

ERIK PORSE, PhD

Web: www.erikporse.net

Twitter: @ResearchCP

PROFESSIONAL SUMMARY

Dr. Erik Porse is an interdisciplinary systems analyst with demonstrated experience in urban and environmental resource management. Dr. Porse holds appointments as a research engineer within the Office of Water Programs (OWP) at Sacramento State University and a Visiting Assistant Researcher at the University of California, Los Angeles (UCLA). In these roles, he leads multi-campus research projects as principal investigator, provides training in utility management, and directly advises state and federal environmental policy-making. Previously, he was a research director within UCLA's California Center for Sustainable Communities and taught university courses in research methods, sustainability, and environmental management. Dr. Porse's research and technical studies have informed high-level policy development for the United Nations, the U.S. Department of Defense, the Executive Office of the President, and the California State Water Resources Control Board. He has international research experience across East and West Africa, Russia, Japan, Mexico, and Europe.

RESEARCH AREAS

- Water Resources Management and Policy
- Systems Analysis
- Urban and Environmental Sustainability
- Utility Management and Finance
- Energy Policy

EDUCATION

2011-2014 University of California, Davis, Ph.D, Civil and Environmental Engineering
National Science Foundation IGERT Trainee: Ecology and Rapid Environmental Change

2003-2005 George Mason University, Master of Public Policy (Science and Technology Policy)

1999-2002 University of Hartford, B.S. in Engineering. Summa Cum Laude (Acoustical Engineering)

1997-1999 Virginia Tech University, Biology.

ACADEMIC APPOINTMENTS

Research Engineer	OWP at Sacramento State; U.S. Environmental Protection Agency Region 9 Environmental Finance Center (Oct. 2017 to present)
Visiting Assistant Researcher	UCLA Institute of the Environment and Sustainability (Oct. 2017 to present)
Associate Research Director	UCLA's California Center for Sustainable Communities (Sept. 2016 – Sept. 2017)
Postdoctoral Scholar	UCLA's California Center for Sustainable Communities (Sept. 2014 – Sept. 2016)
PhD Fellow	Technical University of Denmark (DTU) (Aug. 2014 – Sept. 2014)
Adjunct Professor	Earlham College (June 2009 – January 2010)
Adjunct Professor	George Mason University (Sept. 2005 – May 2007)

PUBLICATIONS

PEER-REVIEWED ARTICLES

28. Porse, Erik C., Kathryn B. Mika, Alvar Escriva-Bou, Eric Fournier, Kelly T. Sanders, Edward Spang, Jennifer Stokes-Draut, Felicia Federico, Mark Gold, and Stephanie Pincetl. "[Systems Analysis of Energy Use for Urban Water Management by Utilities and Households in Los Angeles](#)". *Environmental Research Communications*. 2020: 2.1
27. Porse, Erik and Stephanie Pincetl. (2018). "[Effects of Stormwater Capture and Use on Urban Streamflows](#)." *Water Resources Management*. 33.2 (2019): 713-723.
26. Porse, Erik. (2019). "[Merging Network Governance and Systems Analysis for Urban Water Management](#)." *Civil Engineering and Environmental Systems*. 2019: 1-19.
25. Fournier, Eric, Felicia Federico, Erik Porse, and Stephanie Pincetl. (2019) "[Effects of building size growth on residential energy efficiency and conservation in California](#)." *Applied Energy*. Volume 240. 446-452.
24. Pincetl, Stephanie, Thomas W. Gillespie, Diane E. Pataki, Erik Porse, Shenyue Jia, Erika Kidera, Nick Nobles, Janet Rodriguez, and Dong-ah Choi. (2019) "[Evaluating the effects of turf-replacement programs in Los Angeles](#)." *Landscape and Urban Planning*. 185: 210-221.

