Curriculum Vita

Robert 0. Vos

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PRESENT APPOINTMENTS

Assistant Professor (Teaching) and Director of Graduate Studies Spatial Sciences Institute University of Southern California

EDUCATION

1992 University of Southern California

Bachelor of Arts: Study of the City (Program in the Environment and the City) Bachelor of Music: Violoncello Performance (82 units toward completion) *Summa Cum Laude*

1994 University of Southern California
Master of Arts in Political Science (American Politics)

Comprehensive Examination with Distinction

1999 Doctor of Philosophy in Political Science
Major-Field: American Politics. Sub-fields: Political Theory; Law and Public Policy.

Oualifying Examination with Distinction

Dissertation: Courts and Collective Action: Legal Mobilization in the U.S. Environmental Movement (Chair, Dr. Sheldon Kamieniecki)

PROFESSIONAL CERTIFICATIONS

Certified Geographic Information Science Professional (GISP) by the GIS Certification Institute (GISCI) from 6/25/2015 until recertification is required in 2020 (#91703)

TEACHING INTERESTS

Sustainability Science Political Geography
Spatial Science Research & Project Methods Industrial Ecology
Environmental Law, Politics, and Policy Sustainable Cities

RESEARCH INTERESTS

Sustainability Indicators

Life Cycle Assessment

Environmental Justice

Material Flow Analysis/Urban Metabolism

Water Modeling and Policy

Social Movements/Legal Mobilization

HONORS & AWARDS

2010 1998	Disney Consumer Products, Sustainability Award for SmartPackaging Initiative Lynton Caldwell Prize for the best book published in environmental politics between 1995 and 1997. (for: <i>Flashpoints in Environmental Policymaking: Controversies in Achieving Sustainability.</i> Sheldon Kamieniecki, George A. Gonzalez, and Robert O. Vos (Co-editors). Albany: State University of New York Press, 1997) Awarded by the Science, Technology, and Environmental Politics Section
	American Political Science Association (APSA).
1996-97	Haynes Dissertation Fellowship
1995	USC Outstanding Teaching Assistant Award
	Honorable Mention (second place)
1994-95	Outstanding Teaching Assistant Award
	Department of Political Science
1994-95	Haynes Continuing Fellowship
1993	The Rockwell Dennis Hunt Scholarship
1993	USC Dean Joan Schaeffer Scholarship
1993	Western Governmental Research Association Graduate Student Award
1992	Phi Beta Kappa
1992	Phi Kappa Phi Undergraduate Student Research Award
1991	Phi Kappa Phi
1988	Alpha Lamda Delta

PUBLICATIONS

Book

1997 Flashpoints in Environmental Policymaking: Controversies in Achieving Sustainability. Sheldon Kamieniecki, George A. Gonzalez, and Robert O. Vos (Co-editors). Albany: State University of New York Press.

Peer Reviewed Journal Articles

- 1996 "An Archeology of Environmental Racism in Los Angeles." Laura Pulido, Steve Sidawi, Robert O. Vos. *Urban Geography* 17: 419-439.
- 2002 "Reforming EPA's Organizational Structure: Establishing an Adaptable Agency through Eco-Regions." Paul S. Weiland and Robert O. Vos. *Natural Resources Journal* 42: 91-131.
- 2007 "Defining sustainability: a conceptual orientation." Robert O. Vos. Perspective in *Journal of Chemical Technology and Biotechnology* 82: 334-339.
- 2010 "Papering over space and place: Product carbon footprint modeling in the global paper industry." Joshua Newell and Robert O. Vos. *Annals of the Association of American Geographers* 101 (4): 730-741.
- 2012 "Challenges and Opportunities for Incorporating Forest Carbon Pools in Consumer Product Carbon Footprints." Joshua Newell and Robert O. Vos. *Environmental Impact Assessment Review* 37: 23-36.
- 2017 "Forest Landscape Carbon Accounting in Three Regions of North America: Implications for Life Cycle Assessment of Dimensional Lumber" Joshua Newell, Donald L. Sachs, and Robert O. Vos. *Nature Climate Change* (In Progress)
- 2017 "Network Accessibility and Population Change: Transportation in Tennessee 1830-2010" Ruth Zipfel, Jennifer N. Swift, and Robert O. Vos. *Journal of Transport Geography* (In Progress).

