research Network on Regulatory Governance)
 Universities Council on Water Resources (delegate, U. of Arizona)

Member, GDRI, International Research Network on Water Governance and Access to Water in the Americas, National Center for Scientific Research, France

Member, Series Advisory Committee, RFF Press Book Series, *Issues in Water Resource Policy*

Member, Editorial Board, *Water Alternatives* (www.water-alternatives.org)

Article manuscript reviewer for the following journals:

Annals of the Association of American Geographers
Geoforum
Geographical Journal
International Journal of Water
Journal of the American Water Resources Association
Law and Society Review
Regulation & Governance
Water Alternatives
Water International
Water Policy
Water Resources Research
World Development

Book manuscript reviewer for university presses and other specialized publishers.

Proposal reviewer for National Science Foundation; Social Sciences and Humanities Research Council of Canada.

Interviewed regularly by journalists in U.S., Latin America, Spain, and other countries (TV, radio, and print media).

ACADEMIC TALKS

Seminars (Invited)

- 2010** “El modelo chileno de la gestión de aguas,” University of Chile, Dept. of Environmental Sciences and Renewable Natural Resources, Santiago, Chile (June). [“The Chilean model of water management”]
- 2010** “River governance and water markets in Chile: Law, economics, and geography,” Dept. of Geography, U. New Mexico (April).
- 2010** “Ups and downs of the Chilean water model,” Dept. of Geography, University of California-Berkeley, Berkeley, CA (January).
- 2010** “Dams and markets: Rivers and electric power in Chile,” Center for Watershed Sciences, University of California-Davis, Davis, CA (January).
- 2009** “Derecho y política de aguas en Chile,” University of Chile, Dept. of Environmental Sciences and Renewable Natural Resources, Santiago, Chile (July). [“Water law and politics in Chile”]
- 2008** “Mercados y bancos de agua en Chile y EEUU,” Colegio de Sonora, Hermosillo, Mexico (May). [“Water markets and banks in Chile and the US”]
- 2008** “Rivers and power in Chile,” Dept. of Geography, University of Arizona, Tucson, AZ (May).
- 2005** “Free markets and water reforms: The Chilean experience and international water policy debates,” Dept. of Geography, University of Arizona, Tucson, AZ (December).
- 2005** “Hydropower, river protection, and negotiating water rights in Chilean Patagonia,” International Association for the Study of Common Property, seminar hosted by the International Food Policy Research Institute, Washington, DC (May).

- 2003** “Canto de sirenas: El derecho de aguas chileno como modelo para reformas internacionales,” Dept. of Economics, University of CEMA, Buenos Aires, Argentina (October). [“Siren song: Chilean water law as a model for international reform”]
- 2002** “Veinte años después del Código de Aguas neoliberal de Chile: Lecciones sobre las reformas del derecho y economía del agua,” Center for Applied Economics, University of Chile, Santiago, Chile (May). [“Twenty years after Chile’s neoliberal Water Code: Lessons about reforming water law and economics”]
- 2001** “Water and power markets in South America: Legal underpinnings of neoliberal economics,” Department of Economics, University of Washington, Seattle, WA (May).
- 2001** “Los mercados de aguas en Chile: Implicancias del modelo neoliberal,” Dept. of Applied Economics, University of La Laguna, Tenerife, Canary Islands, Spain (March). [“Water markets in Chile: Implications of the neoliberal model”]
- 2000** “Mercados de aguas en el mundo,” Iberoamerican University-León, for certificate program in Integrated Water and Watershed Management organized jointly with the State of Guanajuato Water and Sanitation Commission, León, Mexico (June). [“Water markets in the world”]
- 1999** “Derecho y economía en la Constitución chilena de 1980,” Diego Portales University Law School, Santiago, Chile (December). [“Law and economics in the 1980 Chilean Constitution”]
- 1998** “Derechos de propiedad y mecanismos de mercado en la gestión del agua: El modelo chileno,” Dept. of Economics and Economic History, University of Salamanca, Salamanca, Spain (September). [“Property rights and market mechanisms in water management: The Chilean model”]
- 1998** “Derechos y mercados de aguas en Estados Unidos y Chile,” Catholic University Law School, Santiago, Chile (July). [“Water rights and water markets in the U.S. and Chile”]
- 1995** “La definición de derechos de propiedad: Derecho, economía y el uso múltiple de aguas en Chile,” Center for Applied Economics, University of Chile, Santiago, Chile (November). [“Defining property rights: Law, economics, and multiple water use in Chile”]

