

**Curriculum Vitae  
ROBERT O. VOS**

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**ROBERT O. VOS**

**CURRICULUM VITAE**

**CURRENT APPOINTMENTS**

2021-Present Associate Professor (Teaching) and Director of Graduate Studies  
Spatial Sciences Institute  
University of Southern California

**EDUCATION**

1999 University of Southern California  
Doctor of Philosophy in Political Science  
Major-Field: American Politics. Sub-fields: Political Theory; Law and Public Policy.  
*Qualifying Examination with Distinction*

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

1994 University of Southern California  
Master of Arts in Political Science (American Politics)  
*Comprehensive Examination with Distinction*

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*

**PRIOR APPOINTMENTS & PROFESSIONAL EXPERIENCE**

University of Southern California, Spatial Sciences Institute

2016-2020 *Assistant Professor (Teaching) and Director of Graduate Studies*

2015-2016 *Assistant Professor (Teaching)*

2010-2015 *Adjunct Assistant Professor of the Practice of Spatial Sciences*

Clean Agency, Inc.

2009-2014 *Vice President of Research*

Led the firm's research for sustainability consulting with 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.

University of Southern California, Center for Sustainable Cities

- 2003-2009     *Research Assistant Professor of Geography*  
Responsible for coordinating industrial ecology research and managing the summer undergraduate fellowship program.
- 2006-2008     *Faculty Member with the Sustainable Enterprise Executive Roundtable (SEER)*  
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.
- 2005-2006     *Project Manager for Meeting the Sustainability Challenge: Executive Education*  
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*

Graduate Assistantships/Internships

- 1998-99       *Haynes Foundation Fellow for Town Hall Los Angeles*  
Administered and taught a curriculum enrichment program for high school students, edited the Town Hall Journal, and produced a weekly radio program.
- 1994-95       *Research Associate*  
National Science Foundation Project, "The Role of Race and Class in Exposure to Environmental Hazards." L. Pulido, PI.
- 1992-1995     *Teaching Assistant*  
University of Southern California, Department of Political Science
- 1992           *Student Professional Worker, City of Los Angeles*  
Duties at the Integrated Solid Waste Management Office included researching and writing policy for the implementation of California's first statewide recycling legislation (A.B. 939).

**HONORS AND AWARDS**

- 2020           Case Studies in the Environment, Most Outstanding Case study for 2019-2020 (for: *The Spatially Explicit Water Footprint of Blue Jeans: Spatial Methods in Action for Sustainable Consumer Products and Corporate Management of Water*)
- 2010           Disney Consumer Products, Sustainability Award for SmartPackaging Initiative
- 1998           Lynton Caldwell Prize for the best book published in environmental politics between 1995 and 1997. (for: *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, 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

1995-96	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**

### **Peer Reviewed Journal Articles**

- 2020 “Licensed and Unlicensed Cannabis Retailers in California: A Threat to Health Equity?” Jennifer Unger, Robert O. Vos, Jasmine Wu, Kimberly Hardaway, Ada Y. Li Sarain, Daniel W. Soto, Christopher Rogers, and Jane Steinberg. *Preventive Medicine Reports* 19: 101165 (DOI: <https://doi.org/10.1016/j.pmedr.2020.101165>)
- 2019 “The Spatially-Explicit Water Footprint of Blue Jeans: Spatial Methods in Action for Sustainable Consumer Products and Corporate Management of Water” Robert O. Vos. *Case Studies in the Environment* September: 1-14 (DOI: <https://doi.org/10.1525/cse.2019.002006>)
- 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.
- 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.
- 2007 “Defining sustainability: a conceptual orientation.” Robert O. Vos. Perspective in *Journal of Chemical Technology and Biotechnology* 82: 334-339.
- 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.
- 1996 "An Archeology of Environmental Racism in Los Angeles." Laura Pulido, Steve Sidawi, Robert O. Vos. *Urban Geography* 17: 419-439.

### **Other Peer Reviewed Publications**

- 2019 “Governing at Scale: Successful Local Food Initiatives in the World’s Cities.” Daniel Warshawsky and Robert O. Vos. Editorial for *Sustainability* 11(24), 7226: 1-4 (DOI: <https://doi.org/10.3390/su11247226>)

- 2016 “Life Cycle Impact Assessment Methodology for Product 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**

- 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.