Other Peer Reviewed Publications

- 2016 "Life Cycle Impact Assessment Methodology for Produce Category Rule (PCR) Modules for Roundwood and Pulp/Paper" Working Group Member with Tobias Schultz, Chair. Program Operator: SCSglobal Services, October 18, 2016.
- 2016 "Product Category Rule (PCR) Module for Market Pulp and Paper Products" Working Group Member with Tobias Schultz, Chair. Program Operator: SCSglobal Services, October 18, 2016.
- 2016 "Product Category Rule (PCR) for Roundwood" Working Group Member with Tobias Schultz, Chair. Program Operator: SCSglobal Services, October 18, 2016

Book Chapters

1995 "The Political Effectiveness of Radical Environmentalists," Sheldon Kamieniecki, S. Dulaine Coleman, and Robert O. Vos. In Bron Taylor (editor) (pp.315-333), *Grassroots Ecological Resistance: The Global Emergence of Radical Environmental Movements*, State University of New York Press.

- 1996 "Thinking about Sustainable Development: What's Theory Got To Do With It?" Matthew Alan Cahn and Rory O'Brien (editors), *Thinking About the Environment*. M.E. Sharpe.
- 1997 "Competing Approaches to Sustainability: Dimensions of Controversy", Sheldon Kamieniecki, George A. Gonzalez, and Robert O. Vos (editors), *Flashpoints in Environmental Policymaking*. State University of New York Press.
- 2009 "Dematerialization" Robert O. Vos and Joshua Newell. Entry in the *Encyclopedia of Green Business* (Editor P. Robbins). Sage References (Green Series).

Book Reviews

2001 Toward Sustainable Communities: Transition and Transformation in Environmental Policy (Edited by Daniel A. Mazmanian and Michael E. Kraft) Environmental Ethics (4: 270-273).

Non-Peer Reviewed Publications

- 2014 Strategic Sustainability Plan for Gerber Baby Foods, with Candace Hodder, Clean Agency Consulting Report, June 1, 2014 for Nestlé Nutrition.
- 2013 Project Springfield Life Cycle Assessment Report: Comparative Assessment of Gerber's Infant Cereal Packaging with P. Pereira and C. Hodder, Clean Agency Consulting Report, March 29, 2013 (third-party reviewed for ISO 14040/14044 conformity)
- 2013 Project Columbia Life Cycle Assessment Report: Comparative Assessment of Gerber's Infant Purée Packaging with P. Pereira and C. Hodder, Clean Agency Consulting Report, March 29, 2013
- 2012 Carbon Footprinting for Products: What Companies Should Know, Environmental Leader, July 11, 2012
- 2011 *Nine Tips for Bringing Sustainability to the Supply Chain*, with C. Hodder, GreenBiz, October 25, 2011
- 2011 Corporate Water-Energy Footprint: Critical Work for Risk Management, Environmental Leader, May 19, 2011
- 2011 *Life Cycle Environmental Impact Assessment of Toy Packaging at Mattel, Inc.* with C. Del Maestro and C. Hodder, Clean Agency Consulting Report, January 2011
- 2011 Assessing Ecosystem Values of Watersheds in Southern California with M. Antos, Los Angeles and San Gabriel River Watershed Council Report, February 2011

- 2010 Screening Life Cycle Assessment of Dreyer's/Haagen-Dazs Ice Cream with C. Del Maestro and C. Hodder, Clean Agency Consulting Report, June 2010 (third-party reviewed for ISO 14040/14044 conformity)
- 2009 A Comparative Analysis of Carbon Dioxide Emissions in Coated Paper Production: Key Differences between China and the U.S. Robert O. Vos and Josh Newell, USC Center for Sustainable Cities Report. June 2009.
- 2009 Orange County Green Initiatives Strategic Tactics Plan. Robert O. Vos, Report for the Orange County Workforce Investment Board (OCWIB). May 2009.
- 2008 Environmental Analysis of Coated Paper Supply Chains: the United States and China. Josh Newell and Robert O. Vos, USC Center for Sustainable Cities, White Paper (May).
- 2003 Post-Symposium Report. NSF Symposium on Sustainable Industrial Development: Energy and Material Exchange and Optimization through Eco-Industrial Networks (http://www.usc.edu/schools/sppd/research/NCEID/).
- 2002 Resource Manual on Infrastructure for Eco-Industrial Parks. Ian T. Penn and Robert O. Vos. (http://www.usc.edu/schools/sppd/research/NCEID/Infrastructure.pdf).
- 2002 Resource Manual on Eco-Industrial Approaches to Brownfield Remediation. Ian T. Penn and Robert O. Vos (http://www.usc.edu/schools/sppd/research/NCEID/).
- 1997 *Clean Air Goal Visible in Haze*. Saturday Commentary (Op-Ed). Los Angeles Daily News (July 12).