23. Shuang, Qing, Hui Jie Liu, and Erik Porse. "[Review of the Quantitative Resilience Methods in Water Distribution Networks](#)." *Water* 11.6 (2019): 1189.
22. Pincetl, Stephanie, Erik Porse, Kathryn B. Mika, Elizabeth Litvak, Kim Manago, Kartiki Naik, Terri Hogue, Mark Gold, Tom Gillespie, and Diane Pataki. (2018). "[Adapting Urban Water Systems to Manage Scarcity in the 21st Century: The Case of Los Angeles](#)." *Environmental Management*. 63.3. pgs 293-308
21. Porse, E., Mika, K. B., Williams, R., Gold, M., Blomquist, W., & Pincetl, S. (2018). "[Groundwater Exchange Pools and Urban Water Supply Sustainability: Modeling Directed and Undirected Networks](#)." *Journal of Water Resources Planning and Management*, 144(8), 04018040.
20. Porse, Erik, Kathryn B. Mika, Elizaveta Litvak, Kimberly F. Manago, Terri S. Hogue, Mark Gold, Diane E. Pataki, and Stephanie Pincetl. (2018). "[The Economic Value of Local Water Supplies in Los Angeles](#)." *Nature Sustainability*, May. doi:10.1038/s41893-018-0068-2.
19. Porse, Erik. (2018). "[Open Data and Stormwater Infrastructure in Los Angeles: Implications for Green Infrastructure and Sustainability](#)". *Local Environment*. 1-13.
18. Derenski, Joshua. Erik C. Porse, Hannah Gustafson, Dan Cheng, and Stephanie Pincetl. (2018). "[Spatial and Temporal Analysis of Aggregated Energy Use Data in Los Angeles Schools](#)." *Energy Efficiency*. 11(2). P. 485-497.
17. Porse, Erik C., Kathryn B. Mika, Elizabeth Litvak, Kim Manago, Kartiki Naik, Madelyn Glickfeld, Terri Hogue, Mark Gold, Diane Pataki, and Stephanie Pincetl. (2017). "[Systems Analysis and Optimization of Local Water Supplies in Los Angeles](#)." *Journal of Water Resources Planning and Management*. 143(9).
16. Porse, Erik C., Joshua Derenski, Hannah Gustafson, Zoe Elizabeth, and Stephanie Pincetl (2016). "[Structural, Geographic, and Social Factors in Building Energy Use: Analysis of Aggregated Account-Level Consumption Data in a Megacity](#)". *Energy Policy*. Vol. 96. September 2016. Pg. 179-192.
15. Pincetl, Stephanie, Erik C. Porse, and Deborah Cheng (2016). "[Fragmented Flows: Water Supply in Los Angeles County](#)". *Environmental Management*. 58(2). Pg. 208-222
14. Porse, Erik C., Madelyn Glickfeld, Keith Mertan, and Stephanie Pincetl. (2015) "[Pumping for the Masses: Evolution of Groundwater Rights in Metropolitan Los Angeles](#)." *Geojournal*. DOI: 10.1007/s10708-015-9664-0.
13. Porse, Erik C., and Jay Lund. (2015) "[Network Analysis and Visualizations in California Water: Linking connectivity and resilience](#)." *Journal of Water Resources Planning and Management*. 142.1 (2015). 04015401.