### **Book Chapters**

- 2009 “Dematerialization” Robert O. Vos and Joshua Newell. Entry in the *Encyclopedia of Green Business* (Editor P. Robbins). Sage References (Green Series).
- 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.
- 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.
- 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.

### **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**

- 2020 “The Future of GIS in Transportation is Data.” Editorial in *GIS in Transportation*, U.S. Department of Transportation, Federal Highway Administration, July 1, 2020.
- 2017 *Spatially-Explicit Water Footprint for Denim Products*, Kairos Performance, LLC

- Consulting Report, April 17, 2017 for Guess?, Inc.
- 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).
- 2008 *Achieving Sustainable Development in Southern California: Collaborative Learning through Systems Dynamic Modeling.* Raymond Madachy, Benjamin Haas, Hilary Bradbury, Josh Newell, Mansour Rahimi, Robert Vos, and Jennifer Wolch. 18<sup>th</sup> Annual Int'l Symposium of the International Council on Systems Engineering (INCOSE) 5: 2514-2528.

- 2003 *Post-Symposium Report*. NSF Symposium on Sustainable Industrial Development: Energy and Material Exchange and Optimization through Eco-Industrial Networks.
- 2002 *Resource Manual on Infrastructure for Eco-Industrial Parks*. Ian T. Penn and Robert O. Vos.
- 2002 *Resource Manual on Eco-Industrial Approaches to Brownfield Remediation*. Ian T. Penn and Robert O. Vos.
- 1997 “Clean Air Goal Visible in Haze,” Saturday Commentary (Op-Ed), *Los Angeles Daily News* (July 12).

### **Manuscripts Submitted or Under Construction**

“Associations between local city ordinances and current use of cannabis products in California adolescents” Christopher J. Rogers, Jane Steinberg, Robert O. Vos, Daniel W. Soto, and Jennifer B. Unger. *American Journal of Public Health* (in peer review)

“Ensuring successful thesis outcomes in an online masters program” Susan Kamei, Robert O. Vos, and Kendrick E. Watson *Journal of Geography in Higher Education* (draft in progress)

“Measuring Social Inequity in Landscapes of Health Behavior ‘Bads’” Jasmine Wu, Robert Vos, Mengya Xu, Jennifer Unger, and Orhun Aydin. *Health and Place* (draft in progress)

*United Nations Sustainable Development Goal 12: Sustainable Consumption and Production*. Jennifer Bernstein and Robert O. Vos. Bingley, UK: Emerald Publishing Ltd. (draft manuscript for a book contract for the series *Concise Guides to the UN Sustainable Development Goals* in progress)

### **RESEARCH FUNDING**

- 2019 Principal Investigator  
 “Prevalence and concentration of licensed and unlicensed marijuana retailers in California: Estimating environmental exposure of adolescents” USC Provost’s Undergraduate Research Associates Program (URAP) (\$5,500) J. Unger, Co-P.I. and J. Steinberg, Co-P.I.
- 2018 Co-Investigator  
 “Proximity to Cannabis Retailers and Adolescent Use” State of California, Tobacco-Related Disease Research Program (TRDRP) (28IR-0042) (\$1,234,497) J. Unger, P.I.
- 2017 Consultant  
 Guess?, Inc. Water Footprint for Denim Products. Kairos Performance, Alhambra, CA (\$34,500)

- 2016 Consultant  
Life Cycle Assessment for Sustainable Packaging, Analysis and Training Sessions. Kairos Performance, Alhambra, CA (\$20,000)
- 2009 Co-Principal Investigator  
Social Ventures and Urban Sustainability. USC Provost's Undergraduate Research Associates Program (\$10,000) M. Rahimi, P.I.
- 2008 Principal Investigator  
"Chinese Coated Paper Supply Chain Analysis"  
USC Contract with Clean Agency for NewPage Corporation, Co-PI J. 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).
- 2006 USC Faculty Fellow  
"Building USC Research Capacity for Environmental Life-Cycle Assessment of Future Fuels and Energy Systems." Future Fuels and Energy Initiative (\$25,000) M. Rahimi, P.I.
- 2003 Co-Principal Investigator  
Sustainability Indicators for the Integrated Resource Plan (IRP). City of Los Angeles, Bureau of Sanitation. (\$65,000). J. Deviny, 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 USC 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. Deviny, Co-P.I.'s
- 2002 Research Associate  
"Toward a More Sustainable Los Angeles: 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).