TEACHING EXPERIENCE

Graduate Courses:

Sustainable Cities (GEOG/PLUS 601 and PPDE 632), USC Department of Geography and School of Policy Planning and Development (2006-2014)

Industrial Ecology: Technology-Environment Interaction, USC Epstein Department of Industrial and Systems Engineering (ISE 576). Developed as new USC Course (2009-2015)

Master's Thesis Project Preparation, USC Geographic Information Science and Technology Program (GIST) (GEOG 594a and SSCI 594a). Developed as a new USC Course (2011-2016)

Geospatial Technology Project Management (SSCI 585), USC Geographic Information Science and Technology Program (GIST) (Fall 2014 and Fall 2016)

Introduction to Environmental Studies, (ENST 500), USC Environmental Studies Program (2001-2003)

Undergraduate Courses:

Sustainability Science in the City, (SSCI 165Lgw). Large general education course in the spatial analysis/global citizenship categories with weekly labs. Developed as a new USC course for the USC Spatial Sciences Institute (2015-2016)

Environmental Law (POSC 391), USC Department of Political Science (1999 & 2005)

Environmental Risk Assessment (ENST 441), Developed as a new USC course for USC Environmental Studies Program (2001 and 2001).

American Political Thought and Practice (Gov. 318), University of Redlands (1999)

Undergraduate Courses (as teaching assistant, 1992-94):

Theory and Practice of American Democracy, USC Department of Political Science (POSC 100)

American Political Thought, USC Department of Political Science (POSC 365)

Cultural Diversity and the Law, USC Department of Political Science (POSC 441)

Politics and Culture, USC Department of Political Science (POSC 465)

RESEARCH FUNDING

- 2008 Principal Investigator
 - "Chinese Coated Paper Supply Chain Analysis"
 Sub-Contract with Clean Agency for NewPage Corporation, Co-PI Josh Newell (\$56,665)
- 2007 Co-Principal Investigator

"Ecosystem Values of Watersheds in Southern California." State of California, Department Water Resources. (\$391,934). N. Steele, P.I., Los Angeles and San Gabriel Rivers Watershed Council.

- 2007 Consultant
 - Estimation of carbon footprint for an LA-based furniture manufacturing company. Clean Agency, Inc. of Pasadena, CA. (\$5,000). R. Vos, P.I.
- 2006 USC Future Fuels and Energy Initiative Faculty Fellow "Building USC Research Capacity for Environmental Life-Cycle Assessment of Future Fuels and Energy Systems." (\$25,000) M. Rahimi, P.I.
- 2003 Consultant

Sustainability Indicators for the Integrated Resource Plan (IRP). City of Los Angeles, Bureau of Sanitation. (\$65,000). J. Devinny, P.I.

2002 Project Coordinator

"Modeling Eco-Industrial Symbiosis: Greening of Regional Industrial Materials Networks". National Science Foundation, Crosscutting Program under the Bio-Complexity Initiative: Materials Use Science Engineering and Society (MUSES). (\$100,000). M. Rahimi, P.I.

2002 Urban Initiative Faculty Fellow

"Modeling the Los Angeles Industrial Ecosystem." USC Urban Initiative Faculty Grant (\$25,000) M. Rahimi. P.I. and J. Wolch and J. Devinny, Co-P.I.'s

2002 Research Associate

"Toward a More Sustainable Los Angeles: a Workshop for General Managers and Division Mangers at the City of Los Angeles." (\$6,500). J. Wolch, P.I. Responsible for coordinating the LEED/Green Building portion for a full-day workshop.