12. Farzan, Shahla, Derek Young, Allison Dedrick, Gabriel Sampson, Matt Hamilton, Erik Porse, and Peter Coates. (2015) "[Western Juniper Management: Assessing Policies for Improving Greater Sage-Grouse Habitat and Rangeland Productivity.](#)" *Environmental Management*. 56:675-683.
11. Porse, Erik C., and Jay Lund (2015). "[Network Structure, Complexity and Adaptation in Water Resource Systems.](#)" *Civil Engineering and Environment Systems* (Special issue on Resilience). 32(1-2). 143-156.
10. Porse, Erik C., Samuel Sandoval Solis, Belize Lane. (2015). "[Integrating Environmental Flows into Multi-Objective Reservoir Management for a Transboundary, Water-Scarce River Basin: Rio Grande/Bravo.](#)" *Water Resources Management*. February 2015. 2471-2484.
9. Porse, Erik C. (2014). "[Risk-based Zoning for Urbanizing Floodplains.](#)" *Water Science and Technology*. Volume 70, Issue 11. (Special Issue on Urban Water Management). Pg. 1755-1763.
8. Lane, Belize. A., Samuel Sandoval-Solis, Samuel, and Erik Porse (2015). "[Environmental Flows in a Human-Dominated System: Evaluating Integrated Water Management Strategies in the Big Bend Reach of the Rio Grande/Bravo Basin.](#)" *River Research and Applications*. 31(9). Pgs. 1053-65.
7. Porse, Erik C. (2013). "[Stormwater Governance in Future Cities.](#)" *Water*. Volume 5, Issue 1. March 2013. Pg. 29-52.
6. Porse, Erik C. (2007). "[Measurement of Music Production and Innovation Networks: Case Studies from Seattle, Austin, and Nashville.](#)" *Journal of the Music and Entertainment Industry Association (MEIEA)*. Volume 7, No. 1.
5. Simpson, Harry J., Carl K. Frederickson, Brian H. Houston, Erik C. Porse. (2007). "[Measurements of Sound Propagation in a Littoral Environment Using a Vertical Synthetic Array.](#)" *Journal of the Acoustical Society of America*. Volume 121, Issue 1, pp. 85-97.
4. Porse, Erik C. (2006). "[MLB and Lobbying: A Perennial Favorite.](#)" *Outside the Lines, Journal of the Society for American Baseball Research (SABR)*. Volume XII Issue 3. Fall 2006.
3. Soukup, Raymond J. Jon M. Collis, William L. Siegmann, Michael D. Collins, Harry J. Simpson, and Erik C. Porse. (2005). "[Tank experiments and model comparisons of shallow water acoustics over an elastic bottom.](#)" *Journal of the Acoustical Society of America*. April 2005; Volume 117; Issue 4; p. 2576.
2. Simpson, Harry J., Carl K. Frederickson, Brian H. Houston, Erik C. Porse, Larry A. Kraus, Alain R. Berdoz, Philip A. Frank, and Steve W. Liskey. (2003). "[Very-low-frequency Scattering Experiments from Proud Targets in a Littoral Environment Using a 55-m Rail.](#)" *Journal of the Acoustical Society of America*. October 2003. Volume 114, Issue 4, p. 2313.

1. Porse, Erik C. (2002). "[MTBE: Examining the Oxygenate Requirement and Remediation Costs: A Study in Science and Technology Policy Implementation.](#)" *SAE International*. 2002-01-1268.

UNDER REVIEW AND IN PRESS

3. Porse, Erik C. "Water Reuse for Urban Water Supply in Los Angeles." (Submitted).
2. Shuang, Qing, Erik C. Porse. "Spatial Analysis and Predictive Modeling of Leak Risk in Water Supply Distribution Networks." (Submitted).
1. Porse, Erik C., Eric Fournier, Dan Cheng, Hannah E. Gustafson, Felicia Federico, and Stephanie Pincetl. "Prioritizing the Location of Distributed Solar Energy Resources in a Megacity." (Accepted).

IN PREPARATION

2. Porse, Erik C, David Alderette, Christian Carleton, Cristina Poindexter. "Climate Change Risk Assessment and Adaptation Costs for Stormwater Management in California Coastal Parklands."
1. Porse, Erik C., Maureen Kerner, Mary Cadenasso, Jonathan Kaplan, Samuel Stone. "Stormwater Asset Management and Finance Considerations in OneWater Planning for Cities".

CONFERENCE PROCEEDINGS

1. Porse, Erik C. (2013). Assessing Infrastructure Decisions to Manage Water Resources in the Valle de México. Conference Proceedings: World Wide Workshop for Young Environmental Scientists (WWW-YES). Arcueil, Paris, France: École Nationale des Ponts et Chaussées.

BOOK CHAPTERS

2. Porse, Erik, and Stephanie Pincetl. 2017. "The Co-Evolution of Infrastructure, Governance, and Urban Ecology." In [Pragmatic Sustainability: Theoretical and Practical Tools \(2nd Ed\)](#). Editor: Steven Moore. Routledge.
1. Lund, Jay, Rui Hui, Alvar Escriva, Erik Porse, Lauren Adams, James Connaughton, Laila Kasuri, Ben Lord, Lucas Siegfried, Reed Thayer, Samuel Sandoval-Solis, Sooyeon Yi. "Reservoir Operation Design," in V. Singh (ed.), [Handbook of Applied Hydrology](#). 130.1-131.1. McGraw Hill. 2017.