## **TEACHING EXPERIENCE**

### **New Courses Created at the University of Southern California**

- 2020 *Comparative Sustainability Theory and Practice for Geodesign* (SSCI 314).  
A seminar and practicum for the Global Geodesign B.S. program designed for international collaboration with faculty partners and students in the Netherlands.
- 2018 *Geospatial Technology Management for Sustainability Science and Sustainable Development* (SSCI 402)  
A capstone course for the GIS and Sustainability Science Minor.
- 2017 *Population, Health, and Place Research Practicum* (SSCI 601a & SSCI 601b).  
Interdisciplinary research design and practice leading to preparation of dissertation proposals in USC’s Ph.D. in Population, Health, and Place Program (PHP).
- 2016- *Practicum in Teaching the Liberal Arts* (SSCI 693)  
A course on college teaching in the spatial sciences, designed to prepare teaching assistants.
- 2015 *Sustainability Science in the City* (SSCI 165Lgw).  
Large general education course in the spatial analysis/global citizenship categories with weekly GIS labs.
- 2011 *Master’s Thesis* (SSCI 594a)  
Required course for preparing a thesis proposal in the Geographic Information Science and Technology Program (GIST).
- 2009 *Industrial Ecology: Technology-Environment Interaction* (ISE 576)  
Interdisciplinary graduate course required in the Green Technology Program. USC Epstein Department of Industrial and Systems Engineering.
- 2001 *Environmental Risk Assessment* (ENST 441)  
Interdisciplinary undergraduate elective course blending social science and natural science approaches to assessing environmental risk in the USC Environmental Studies Program.

### **Courses Currently Taught at the University of Southern California**

*Sustainability Science in the City* (SSCI 165Lgw)

*Industrial Ecology* (ISE 576)

*Geospatial Technology Project Management* (SSCI 585)

*Master's Thesis* (SSCI 594a)

*Population, Health, and Place Research Practicum* (SSCI 601a)

*Practicum in Teaching the Liberal Arts* (SSCI 693)

### **Courses Previously Taught**

*Sustainable Cities* (GEOG/PLUS 601 and PPDE 632) at University of Southern California

*Introduction to Environmental Studies* (ENST 500) at the University of Southern California

*Environmental Law* (POSC 391) at the University of Southern California

*American Political Thought and Practice* (GOV 318) at the University of Redlands

### **RESEARCH SUPERVISIONS**

#### **Masters Theses**

2020 Patrick McCullen, M.S., Geographic Information Science and Technology (GIST)

Thesis title: *Spatial Analysis of Veteran Access to Health in Los Angeles County*

2019 Andrew Velasquez, M.S., Green Technology

Thesis title: *Life Cycle Analysis of Commercial Airplane Electrical Connector Components: Stainless Steel vs. Composite*

**Winner of the 2019 USC Fleischer Prize in Green Technology**

2019 Alexander Holt, M.S., Geographic Information Science and Technology (GIST)

Thesis title: *Los Angeles County Vote Center Site-Selection: Facilitating Decision Making with a Web Application*

2018 David Rosas Flores, M.S., Geographic Information Science and Technology (GIST)

Thesis title: *Investigating the Association of Historical Preservation and Neighborhood Status in Detroit, 1970-2015*

2018 Alexander Fox, M.S., Geographic Information Science and Technology (GIST)

Thesis title: *Access to Active Play Parks for Youth Segments in Alexandria, Virginia*

2017 Jonathan Alfonso, M.S., Geographic Information Science and Technology (GIST)

Thesis title: *Safe Walk: A Network Analyst Framework for Safe Routes to School*

2017 Benjamin Suber, M.S., Geographic Information Science and Technology (GIST)

Thesis title: *Public Transportation Accessibility Impacts of the Tucson Modern Streetcar*