Conferences (* Invited)

- 2011** “Water and energy governance in Chile and California: Law and geography and global change,” Law and Society Association Annual Conference, San Francisco, CA (June).
- 2011** “Water and energy governance in Chile and California: Law and geography and global change,” Association of American Geographers Annual Conference, Seattle, WA (April).
- 2011** “Intercambios de derechos de aguas,” Speaker and coordinator of workshop, 7th Iberian Conference on Water Management and Planning, Talavera de la Reina, Spain (February). [“Exchanges of water rights”]*
- 2010** “Fifty years of Chile/California programs: Water science, politics, and reform,” North American Regional Meeting of International Association for the Study of the Commons, Arizona State University, Tempe, AZ (October).

- 2010** “Gobernanza regulatoria de la hidroelectricidad en Chile: El nexo agua-energía,” *Gobernanza y Conflictos del Agua en las Americas*, Seminar of GDRI, International Research Network on Water Governance and Access to Water in the Americas, National Center for Scientific Research, France, held at Diego Portales University Law School, Santiago, Chile (June). [“Regulatory governance of hydroelectricity in Chile: The water-energy nexus”]
- 2009** “Represas y mercados: Los ríos y la generación eléctrica en Chile,” *1st Annual Lecture*, Environmental Law and Policy Program, Diego Portales University Law School, Santiago, Chile (July). [“Dams and markets: Rivers and electric power in Chile”]*
- 2009** “Dams and markets: Rivers and electric power in Chile,” Law and Society Association Annual Conference, Denver, CO (May).
- 2007** “Rivers and power in Chilean Patagonia,” Association of American Geographers Annual Conference, San Francisco, CA (April).
- 2006** *Plenary lecture*, “El abanico de los bancos de aguas en las Américas,” 5th Iberian Conference on Water Management and Planning, Faro, Portugal (December). [“The range of water banks in the Americas”]*
- 2006** “Hydropower and electricity regulation in Chile: Prologue to Patagonia,” Law and Society Association Annual Conference, Baltimore, MD (July).
- 2005** “Hydropower law and regulation in Chile,” Pan-American Advanced Study Institute: Balancing Hydropower Development and Biodiversity, funded by U.S. National Science Foundation, Concepción, Chile (January).*
- 2004** “Siren song: Chilean water law as a model for international reform,” *Author-meets-readers book panel*, Law and Society Association Annual Conference, Chicago, IL (May).
- 2002** “Derecho y economía de recursos hídricos: Veinte años del modelo chileno,” 7th Annual Conference of Latin American Law and Economics Association, Santiago, Chile (December). [“Law and economics of water resources: Twenty years of the Chilean model”]*
- 2002** “Veinte años después del Código de Aguas: La experiencia chilena desde la mirada internacional,” 5th Annual Chilean Conference on Water Law, Catholic University, School of Law, Santiago, Chile (November). [“Twenty years after the Water Code: The Chilean experience in international perspective”]*
- 2002** “Twenty years after Chile’s free market Water Code: Lessons about reforming water law and economics,” *Allocating and Managing Water for a Sustainable Future: Lessons from Around the World*, 23rd Summer Conference on Water Law, University of Colorado, Natural Resources Law Center, Boulder, CO (June).
- 2001** “Veinte años del Código de Aguas chileno: Lecciones nacionales e internacionales para las reformas del derecho de aguas,” 4th Annual Chilean Conference on Water Law, Catholic University, School of Law, Santiago, Chile (November). [“Twenty years of the Chilean Water Code: National and international lessons about water law reforms”]*
- 2000** “Second generation reforms and the rule of law in Chile and Argentina: Privatization and regulation in water, energy, and environment,” Law and Society Association Annual Conference, Miami Beach, FL (May).