TECHNICAL REPORTS

18. Office of Water Programs at Sacramento State. (2019). "Benefits and Costs in Stormwater Management: Methods and Challenges." (Lead Author). Report prepared as technical guidance by the US EPA's Region 9 Environmental Finance Center.
<http://www.efc.csus.edu/stormwater/index.html>.

17. Office of Water Programs at Sacramento State. (2019). "Guidance for Low-Impact Development in Schools." (Co-Author). Report prepared for the California State Water Resources Control Board. https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/docs/swrcb_schools_lid_2018fnl.pdf.
16. Office of Water Programs at Sacramento State. (2019). "Barriers to Stormwater Capture and Use." (Co-Author). Report prepared for the California State Water Resources Control Board. https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/obj4_proj4b.shtml.
15. Office of Water Programs at Sacramento State. (2019). "An Open-Source Asset Management Toolkit for Stormwater Financing." (Co-Author).
14. Pincetl, Stephanie Thomas Gillespie, Diane Pataki, Erik Porse, Shenyue Jia, Erika Kidera, Nick Nobles, Janet Rodriguez, and Dong-ha Choi. (2017). "Evaluating the effects of turf replacement programs in Los Angeles." Report to the Metropolitan Water District of Southern California.
13. Mika K, Gallo E, Porse E, et al (2018) LA Sustainable Water Project: Los Angeles City-Wide Overview. UCLA Sustainable LA Grand Challenge, UCLA Institute of the Environment and Sustainability, Colorado School of Mines, Los Angeles, CA
12. Porse, Erik, Eric Fournier, Dan Cheng, Hannah Gustafson, Claire Hirashiki, Felicia Federico, and Stephanie Pincetl. (2017). *Prioritizing the Local of Distributed Solar Electricity Generation in Los Angeles County*. Report to the California Energy Commission
11. Porse, Erik C., Kathryn B. Mika, Elizabeth Litvak, Kim Manago, Kartiki Naik, Madelyn Glickfeld, Terri Hogue, Mark Gold, Diane Pataki, and Stephanie Pincetl. (2017). "Artes: A Model of Water Resources Management in Los Angeles." UCLA Institute of the Environment and Sustainability. (<https://github.com/erikporse/artes>).
10. Pincetl, Stephanie, Erik Porse, Hannah Gustaffson, and Joshua Derenski (2016). *Implementing Energy Efficiency Programs in California: A Data-Driven Approach*. UCLA Institute of the Environment and Sustainability.
9. Stephanie Pincetl, Madelyn Glickfeld, Deborah Cheng, Miriam Cope, Kartiki Naik, and Erik Porse, Kristen Holdworth, and Celine Kuklowski (2015). *Water Management in Los Angeles County; a Research Report*. Presented to the John Randolph Haynes and Dora Haynes Foundation. UCLA Institute of the Environment and Sustainability.
8. Elizabeth Weitzel, Alea German, and Erik Porse. *Performance of a Hot-Dry Climate Whole-House Retrofit*. Davis Energy Group. 2014.

7. Porse, Erik C. (2013). *Managing Arroyos in Los Cabos: Analysis of integrated strategies for sustainable water management and development in Baja California, Sur*. Sustainable Cities International.
6. Mark Berman, Jeremy Springer, Pepper Smith, and Erik Porse. *Expert Meeting Report: Energy Savings You Can Bank On*. Alliance for Residential Building Innovation. February 2013.
5. *California Zero Net Energy Buildings Cost Study*. Report written by Davis Energy Group under contract to Pacific Gas and Electric. December 19, 2012. (contributing author).
4. Berman, M.; Smith, P.; Porse, E. (2012). *Strategy Guideline: Mitigation of Retrofit Risk Factors*. National Renewable Energy Laboratory. 29 pp.; NREL Report No. SR-5500-56669; DOE/GO-102012-3811.
3. Porse, Erik C. (2005). *Technology, Innovation, and Telecommunications Policy in Mexico*. George Mason University.
2. Soukup, Raymond J., Harry J. Simpson, Erik C. Porse, Jason E. Summers, and Robert F. Gragg. *Geoacoustic Physical Modeling Rough Surface Scattering 2 Experiment*. November 24, 2004. NRL/MR-MM/7140--04-8827.
1. Soukup, Raymond J., Harry J. Simpson, and Erik C. Porse. *Geoacoustic Physical Modeling Elastic Parabolic Equation 1 Experiment*. November 24, 2004. NRL/MR-MM/7140--04-8826.