2002 Research Associate

"Sustainability Starts at Home." Contract for the Southern California Gas Company, Diverse Markets Outreach Program (\$99,975). J. Wolch, P.I.

1999 Principal Investigator

"Exploring Local Governance and Sustainability: the Solid Waste Problem in Los Angeles." Haynes Foundation, Grants to Develop Research Designs for a More Sustainable Los Angeles (\$5,000).

RESEARCH SUPERVISIONS

Student Research Projects

- 2000 "Eco-Industrial Parks in the City: an Implementation Study in Central Los Angeles." Sustainable Cities Program, Summer Undergraduate Fellows Project Report.). Michael Besem and Charles Cange. Supervised with Najmedin Meshkati, Civil and Environmental Engineering.
- 2001 "Worldwide Water Quality Assessment: a Comparative Study of 10 Major Coastal Cities." Sustainable Cities Program, Summer Undergraduate Fellows Project Report. Katie Bollie, Peter Nelson, and Jennie Walcek. Supervised with Jeffrey Sellers, Political Science and Jed Fuhrman, Biology.
- 2001 "Exploring Alternative Environmental Assessments: a Case Study of the Alameda Corridor of Central Los Angeles." Sustainable Cities Program, Summer Undergraduate Fellows Project Report. Oliver Baker, Carina Cuellar, and David Sumi. Supervised with Mansour Rahimi, Industrial and Systems Engineering.
- 2001 "Best Practices in Sustainable Urban Redevelopment of Shopping Centers" (University Village Series White Paper No. 1). Summer Undergraduate Fellows Project Report. Dawn Alley, Carmen Cejudo, and David Milam. Supervised with Jennifer Wolch, Geography and Joseph Devinny, Civil and Environmental Engineering.

- 2001 "Toward a Sustainable University Village" (University Village Series: White Paper No. 2). Summer Undergraduate Fellows Project Report. Dawn Alley, Carmen Cejudo, and David Milam. Supervised with Jennifer Wolch, Geography; Joseph Devinny, Civil and Environmental Engineering; and Travis Longcore, Geography.
- 2001 "Application of Life Cycle Assessment to Environmental Impact Assessment: a Case Study of the Alameda Corridor Project of Central Los Angeles." Sustainable Cities Program Ph.D. Collaborative Project of Merrill Weidner. Supervised with Mansour Rahimi, Industrial and Systems Engineering.
- 2002 "Economic Aspects in Implementing the Concept of Industrial Ecology: the Use of Regional Input-Output Modeling" Sustainable Cities Program Ph.D. Collaborative Project of Kitty Kay Chan. Supervised with Professor Jeffrey Nugent, Economics.
- 2002 "Economic Input-Output Analysis as a Tool for Urban Sustainability." Summer Undergraduate Fellows Project Report. Adam Brandt, Jacqueline Doremus, and Fan Lau. Supervised with David Rigby, UCLA Geography and Mansour Rahimi, Industrial and Systems Engineering.
- 2002 "Environmental Justice Assessment of the Alameda Corridor of Central Los Angeles". Sustainable Cities Program Ph.D. Collaborative Project of Sheila Ruth Akineley. Supervised with Laura Pulido, Geography.

Master's Theses Supervised

- 2002 "Economic Valuation of Impacts to Beneficial Uses to Water Quality in California: a Proposed Methodology" USC Masters Thesis for the Degree M.A. of Environmental Studies of Rafael Maetsu. Committee Chair, supervised with Douglas Capone, Biology and Linwood Pendleton, Economics.
- "Coastal Wetlands Mitigation Policy: Moving from Loss to No Net Less of Water Quality Functions" USC Masters Thesis for the Degree M.A. of Environmental Studies of Stephanie Gasca. Committee Chair, supervised with Joseph Devinny, Civil and Environmental Engineering, Roderick Mckenzie, Geography, and Suzanne Edmands, Biology.
- 2004 "Evaluating NGO Success in Conservation Efforts in the Brazilian Amazon" USC Masters Thesis for the Degree M.A. of Environmental Studies of Hallie Gardner. Committee Chair, supervised with Albert Herrera, Biology and Dean Jane Cody.
- 2012 "The Role of GIS in Asset Management: Integration at the Otay Water District" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Alexander J. Schultz. Committee Chair, supervised with John Wilson, Geography and Sociology and Karen Kemp, Spatial Sciences Institute.