- 2016 Charles Becker, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *A Spatial Analysis of Veteran Healthcare*  
**USC GIST Thesis Prize Winner.**
- 2016 James Ray, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *A User Study of GIS Infused Genealogy with Dynamic Thematic Representation and Spatiotemporal Control*
- 2016 Jennifer Titus, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Peoples of Washington Historical Geographic Information System: Georeferencing Culture Using Archival Standards*
- 2016 Jared Reid, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Light Rail Expansion in Houston Using Viable Path Corridors and Least Cost Path: Alternatives for the Failed University and Uptown Lines.*
- 2016 Daryl Nevels, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Measuring Seasonal Variation in Food Access: A Case Study of Everett, Washington*
- 2016 Michelle Lin, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Implementing Spatial Thinking with Web GIS in the Non-Profit Sector: A Case Study of ArcGIS Online in the Pacific Symphony*
- 2016 Edgar Jimenez, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *The Role of Amenities in Measuring Park Accessibility: A Case Study of Downey, California*
- 2015 Mallory Graves, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Hidden Hazards in Harbor Gateway: Exploring a Web GIS Solution for Superfund Education and Environmental Justice*  
**USC GIST Thesis Prize Winner.**
- 2015 Joel Rodgriguez, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Walkability Study for School Accessibility: Case Study of the San Juan, Puerto Rico Elementary Schools*
- 2015 Brian Dean, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Drawing Better Lines: Comparing Commissions to Legislatures on Compactness and Coterminosity in Redistricting*

- 2015 Lance Farman, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Validation of Volunteered Geographic Information Components of Law Enforcement Use of Force*
- 2015 Derek Newland, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Smart Growth and Walkability Effect on Vehicle Use and Ownership*
- 2015 Jonathan Parsons, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Mapping Uniformity of Park Access Using Cadastral Data within Network Analyst in Wake County, NC*
- 2014 Gina Kiani, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Development of Web GIS or Urban Sustainability Indicators of Oakland, California*
- 2014 Emily Frazier, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *A Site Suitability Analysis for an Inland Port to Service the Ports of Los Angeles and Long Beach*
- 2014 Luke Wenschhof, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *The Geography of Voter Power in the U.S. Electoral College from 1900-2012*
- 2013 Amanda Alamo, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Explorations of American Churchscape Diversity*
- 2013 Devon R. Munsell, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Closed Landfills to Solar Energy Power Plants: Estimating the Solar Potential of Closed Landfills in California*
- 2013 Kathy Thompson, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Water Rights Permit System (WRPS): a GIS-Based Tool for the Umpqua Drainage Basin*
- 2012 Andrew Stickney, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Improving the Communication of Water Allocation Decisions Using Interactive Maps*
- 2012 Daniel Currie Eisman, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Spatial Analysis of Urban Built Environments and Vehicle Transit Behavior*

- 2012 Stephanie Chen, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Investigating Bus Route Walkability: Comparative Case Study in Orange County, California*
- 2012 Allison Oulton, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *Community Gardens for Social Capital: A Site Suitability Analysis in Akron, Ohio*
- 2012 Alexander J. Schultz, M.S., Geographic Information Science and Technology (GIST)  
Thesis title: *The Role of GIS in Asset Management: Integration at the Otay Water District*
- 2004 Hallie Gardner, M.A., Environmental Studies  
Thesis title: *Evaluating NGO Success in Conservation Efforts in the Brazilian Amazon*
- 2003 Stephanie Gasca, M.A., Environmental Studies  
Thesis title: *Coastal Wetlands Mitigation Policy: Moving from Loss to No Net Loss of Water Quality Functions*
- 2002 Rafael Maetsu, M.A., Environmental Studies  
Thesis title: *Economic Valuation of Impacts to Beneficial Uses to Water Quality in California: A Proposed Methodology*