PRESENTATIONS AND POSTERS

40. Porse, Erik. *Public-Private Partnerships*. (2020). US EPA Region 9 Infrastructure Finance Forum Workshop. January 20, 2020. Honolulu, HI.
39. Porse, Erik and Khalil Lezzaik. *Evaluating Groundwater Contamination Risk in California*. (2019). American Geophysical Union (AGU) Annual Conference. December 9, 2019. San Francisco. CA.
38. Porse, Erik and Brian Currier. *Effects of Stormwater Capture and Use on Urban Water Management*. American Geophysical Union (AGU) Annual Conference. December 11, 2019. San Francisco. CA.
37. Porse, Erik and Maureen Kerner. *Developing Resources to Assess Benefits and Costs in Stormwater Management*. California Stormwater Quality Association Annual Conference. October 9, 2019. Monterey. CA.
36. Porse, Erik. *Hydroeconomic Modeling of Direct Potable Reuse in Los Angeles*. (2019). WaterReuse Association Annual Conference. September 10, 2019. San Diego. CA.
35. Porse, Erik and Khalil Lezzaik. *Evaluating Groundwater Contamination Risk in California*. (2019). California Water Data Symposium. August 20, 2019. Davis. CA.

34. Porse, Erik and Khalil Lezzaik. *Evaluating Groundwater Contamination Risk in California*. (2019). California Water Data Symposium. August 20, 2019. Davis. CA.
33. Porse, Erik and Khalil Lezzaik. *Evaluating Groundwater Contamination Risk in California*. (2019). California Water Data Symposium. August 20, 2019. Davis. CA.
32. Porse, Erik. *Asset Management for Stormwater Finance*. (2019). EPA Region 9 workshop on Stormwater Asset Management. (presenter and co-organizer). June 14, 2019. Sacramento, CA.
31. Porse, Erik and Khalil Lezzaik. *Evaluating Groundwater Contamination Risk in California*. (2019). Water Resources and Underserved Communities Conference. California State University Water Resources and Policy Initiatives. May 9, 2019. Los Angeles, CA.
30. Porse, Erik and Maureen Kerner. *Cost Resources for Stormwater Programs in California*. (2019). Presentation to the Los Angeles Regional Water Quality Control Board. Culver City, CA. April 11, 2019.
29. Porse, Erik. *Energy Use Effects of Water Conservation and Local Supply in Los Angeles* (2019). Invited talk at the Pacific Gas and Electric Water Conservation Showcase. March 14, 2019. San Francisco, CA. Pacific Energy Center
28. Porse, Erik C. *A Toolkit for Asset Management in Stormwater Systems*. (2018). California Stormwater Quality Association annual conference. Riverside, CA.
27. Porse, Erik C. *Paying for Water Conservation*. (2018). California Water Data Symposium. Los Angeles, CA.
26. Porse, Erik C. *Modeling Energy-for-Water Requirements in Los Angeles*. (2018). International Environmental Modeling and Software Symposium. Fort Collins, CO.
25. Porse, Erik C. *Modeling Landscape Water Needs and Hydroeconomics in Los Angeles*. (2018). International Environmental Modeling and Software Symposium. Fort Collins, CO.
24. Porse, Erik C. *Modeling Hydroeconomics and Landscape Water Needs in Los Angeles*. (2018). American Society of Civil Engineers, Environmental and Water Resources International Congress. Minneapolis, MN.
23. Porse, Erik C. *Effects of Stormwater Capture and Use on Urban Streamflows*. (2018). California Water Environmental Modeling Forum. Folsom, CA.
22. Porse, Erik C. *Managed Aquifer Recharge in the Big Picture of Los Angeles Water Supply*. (2018). 16th Biennial Symposium on Managed Aquifer Recharge (BSMAR 16). San Diego, CA.