- 1999** *Inaugural lecture*, “Derechos de agua, hidroenergía, y la gestión ecológica de aguas: El caso del oeste norteamericano,” 2nd Annual Chilean Conference on Water Law, Catholic University Law School, Santiago, Chile (November). [“Water rights, hydropower, and ecological management of water resources: The case of the North American West”]*
- 1998** *Plenary lectures*, “La gestión de las aguas en California” [“Water management in California”] and “El mercado de las aguas en Chile” [“The water market in Chile”], 1st Annual Chilean Conference on Water Law, Catholic University Law School, Santiago, Chile (November).*
- 1998** “Understanding Pangué Dam: Multiple water uses and the neoliberal institutional model in Chile,” 5th Biennial Conference, International Society for Ecological Economics, Santiago, Chile (November).
- 1998** “Los usos múltiples del agua y el modelo neoliberal en Chile,” Iberian Conference on Water Management and Planning, University of Zaragoza, Zaragoza, Spain (September). [“Multiple water uses and the neoliberal model in Chile”]*
- 1996** “Why have water markets in Chile been so inactive?” 71st Annual Western Economic Association International Conference, San Francisco, CA (July).
- 1996** “Slippery definitions of property rights: Multiple water uses and the market model in Chile,” 6th Annual Conference of International Association for the Study of Common Property, Berkeley, CA (June).
- 1996** *Plenary lecture*, “El mercado de aguas en California,” 6th Annual Conference on Water Law, University of Zaragoza Law School, Zaragoza, Spain (March). [“The water market in California”]*
- 1995** “The contradictory role of the judiciary in Chile’s neoliberal economic model,” 1st Congress of the Latin American Law and Economics Association, Mexico City, Mexico (February).

HONORS AND AWARDS

- 2011** **Udall Center/Institute of the Environment Fellowship**, University of Arizona (August-December). Release from teaching to conduct research for one semester.
- 2009** **1st Annual Lecture**, Environmental Law and Policy Program, Diego Portales University Law School, Santiago, Chile (July). See **ACADEMIC TALKS: Conferences**.
- 2003** **Fulbright Scholar Award for Lecturing / Research**, U.S. Dept. of State and Council for International Exchange of Scholars, for a semester at National University of Cuyo, Dept. of Political and Social Sciences, Mendoza, Argentina. Taught post-graduate seminar about Contemporary Issues in Comparative Water Law and Economics (in Spanish). Research about hydropower, water, and energy policies in Argentina.
- 2001-02** **Visiting Scholar**, Center for Applied Economics, University of Chile, Santiago, Chile. Research about water and energy policy in Chile.
- 1997-99** **Visiting Scholar**, Dept. of Environmental Science, Policy, and Management, University of California-Berkeley. Research about water law, policy, and institutions in Latin America.
- 1995-97** **Ciriacy-Wantrup Post-Doctoral Research Fellowship**, University of California-Berkeley, Dept. of Environmental Science, Policy, and Management. See **EMPLOYMENT**.

- 1994** **John M. Olin Foundation Fellowship.**
George C. and Helen N. Pardee Scholarship.
Support for Ph.D. dissertation write-up, University of California-Berkeley.
- 1991-93** **Fulbright-Hays Fellowship for Doctoral Dissertation Research Abroad.**
Social Science Research Council International Dissertation Fellowship.
Inter-American Foundation Dissertation Fellowship.
Support for Ph.D. field research in Chile. While in Chile: Affiliated with United Nations Economic Commission for Latin America (Santiago); University of Concepción (Concepción); and Institute of Mining and Water Law, University of Atacama (Santiago).
- 1989** **U.S. Dept. of Education, Foreign Language and Area Studies Summer Language Fellowship.**
Grant for Spanish language study in Mexico (June-July).
- 1985-86** **Wisconsin Alumni Research Foundation Fellowship,** University of Wisconsin-Madison.