### **Ph.D. Guidance and Dissertation Committees**

- 2020 Patricia Escobedo, USC Keck's Department of Preventive Medicine, Health Behavior  
Proposal title: *Spatial Analysis of Tobacco, Vape, and Cannabis Retailers*  
Guidance committee, outside member  
Supervised with Lourdes Baezconde-Garbanati (Chair) and Jennifer Unger, Steven Sussman, and Jon-Patrick Allem members
- 2014 Evan Lue, Ph.D., Geography  
Dissertation title: *Defining the Geospatial Needs of an Ubiquitous Disaster Relief Organization*  
Dissertation committee member  
Supervised with John Wilson (Chair) and Meredith Franklin member
- 2012 Jae Kim, Ph.D., Industrial and Systems Engineering  
Dissertation title: *Environmental Effects of Electrical Vehicle Technology Adoption in Urban Areas: A Case for Los Angeles County*  
Guidance committee member  
Supervised with Mansour Rahimi (Chair) and James Moore, Maged Dessouky, and Lisa Schweitzer members.

- 2005 Hamid Pourmohammadi, Ph.D., Industrial and Systems Engineering  
Dissertation title: *Green Logistics for Regional Industrial Waste Materials and By-Products*  
Guidance and dissertation committees, outside member  
Supervised with Mansour Rahimi (Chair) and Maged Dessouky and James Moore members.

### **Student Research Projects Led**

- 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 “Economic Aspects in Implementing the Concept of Industrial Ecology: Use of Regional Input-Output Modeling” Sustainable Cities Program Ph.D. Collaborative Project of Kitty Kay Chan. Supervised with Professor Jeffrey Nugent, Economics.
- 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.
- 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.
- 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 Deviny, Civil and Environmental Engineering; and Travis Longcore, Geography.
- 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 Deviny, Civil and Environmental Engineering.
- 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 “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.

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.

## **PRESENTATIONS AND CONFERENCES**

### **Conference Papers**

- 2020 “Physical Accessibility of California Populations to Licensed and Unlicensed Cannabis Retail Facilities: Implications for Health Equity and Enforcement” With Jennifer Unger, Jane Steinberg, Orhun Aydin, and Jasmine Wu. Paper presentation to the American Association of Geographers 2020 Conference, Virtual Session, April 6, 2020.
- 2020 “Case Studies in the Environment Special Issues: Organizing, Submitting, and Publishing” Panel Presentation, American Association of Geographers 2020 Conference, Virtual Session, April 7, 2020.
- 2019 “After the Map Was Made and the Drone Was Flown: Implications of Geospatial Data for Environmental Governance” Panel Presentation, American Association of Geographers 2019 Conference, Washington, D.C., March 3, 2019.
- 2017 “Enabling Thesis Success Through a Thesis Proposal Course” Paper Presentation to the American Association of Geographers 2017 Conference, Boston, MA April 8, 2017.
- 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 American Association of Geographers 2016 Conference, San Francisco, CA 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, IL April 25, 2015.
- 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.
- 2010 “Watershed Health Indicators of Urban Sustainability” CleanTech 2010, Anaheim, California, June 23.
- 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.

- 2005 "Sustainability Indicators for the City of Los Angeles Department of Public Works Integrated Resource Plan," Water Environment Federation, 2<sup>nd</sup> Joint Conference for the Sustainable Management of Water Quality Systems, San Francisco, August 28-31
- 2005 "Cluster analysis technique for regional materials flows and urban sustainability," International Society for Industrial Ecology 2005 Conference, Stockholm, Sweden, June 12-15.
- 2003 "Greening of industrial materials networks in Los Angeles County: Reverse logistics model development," Annual Industrial Engineering Research Conference, Portland, Oregon, May 17-21.
- 1999 "Courts and Collective Action: A Quantitative Analysis of Legal Mobilization in the Environmental Movement," Greening VIII of the Southern California Research Group for Environmental Politics and Policy, Los Angeles, January 30.
- 1999 "Exploring Local Governance and Sustainability: The Solid Waste Problem in Los Angeles., New Research Designs for a More Sustainable Los Angeles Conference, Los Angeles (September).
- 1995 "Stigma and Place: Bringing Context to Theories of Environmental Discrimination," American Association of Geographers, Chicago, March 14-17.
- 1995 "A Case Study of Environmental Discrimination: Toxic Air Pollution in the Los Angeles Metropolitan Region," Greening III of the Southern California Research Group for Environmental Policy, Los Angeles, CA January 28.
- 1994 "The Paradox of Managed Growth: Environmental Politics in Los Angeles," Western Political Science Association, Albuquerque, March.
- 1994 "Stigma and Place: Toward a Theory of Environmental Racism," Western Political Science Association, Albuquerque, March.
- 1994 "The Supreme Court and Environmental Standing: A Facade of Statecraft," Greening II of the Southern California Research Group for Environmental Policy, Claremont Graduate School, January.
- 1992 "Designing a Sustainable Bureaucracy: Making the EPA Adaptable", Western Political Science Association, San Francisco, March.