21. Porse, Erik C. *Managing Recharge at Multiple Scales in a Watershed* (2018). American River Basin Stormwater Management Conference. Sacramento, CA.
20. Porse, Erik C. *The Dollars and Sense of Local Water Supplies in Los Angeles* (2017). UCLA Sustainable LA Grand Challenges Water Research Symposium. Los Angeles, CA.
19. Porse, Erik C. *Dynamic Centrality in an Urban Resource Network* (2017). International Society for Industrial Ecology. Chicago, IL.
18. Porse, Erik C. *Energy Efficiency in Los Angeles Schools* (2017). International Society for Industrial Ecology. Chicago, IL.
17. Porse, Erik C. *Systems Analysis for Local Water Reliance in Los Angeles: The Artes Project* (2017). ASCE Environment and Water Resources International Congress. Sacramento, CA.
16. Porse, Erik C. and Stephanie Pincetl. (2016). *Social and Political Dimensions of Urban Water Use in Los Angeles*. Invited presentation: Urban Water Demand Research Roundtable workshop. Denver, CO.
15. Porse, Erik C. and Stephanie Pincetl. (2016). *Can Smart Cities Exacerbate Inequality?* Invited presentation: Smart + Sustainable Cities. American Association of Geographers 2016 Annual Meeting.
14. Porse, Erik C. (2016). *Local Water Use in Los Angeles*. Presentation. 2016 NSF Water, Sustainability, and Climate Pls Workshop. Washington, D.C.
13. Porse, Erik C. (December 15, 2015). *Evolving Groundwater Rights and Management in Metropolitan Los Angeles: Implications for Water Supply and Stormwater*. Poster, 2015 American Geophysical Union (AGU) Fall Meeting. San Francisco, CA. (Poster)
12. Porse, Erik C. (April 22, 2015). *Managing Water Scarcity in Future Cities: What Makes Sense to Sense?* Center for Information Technology Research in the Interest of Society (CITRIS). Special seminar series on Resilience. University of California, Berkeley.
11. Porse, Erik C. (Feb. 9-11, 2015). *Evolution of Groundwater Rights in Metropolitan Los Angeles*. Poster, 2015 NSF Water, Sustainability, and Climate Pls Workshop. Washington, D.C.
10. Porse, Erik C. (June 1-5, 2014). *Network Visualization and Analysis for Water Distribution Systems: Examples from California*. 2014 Environmental and Water Resources International (EWRI) Congress. Portland, OR

9. Porse, Erik C. (June 1-5, 2014). *Targets, Risks, and Runoff: Metropolitan Scale Stormwater Management*. Poster, 2014 Environmental and Water Resources International (EWRI). Portland, OR
8. Porse, Erik C. (February 24-26, 2014). *Connectivity in California Water Resources Infrastructure*. California Water and Environmental Modeling Forum.
7. Climate Change and the Future of Groundwater in California. (2014). Moderator. Davis, CA. April 16.
6. UC-Davis Science Communication Workshop. (2014). Co-Organizer. Davis, California. March 5-7.
5. Josue Medellin-Azuara, Andrew Bell, Alvar Escriva-Bou, Quinn Hart, Rui Hui, Jay R. Lund, Erik Porse, Samuel Sandoval Solis, Nicholas Santos, and David Waetjen. (February 24-26, 2014). *The HOBBS Project at Year One*. California Water and Environmental Modeling Forum.
4. Dedrick, Allison, Shahla Farzan, Matt Hamilton, Erik Porse, Gabriel Sampson, and Derek Young. (September 2013). *Managing Juniper for Multiple Goals*. 2013 REACH IGERT Stakeholder Conference. UC Davis (also organized conference).
3. Porse, Erik C. (June 2013). *Integrated Decision Modeling for Groundwater Management in the Valle de México*. Worldwide Workshop for Young Environmental Scientists. Paris, France.
2. Sandoval Solis, Samuel; Porse, Erik C. (May 2013). *Optimizing Human, Environmental and International Water Management for the Rio Grande/Rio Bravo Basin: The Big Bend National Park*. Presentation at World Environmental and Water Resources Congress (EWRI) 2013. Cincinnati, OH.
1. Porse, Erik C. (October 2012). *Environmental Informatics*. TEDx Sacramento Cities 2.0 event. Sacramento, CA.