COURSES TAUGHT AT UNIVERSITY OF ARIZONA (2007-present)

- Geography 596I: Comparative and International Water Policy (graduate)
- Geography 596L: Law, Geography, and Property (graduate)
- Geography 696J: Water Resources Geography: Drought, Climate Change, & Water Policy (graduate) (co-taught with Connie Woodhouse)
- Geography 468: Water and Sustainability (undergraduate)
- Geography 304: Water, Environment, and Society (undergraduate)

UNIVERSITY TEACHING (Prior to Univ. of Arizona)

- 2003** *Contemporary Issues in Comparative Water Law and Economics* (in Spanish), Department of Political and Social Sciences, National University of Cuyo, Mendoza, Argentina. Postgraduate seminar for university faculty, government officials, and graduate students. Taught while Fulbright Scholar (see **HONORS AND AWARDS**).
- 2002** *Comparative Water Law* (in Spanish) Catholic University Law School, Santiago, Chile. Graduate seminar for doctoral students.
- 1998** *Political Economy of Natural Resources*, Dept. of Geography, University of California-Berkeley. Upper-level undergraduate lecture course.
- 1995** *Sociology of Natural Resources*, Dept. of Environmental Science, Policy, and Management, University of California-Berkeley. Upper-level undergraduate lecture course.
- 1993, '95** *Comparative Water Law* (in Spanish), for lawyers in professional master's program, Institute of Mining and Water Law, University of Atacama, Santiago, Chile.

- 1989-94 Teaching Assistant**, University of California-Berkeley, Dept. of Legal Studies: *Theories of Law and Society; Law, Politics, and Society*.
Dept. of Conservation and Resource Studies: *U.S. Environmental Law and Policy; U.S. Agricultural Policy and Political Economy*.
- 1986-88 Teaching Assistant**, University of Wisconsin-Madison, Dept. of Geography: *Environmental Conservation*.

GRANTS AND CONTRACTS (see also International Consulting)

- 2007 Foreign Travel Grant, University of Arizona.** \$700 to attend International Conference on Environmental Flows, Brisbane, Australia, Sept. 2007 (declined).
- 2005 Weeden Foundation.** \$20,000 grant to Resources for the Future for research project: Hydropower and River Protection in Chilean Patagonia: Legal and Policy Issues. Wrote paper and advised environmental NGOs.
- 2002-03 William and Flora Hewlett Foundation, U.S.-Latin America Program.** \$100,000 grant to Resources for the Future for a research project about Water Policy in Chile and Latin America. Did research in Chile and Argentina; collaborated with local NGOs and universities; published book and articles in 2004-2005. (See **PUBLICATIONS**.)
- 2000-02 William and Flora Hewlett Foundation, U.S.-Latin America Program.** \$200,000 grant to Resources for the Future for a research project about Water and Energy Policy in Chile and Argentina. Did research in the U.S., Chile, and Argentina; collaborated with local NGOs and universities; published Spanish translation of 1998 book. (See **PUBLICATIONS**.)
- 1999-2000 U.S. Dept. of Energy,** Co-investigator (with Katherine Probst, P.I.), Resources for the Future, for report on *Long-Term Stewardship of Contaminated Sites: Trust Funds as Mechanisms for Financing and Oversight*. (See **Short Articles and Other Publications**.)
- 1990 Tinker Foundation / Univ. of California-Berkeley Center for Latin American Studies.** Grant for summer travel to Chile for exploratory research.
- 1989 Tinker Foundation / Univ. of California-Berkeley Center for Latin American Studies.** Grant for summer travel to Bolivia for exploratory research.

PERSONAL INFORMATION

Date of birth: 25 January 1960
Languages: English (native), Spanish (fluent)

Citizenship: U.S.A.
Married, two children (born 2001 and 2003)