- 2012 "Community Gardens for Social Capital: A Site Suitability Analysis in Akron, Ohio" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Allison Oulton. Committee Chair, supervised with Kirk Oda and Darren Ruddell, Spatial Sciences Institute.
- "Investigating Bus Route Walkability: Comparative Case Study in Orange County, California" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Stephanie Chen. Committee Chair, supervised with Kirk Oda and Darren Ruddell, Spatial Sciences Institute.
- 2012 "Spatial Analysis of Urban Built Environments and Vehicle Transit Behavior" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Daniel Currie Eisman. Committee Chair, supervised with Kirk Oda and Dan Warshawsky, Spatial Sciences Institute.
- 2012 "Improving the Communication of Water Allocation Decisions Using Interactive Maps" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Andrew L. Stickney. Committee Chair, supervised with Jennifer Swift and Darren Ruddell, Spatial Sciences Institute.
- 2013 "Water Rights Permit System (WRPS): a GIS-Based Tool for the Umpqua Drainage Basin" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Kathy Thompson. Committee Chair, supervised with Jennifer Swift and Daniel Warshawsky, Spatial Sciences Institute.
- 2013 "Closed Landfills to Solar Energy Power Plants: Estimating the Solar Potential of Closed Landfills in California" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Devon R. Munsell. Committee Chair, supervised with Jennifer Swift and Darren Ruddell, Spatial Sciences Institute.
- 2013 "Explorations of American Churchscape Diversity" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Amanda Alamo. Committee Chair, supervised with John Wilson and Daniel Warshawsky, Spatial Sciences Institute.
- "The Geography of Voter Power in the U.S. Electoral College from 1900-2012" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Luke Wenschhof. Committee Chair, supervised with Karen Kemp and Daniel Warshawsky, Spatial Sciences Institute.
- 2014 "A Site Suitability Analysis for an Inland Port to Service the Ports of Los Angeles and Long Beach" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Emily Frazier. Committee Chair, supervised with Katsuhiko Oda (Spatial Sciences Institute) and Mansour Rahimi (Industrial and Systems Engineering).

- "Development of Web GIS or Urban Sustainability Indicators of Oakland, California" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Gina Kiani. Committee Chair, supervised with Jennifer Swift and Daniel Warshawsky, Spatial Sciences Institute.
- 2015 "Mapping Uniformity of Park Access Using Cadastral Data within Network Analyst in Wake County, NC" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Jonathan Parsons. Committee Chair, supervised with Yao-Yi Chiang and Daniel Warshawsky, Spatial Sciences Institute.
- 2015 "Smart Growth and Walkability Affect on Vehicle Use and Ownership" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Derek Newland. Committee Chair, supervised with Su Jin Lee, Spatial Sciences Institute and Meredith Franklin, Preventive Medicine/ Spatial Sciences Institute.
- "Hidden Hazards in Harbor Gateway: Exploring a Web GIS Solution for Superfund Education and Environmental Justice" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Mallory Graves. Committee Chair, supervised with Daniel Warshawsky and Jennifer Swift, Spatial Sciences Institute.
- 2015 "Validation of Volunteered Geographic Information Components of Law Enforcement Use of Force" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Lance Farman. Committee Chair, supervised with Karen Kemp, Spatial Sciences Institute and Brian Finch, Sociology.
- 2015 "Drawing Better Lines: Comparing Commissions to Legislatures on Compactness and Coterminosity" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Brian Dean. Committee Chair, supervised with Daniel Warshwasky and Katsuhiko Oda, Spatial Sciences Institute.
- 2015 "Walkability Study for School Accessibility: Case Study of the San Juan, Puerto Rico Elementary Schools" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Joel Rodriguez. Committee Chair, supervised with Su Jin Lee and Jennifer Swift, Spatial Sciences Institute.
- 2016 "A Spatial Analysis of Veteran Healthcare" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Charles Becker. Committee Chair, supervised with Elisabeth Sedano and Steve Fleming, Spatial Sciences Institute.
- 2016 "The Role of Amenities in Measuring Park Accessibility: A Case Study of Downey, California" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Edgar Jimenez. Committee Chair, supervised with Su Jin Lee and Laura Loyola, Spatial Sciences Institute.