Over 75 presentations given to policy-makers and high-level political appointees (2005-07)

TEACHING AND MENTORING

UNIVERSITY COURSES AND CONTINUING EDUCATION

- 2017-present Sacramento State- Sacramento, CA
U.S. Environmental Protection Agency Environmental Finance Center: Lecturer
Topics: Water utility operations, Asset management
- 2009 Earlham College- Tanzania and Richmond, Indiana
Adjunct Professor and East Africa Program co-leader (\$150,000 budget)
Courses: Urban and Rural Development, Ecology and Animal Behavior

2005-2007 George Mason University- Arlington, VA
Adjunct Professor
Courses: Research Methods for Social Science (undergraduate)

2004-2005 George Mason University School of Public Policy- Arlington, VA
Graduate Teaching Assistant
Courses: Public Policy Evaluation (graduate)

GUEST LECTURES

Energy Use Effects of Water Conservation and Local Supply in Los Angeles. UC Berkeley, Department of Landscape Architecture and Environmental Planning Graduate Colloquium. April 10, 2019.

Urban Water Management and Conservation in California. California State University, Sacramento, USGS Environmental Studies Seminar. April 18, 2018.

Water and Energy Systems in California. UCLA, UCLA Institute of the Environment and Sustainability, Environmental Science Seminar. January 11, 2017.

An Overview of Urban Water Supply Systems (2012). Pacific University McGeorge School of Law, Fundamentals of Water Law Practice. September 24, 2012.

STUDENT ADVISING

Patrick Maloney. Sacramento State (November 2019 - present). Project advisor, "Economic and Environmental Effects of Water Conservation." Engineering student researcher. Office of Water Programs at Sacramento State.

David Babchanik. Sacramento State (July 2019 - present). Project advisor, "Costs of Stormwater Management in California." Engineering student researcher. Office of Water Programs at Sacramento State.

John Heltzel. Sacramento State (2018). Master's thesis reader, "Modeling Low Impact Development (LID) in an Urban Retrofit Scenario: A Case Study at Davis Manor." Fall 2018. Engineer-in-Training. Office of Water Programs at Sacramento State.

Joshua Derenski. UCLA (2015-17). Directed research studying energy efficiency in Los Angeles schools (*Derenski et al, 2017, "Spatial and temporal analysis of energy use data in Los Angeles public schools." Applied Energy. 11.2.*) Doctoral Student in Statistics, University of Southern California.

Claire Hirashiki. UCLA (2016-18). Advised in developing an online web platform, the *LA Water Hub*, for visualizing and understanding water management in Los Angeles. Data analyst. UCLA California Center for Sustainable Communities.

Paul Cleland. UCLA (2016-17). Directed research tasks related to water governance analysis in Los Angeles as part of a National Science Foundation Water, Sustainability, and Climate grant (Award #1204235). Engineer-in-Training. Colorado.

Erika Kidera. UCLA (2016-17). Directed research tasks on turf replacement programs in Los Angeles as part of a National Science Foundation Water, Sustainability, and Climate grant (Award #1204235). Engineer-in-Training. California.

Janet Rodriguez. UCLA (2015-17). Directed research on energy-water nexus in Los Angeles (Award #1204235). Graduate Student, University of Oregon.