### **Invited Lectures**

- 2019 "Sustainability Science and GIS Overview" Smart City and GIS Applications Short-Term Training Program, Los Angeles, CA, December 18, 2019.



- 2019 “Locations of Licensed and Unlicensed Cannabis Retailers in California: A Threat to Health Equity?” Hot Topics in Public Health Webinar, USC Keck School of Medicine. Los Angeles, CA, October 24, 2019.
- 2017 “Sustainability Science in the City: Using GIST in Undergraduate Education” Lighting Talk at the Esri User’s Conference, San Diego, CA July 13, 2017.
- 2016 “Interrogating Carbon Neutrality of Forest Products: New Directions in Spatially-Explicit Life Cycle Assessment” Brownbag Presentation for USC Spatial Sciences Institute, Los Angeles, CA Feb. 5, 2016.
- 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 “Assessing Impacts of Food Packaging” Invited Lecture for Sustainable Packaging LCA Symposium, American Institute of Chemical Engineers, Chicago, IL, March 25.
- 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.
- 2007 “Industrial Ecology in the Sustainable City” Sustainable Cities Roundtable, French Consulate, Los Angeles, September 28.
- 2002 “Growth in the Los Angeles Logistics Industry and the Challenge for Clean Air,” Southern California Air Quality Management District, October.
- 2001 “Applying Life Cycle Assessment and Environmental Justice Analysis to Environmental Impact Assessment for the Alameda Corridor Project,” Sustainable Cities Colloquium, Los Angeles, CA (October).

2000 “Multidisciplinary Research in Urban Sustainability,” Class Presentation at the University of Michigan (Ann Arbor), School of Natural Resources and the Environment. October.

### **Conference and Workshop Participation**

- 2019 Conference Participant. Omics in Environmental Health Research Symposium. USC Keck School of Medicine, Los Angeles, CA (March)
- 2019 Webinar Participant. Key Competencies for Sustainability Degree Programs. National Council for Science Education (NSCE) (March)
- 2019 Conference Participant. Eighth Annual Los Angeles Geospatial Summit. Los Angeles, CA (Feb.)
- 2018 Webinar Participant. Using Professional Credentialing Exams in Academic GIS&T Contexts. University Consortium for GIS (UCGIS) Members Webinar (Dec.)
- 2018 Webinar Participant. NSF Geography and Spatial Sciences Doctoral Dissertation Improvement Awards (GSS-DDRI) Urban Myths (Nov.)
- 2017 Conference Participant. Seventh Annual Los Angeles Geospatial Summit. Los Angeles, CA (Feb.)
- 2016 Conference Participant. Sixth Annual Los Angeles Geospatial Summit. Los Angeles, CA (Feb.)
- 2016 Workshop Participant. “USC GeoDesign Workshop with Carl Steinetz” Los Angeles, CA (Jan)
- 2015 Conference Participant. Fifth Annual Los Angeles Geospatial Summit. Los Angeles, CA (Feb.)
- 2014 Workshop Participant. “Sustainability Learning Communities Network: From Information to Evidence about Sustainability Practices” UCGIS 2014 Symposium, Pasadena, CA (May)
- 2014 Conference Participant. “Revising the Body of Knowledge” 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).

- 2003 Closing Session Moderator for the NSF Symposium on Sustainable Industrial Development: Optimization through Eco-Industrial Networks (November 6 & 7).
- 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).