- 2016 "Implementing Spatial Thinking with Web GIS in the Non-Profit Sector: A Case Study of ArcGIS Online in the Pacific Symphony" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Michelle Lin. Committee Chair, supervised with Elisabeth Sedano and John Wilson, Spatial Sciences Institute.
- 2016 "Measuring Seasonal Variation in Food Access: A Case Study of Everett, Washington" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Daryl Nevels. Committee Chair, supervised with Elisabeth Sedano and Daniel Warshawsky Spatial Sciences Institute.
- 2016 "Light Rail Expansion in Houston Using Viable Path Corridors and Least Cost Path: Alternatives for the Failed University and Uptown Lines" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Jared Reid. Committee Chair, supervised with Jennifer Swift and John Wilson Spatial Sciences Institute.
- 2016 "Peoples of Washington Historical Geographic Information System: Georeferencing Culture Using Archival Standardes" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of Jennifer Titus. Committee Chair, supervised with Jennifer Swift and Katsuhiko Oda Spatial Sciences Institute.
- 2016 "A User Study of GIS Infused Genealogy with Dynamic Thematic Representation and Spatiotemporal Control" USC Thesis for the Degree M.S. of Geographic Information Science and Technology (GIST) of James Ray. Committee Chair, supervised with Jennifer Swift and Yao-Yi Chiang Spatial Sciences Institute.

Ph.D. Dissertations (as Committee Member)

- 2005 "Green Logistics for Regional Industrial Waste Materials and By-Products" USC Ph.D. Dissertation of Hamid Pourmohammadi, Industrial and Systems Engineering, Outside Member. Supervised with Mansour Rahimi (Chair), Maged Dessouky (Member), Jim Moore (Member), Industrial and Systems Engineering.
- "Defining the Geospatial Needs of an Ubiquitous Disaster Relief Organization" USC Ph.D. Dissertation of Evan Lue, Geography. Supervised with John Wilson (Chair) and Meredith Franklin (Member), Spatial Sciences Institute

CONFERENCE PAPERS & INVITED LECTURES

- 2016 "The Geography of Voter Power in the U.S. Electoral College from 1900-2012" With Luke Wenschhof, USC M.S. GIST Alumnus. Paper presentation to the Association of American Geographers 2016 Conference, San Francisco, March 30, 2016.
- 2015 "Hierarchical Spatial Modeling for Smart Growth" With Meredith Franklin (USC Preventive Medicine), Daniel Eisman (USC M.S. GIST Alumnus), and Derek Newland (USC M.S. GIST Alumnus). Paper presentation to the Association of American Geographers 2015 Conference, Chicago, Illinois April 25, 2015.

- 2014 "Sustainability Challenges of Flexible Plastic Packaging" Invited Lecture at Global Pouch West: Flexible is the Future. Packaging Strategies Group, Garden Grove, CA. December 3.
- 2014 "Teaching Sustainability with Geospatial Technologies" Invited Lecture for International Forum for UNESCO's World Teacher's Day. Association of World Citizens, Los Angeles, CA. October 5.
- 2012 "Strategic Sustainability Plan for the Port of Los Angeles" Invited Lecture for Sustainability Planning Workshop, October 11.
- 2012 "Business Value of Life Cycle Assessment Webinar" with EarthShift (PRÉ Int'l), May 17.
- 2011 "Geographical Delimitation for Carbon Footprint Modeling in the Global Paper Industry" Paper presentation to the International Society for Industrial Ecology 2011 Conference, Berkeley, California June 7-10.
- 2011 "Assessing Impacts of Food Packaging" Invited Lecture for Sustainable Packaging LCA Symposium, American Institute of Chemical Engineers, Chicago, IL, March 25.
- 2010 "Watershed Health Indicators of Urban Sustainability" CleanTech 2010, Annaheim, California, June 23.
- 2009 "Green Initiatives Strategic Tactics Plan" Invited Lecture for the Orange County Workforce Investment Board, July 10.
- 2009 "Environmental Justice Research Agenda for Cap and Trade under AB 32" Cities and Climate Change: a Solutions Oriented Conference, USC, Los Angeles, April 30.
- 2008 "Technologies and the Profitability of Waste-to-Energy: Can we achieve zero waste?" California Clean Innovation: Driving Technology, Business and Policy Innovation, UCLA, Los Angeles, May 9.
- 2008 "Achieving Sustainable Development in Southern California: Collaborative Learning through Systems Dynamics Modeling" INCOSE Annual Conference: Systems Engineering for the Planet, the Netherlands, June 15-19.
- 2007 "Industrial Ecology in the Sustainable City" Sustainable Cities Roundtable, French Consulate, Los Angeles, September 28.
- 2005 Session 9: Water Reuse and Reclamation Technologies, "Sustainability Indicators for the City of Los Angeles Department of Public Works Integrated Resource Plan," Water Environment Federation, 2nd Joint Conference for the Sustainable Management of Water Quality Systems, San Francisco, August 28-31

- 2005 Sustainable Cities and Regional Metabolism, "Cluster analysis technique for regional materials flows and urban sustainability," Paper presentation to the International Society for Industrial Ecology 2005 Conference, Stockholm, Sweden, June, 12-15.
- 2003 Closing Session Moderator for the NSF Symposium on Sustainable Industrial Development: Energy and Material Exchange and Optimization through Eco-Industrial Networks (November 6 & 7).
- 2003 Operations Research Panel, "Greening of industrial materials networks in Los Angeles County: Reverse logistics model development," Annual Industrial Engineering Research Conference, Portland, Oregon, May 17-21.
- 2002 Southern California Air Quality Management District "Growth in the Los Angeles Logistics Industry and the Challenge for Clean Air" October.
- 2000 The University of Michigan (Ann Arbor), School of Natural Resources and the Environment. "Multidisciplinary Research in Urban Sustainability." October.
- 1999 Southern California Research Group for Environmental Politics and Policy, "Greening VIII", "Courts and Collective Action: a Quantitative Analysis of Legal Mobilization in the Environmental Movement", University of Southern California, January 30.
- 1995 Environment Panel, "Stigma and Place: Bringing Context to Theories of Environmental Discrimination", American Association of Geographers, Chicago, March 14-17.
- 1995 Southern California Research Group for Environmental Policy, "Greening III", "A Case Study of Environmental Discrimination: Toxic Air Pollution in the Los Angeles Metropolitan Region", University of Southern California, January 28.
- 1994 Los Angeles: Past, Present, and Future Panel, "The Paradox of Managed Growth: Environmental Politics in Los Angeles", Western Political Science Association, Albuquerque, March.
- 1994 Environmental Justice Panel, "Stigma and Place: Toward a Theory of Environmental Racism", Western Political Science Association, Albuquerque, March.
- 1994 Southern California Research Group for Environmental Policy, "Greening II", "The Supreme Court and Environmental Standing: A Facade of Statecraft", Claremont Graduate School, January.
- 1992 Environmental Policy Panel, "Designing a Sustainable Bureaucracy: Making the EPA Adaptable", Western Political Science Association, San Francisco, March.

PROFESSIONAL SERVICE

- Workshop and Conference Participant. "Sustainability Learning Communities Network: From Information to Evidence about Sustainability Practices" UCGIS 2014 Symposium, Pasadena, CA (May)
- 2011 Co-organizer and roundtable participant. "California Sustainability Indicators Symposium," USC Davidson Conference Center, Los Angeles, CA (February).
- 2010 Discussant for Visiting UCLA Professor J. Evans. "Resilience, ecology, and adaptation in the experimental city," Los Angeles and San Gabriel Rivers Watershed Colloquium, MWD Headquarters, Los Angeles (November).
- 2001 Paper Presentation to Sustainable Cities Program Research Seminar. "Applying Life Cycle Assessment and Environmental Justice Analysis to Environmental Impact Assessment for the Alameda Corridor Project." With Merrill Weidner. Los Angeles, CA (October).
- 1999 Paper Presentation to the New Research Designs for a More Sustainable Los Angeles Conference. "Exploring Local Governance and Sustainability: the Solid Waste Problem in Los Angeles." Los Angeles (September).
- 1998 Secretary to the APSA Workshop on Sustainable Development (with Margaret Scully Granzeier). American Political Science Association, Boston, MA (September).
- 1993 Discussant. "Local Politics and the Environment Panel," Western Political Science Association, Pasadena, CA (March).
- 1992 Discussant. "Federalism and Intergovernmental Relations Panel," Western Political Science Association, San Francisco, CA (March).