**Poster Presentations**

- 2019 “Los Angeles Homelessness and the Human Right to Water, Sanitation, and Hygiene (WaSH) With Lourdes Johanna Avelar Portillo (USC Population, Health, and Place Ph.D. Student); Yao-Yi Chiang (Spatial Sciences); Jose Rico and Yanyi Qian (USC Undergraduates); and Xiaozhe Yin and Kate Vavra-Musser (USC Population, Health, and Place Ph.D. Students). American Association of Geographers 2019 Conference, Washington, D.C., March 6.
- 2019 “Lawful vs. Unlawful: The Effects of the Cannabis Retail Market in California” With Jennifer Unger and Jane Steinberg (Co-Principal Investigators), Kimberly Hardaway (USC DIA Summer Undergraduate Fellow), and Jasmine Wu (USC Undergraduate). Diversity, Inclusion, and Access (DIA) Closing Luncheon. Los Angeles, CA, August 2.
- 2018 “Interdisciplinary Characterization of the Modifiable Temporal Unit Problem (MTUP) in Research: A Systematic Review” With Lois Park, Yan Xu, and Li Yi (USC Population, Health, and Place Ph.D. Students) and Rowena Feng (USC DIA Summer Undergraduate Fellow). Diversity, Inclusion, and Access (DIA) Closing Luncheon. Los Angeles, CA, July 27.
- 2018 “LA County Homelessness and the Right to Water, Sanitation, and Hygiene (WASH)” With Lourdes Johanna Avelar, Principal Investigator (USC Population, Health, and Place Ph.D. Student); Yao-Yi Chiang (Spatial Sciences); Semra Ezedin and Shayna La Scala (USC DIA Summer Undergraduate Fellows); Xiaozhe Yin (USC Population, Health, and Place Ph.D. Student); and Jose Rico, Erica Quian, and Stefania Tibor (USC Undergraduates). Diversity, Inclusion, and Access (DIA) Closing Luncheon. Los Angeles, CA, July 27.

**PROFESSIONAL SERVICE**

**Service at the University of Southern California**

- 2016-present Director of Graduate Studies, USC Spatial Sciences Institute
- 2020-21 Dornsife Sustainability Across the Curriculum Mentor for Psychology 100
- 2020-21 Faculty Co-Advisor to Population, Health, and Pace Doctoral Student Association

2020 Advisor to Anastas Belev for SSCI 590, Green Technology M.S. Directed Research

2019-20 Dornsife Sustainability Interdisciplinary Working Group “Living Lab SC/LA”

2019-20 Member of 8 M.S. GIST Thesis Committees

2019 Advisor to Julie Ho for SSCI 490, GIS for Sustainability Science

2019 Advisor to Jasmine Wu on USC Summer Undergraduate Research Fund (SURF)

2019 Gateway Internship Program Mentor

2018-19 Faculty Member of USC’s Collaborative for Health Equity (CHES)

2019 Mentor Diversity, Inclusion, and Access (DIA) Summer Undergraduate Program

2019 Panel Participant for USC Environmental Student Assembly Equity Program

2018-19 Member of 5 M.S. GIST Thesis Committees

2018-19 Member, Spatial Sciences Merit Review Committee

2018-19 Member, Admissions Committee, PhD program in Population, Health, and Place

2018-19 Member of the Geodesign Fellows Selection Committee

2018 Mentor Diversity, Inclusion, and Access (DIA) Summer Undergraduate Program

2018 Host to Wuhan University at the Spatial Sciences Institute

2017-18 Undergraduate Scholarship Interviews and Luncheons for USC Dornsife College

2017-18 Member, Dornsife College RTPC Promotions Committee

2016-18 Member, Fleischer Prize in Green Technology, Awards Committee

2016-17 Undergraduate Scholarship Interviews and Luncheons for USC Dornsife College

2016-18 Member, Dornsife College RTPC Promotions Committee

2016-17 Member, Spatial Sciences Merit Review Committee

2016-17 Member of 8 M.S. GIST thesis committees

2016-17 Member, Admissions Committee, PhD program in Population, Health, and Place

2015-16 Member, Fleischer Prize in Green Technology, Awards Committee

2015-16 Member of 16 M.S. GIST Thesis Committees

2015-16 Chair of the Working Committee on Geospatial Data in the M.S. GIST Curriculum