Peer Review (Journal Referee)

- 2004 Urban Studies: An International Journal for Research in Urban and Regional Studies.
- 2005 Annals of the American Association of Geographers
- 2012 International Journal of Sustainable Transportation

PRIOR APPOINTMENTS & PROFESSIONAL EXPERIENCE

2010-2015 Adjunct Assistant Professor (Practice)

University of Southern California

Spatial Sciences Institute

Responsible for co-development and ongoing management of an introductory course for the thesis component of the M.S. degree in Geographic Information Science and Technology (GIST).

2008-2014 Vice President of Research

Clean Agency, Inc.

Led the research program for sustainability consulting for the firm. The practice focused on sustainability of consumer products, including life cycle assessment and eco-design of products and packaging. Major corporate clients included Nestlé, Mattel, and Disney. The practice included pioneering work on spatially explicit water and carbon footprints, especially for wood and paper products.

2003-2010 Research Assistant Professor of Geography

University of Southern California

Department of Geography and Center for Sustainable Cities

Responsible for coordinating industrial ecology research and managing the summer undergraduate fellowship program. Activities included advising multi-disciplinary student collaborative projects, seeking external funding with multi-disciplinary faculty teams, and conducting research with these teams.

2006-2008 Sustainable Enterprise Executive Roundtable (SEER), Faculty Team Member

University of Southern California Center for Sustainable Cities

Responsible for design, concept and coordination for regional sustainability projects for participating firms, including Disney, Mattel, Port of LA, YTI/NYK (Ocean Carriers), Volvo, CDM, and Waste Management International.

2005 Project Manager for "Meeting the Sustainability Challenge: Executive Education"

University of Southern California Center for Sustainable Cities

Responsible for designing the curriculum and instructional materials, recruiting the faculty for the program, and coordinating for marketing and logistics.

2000-02 Post-Doctoral Research Associate

University of Southern California

Center for Sustainable Cities/Sustainable Cities Program

1998-99 Haynes Foundation Fellow

Town Hall Los Angeles (a public policy forum)

Duties included administering a curriculum enrichment program for high school students, editing the Town Hall Journal, and producing a weekly radio program.

1994-95 Research Associate

University of Southern California

Department of Geography

Researcher on National Science Foundation Project, "The Role of Race and Class in Exposure to Environmental Hazards." L. Pulido, PI.

1992 Student Professional Worker

The City of Los Angeles

Integrated Solid Waste Management Office; duties included researching and writing policy for the implementation of California's state recycling legislation (A.B. 939).

1989-92 Governing Board Member, USC Norman Topping Student Aid Fund

PATENTS

U.S. Patent Application Pending. May 2012. "Smart Packaging Initiative Scoring System." Co-Inventor with Mazzocco, L. and Del Maestro, C. Docket No.: 0260345. Assignee: Disney Enterprises, Inc.

MEDIA

- 1993 Guest Appearance on KPFK radio, 90.7 FM Los Angeles; "Science and the Citizen" call-in program; interviewed about the influence of the incoming Clinton Administration on policymaking at the U.S. EPA, October.
- 2002 Interview on German Public Radio. Comments on the Bush Administration's EPA Global Climate Change Report, June.
- 2003 Interview on Swedish Public Radio. Comments on the appointment of Mike Leavitt as the Administrator of the Environmental Protection Agency.

OUTSIDE INTERESTS

Concert Cellist

Past performing highlights include:

- Second Prize, American String Teachers Association, National Solo Competition (1994)
- Member of the New World Symphony with Michael Tilson Thomas (music director)
- Participation in leading summer music festivals and international tours

Currently performing as section cellist with the Pacific Symphony, the third largest orchestra in California, based at the Segerstrom Center for the Performing Arts in Orange County, CA.

Training and experience in private cello teaching

Hiking and nature photography