2014-15 Member, Fleischer Prize in Green Technology, Awards Committee

2014-15 Member of 9 M.S. GIST Thesis Committees

2014-15 Collaborated in development of GIST Writing and Thesis Rubrics

2014-15 Moderator and Presenter in two Webinars for Prospective GIST Students

2014-15 Chair of the M.S. GIST Thesis Prize Committee

2013-14 Member of 8 M.S. GIST thesis committees

2013-14 Member of the GIST Thesis Prize Committee

2012-13 Member of 4 M.S. GIST thesis committees

2012-13 Presenter in Webinar for Prospective GIST Students

**Extramural Service**

2019 Occupational Expert for the U.S. Department of Labor O\*NET database of occupations for the occupation “Industrial Ecologist.”

- 2019 Guest Editor for Special Issue, “Local Food Initiatives in the World’s Cities” for the peer reviewed journal *Sustainability* 2019 11(3) (Co-editor with D.N. Warshawsky).
- 2017 Panel Organizer for “Capstone Projects for M.S. Programs in Geographic Information Science and Technology, Annual Meeting of the Association of American Geographers, Boston, MA (April)
- 2016 Member of the ISO Working Group on Life Cycle Assessment Product Category Rules for Wood, Pulp, and Paper. Chaired, by Tobias Schultz, Scientific Certification Systems.
- 2016 Workshop for the East Yards Communities for Environmental Justice Summer Undergraduate Collaborative, Hosted at USC Spatial Sciences Institute (July)

**Peer Review**

- 2020 GIST Body of Knowledge
- 2020 GIST Body of Knowledge
- 2019 Transactions in GIS
- 2019 Butterworth-Heinemann/Elsevier, Review of textbook manuscript for *Materials and the Environment: Eco-informed Material Choice* (3<sup>rd</sup> Edition)
- 2019 Journal of Science, Technology, and Policy Management
- 2018 Sustainability Science
- 2017 Cambridge Press, Review of textbook manuscript for *Sustainable Engineering*
- 2012 International Journal of Sustainable Transportation
- 2005 Annals of the American Association of Geographers
- 2004 Urban Studies: An International Journal for Research in Urban and Regional Studies.

**PROFESSIONAL CERTIFICATION**

Certified Geographic Information Science Professional (GISP) by the GIS Certification Institute (GISCI). First certified on 6/25/2015 and renewed until 6/25/2023 (#91703)

**MEDIA**

- 2020 “The story of three tons of water in your jeans” by Fermin Koop in ZME Science (August 28, 2020) (<https://www.zmescience.com/science/the-story-of-the-three-tons-of-water-in-your-jeans/>)
- 2020 “Are cannabis shops targeting California’s Black, Latino, and poor communities?” by Brooke Staggs in the Orange County Register (August 26, 2020) (<https://www.ocregister.com/2020/08/26/are-cannabis-shops-targeting-californias-black-latino-and-poor-communities/>)

- 2020 “From cotton field to store rack, blue jeans leave a massive water footprint” by Meredith McGroarty in USC Dornsife News (August 25, 2020) (<https://dornsife.usc.edu/news/stories/3296/spatial-sciences-study-of-blue-jeans-water-footprint/>)
- 2020 “How a dual career in music makes USC’s Robert Vos a better professor” Online GIS Programs Blog, Faculty Q&A (August 17, 2020) <https://gis.usc.edu/blog/dual-career-in-music-qa-with-robert-vos/>
- 2012 “Carbon footprint labels inaccurate, USC study finds” by Eddie North-hager in USC News (November 30, 2012) (<https://news.usc.edu/44578/carbon-footprint-labels-inaccurate-usc-study-finds/>)
- 2003 Interview on Swedish Public Radio. Comments on the appointment of Mike Leavitt as the Administrator of the Environmental Protection Agency.
- 2002 Interview on German Public Radio. Comments on the George W. Bush Administration’s EPA Global Climate Change Report, June.
- 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.

## **OUTSIDE INTERESTS**

### Concert Cellist

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

Past performing highlights include:

- Member of the New World Symphony (1995-1998) with Michael Tilson Thomas, Co-Founder and Artistic Director
- Second Prize, American String Teachers Association, National Solo Competition (1994)
- Participation in leading summer music festivals and international tours