POST-DOCTORAL ADVISING

Qing Shuang. Visiting Scholar at UCLA (2018-19). Associate Professor, Beijing Jiaotong University. Advised research on resilience in water management and systems analysis of leak occurrence in urban water systems (*Shuang et al in review, Shuang, Qing, Hui Jie Liu, and Erik Porse. "Review of the Quantitative Resilience Methods in Water Distribution Networks." Water 11.6 (2019): 1189.*)

RECENT RESEARCH PRODUCTS

- *Artes* (<https://github.com/erikporse/artes>). Principal architect of a model to simulate and optimize water management in LA for 9 million people, considering ecological, social, engineering, and economic factors.
- *The LA Water Hub* (<http://waterhub.ucla.edu>). Led the development of a dynamic mapping and visualization site for a multi-year research project on water resources management in Los Angeles.
- *The LA Solar Prioritization Tool* (<http://solar.energyatlas.ucla.edu>). Project manager and lead analyst for a prioritization tool to optimize placement of distributed solar resources in 1.2 million properties considering consumption, potential on-site generation, and grid constraints.
- *California Groundwater Contamination Risk Index (GRID)*. (<http://www.owp.csus.edu/grid>). Online tool for mapping groundwater contamination risk for disadvantaged communities in California.

AWARDS AND FUNDING

Economic and Environmental Impacts of Water Conservation in California. California State Water Resources Control Board. **Principal Investigator**. Award includes Sacramento State University (lead), UCLA, UC Davis, and Humboldt State University. (\$2,000,000).

Groundwater Sustainability Plan for the Santa Monica Basin. City of Santa Monica. **Principal Investigator for Sacramento State Tasks** (Basin Optimization). Subawardee to Dudek, Inc. October 2019-present. (\$148,000).

Environmental Finance Center Network (EFCN) Small Systems Grant. US Environmental Protection Agency. Subaward to Syracuse University (pending). (\$36,000).

Accelerating AEC Deployment Around Existing Buildings in Disadvantaged Communities Through Unprecedented Data Analysis and Comprehensive Community Engagement. California Energy Commission. **Senior Researcher.** 2016-18. (\$1,100,000).

Climate Change and Stormwater Management in Copenhagen. American-Scandinavian Foundation. Research and travel support. Summer 2014. (\$5,000).

CHI University Grant Program. Computational Hydraulics International (CHI). Research support. February 2014. (\$1,440).

Optimizing Innovative Stormwater Management Practices Using Urban Land Cover. UC Davis REACH IGERT. One year of graduate study support. September 2013-August 2014. (\$45,000).

Managing Arroyos in Los Cabos: Analysis of integrated sustainable water management and development in Baja California Sur. UC Davis REACH IGERT. Research support. Summer 2013. (\$5,100).

U.S. Mexico Collaborative Solutions for Water Resources Management. UC Institute for Mexico and the United States (UC-MEXUS). Research and travel support. April 2013. (\$1,500).

UC Davis REACH-IGERT Traineeship. University of California, Davis, Department of Evolution and Ecology. Two years of graduate support. 2011-2013. (\$98,000)

Tau Beta Pi Laureate. June 2002. (\$2,500).

University of Hartford Ribicoff Prize: outstanding graduating senior. May 2002. (\$1,000).

Citations of Achievement for Analytical Contributions from FBI Director Robert Mueller

SERVICE ACTIVITIES

BOARD POSITIONS AND MANAGERIAL ROLES

2010-present The Sustainability NEXUS- Philadelphia, PA

Co-Founder and Vice-President

- Co-founder and board member for a non-profit organization focused on increasing entrepreneurship and collaboration in the regional sustainability community.
- Provide support for strategic planning and financial analysis

2011-2016 Engineers Without Borders- Davis, CA

Project Manager

- Led a project to design an on-site wastewater treatment system for a Native American tribal college in Winters, CA.
- Coordinated and conducted on-site testing of drinking water systems with students
- Organized meetings and teaching sessions acclimating UC Davis students to Native American culture and experience

ADVISORY COMMITTEES

California Department of Water Resources, FloodMar program Research Advisory Council working groups (Tools and Modeling; Social Considerations and Equity) (2018-19)

Risk and Society Faculty working group. Sacramento State University (2018-19).

California Water-Energy Nexus Advisory Committee (2017-18)

PEER REVIEW

More than 40 articles reviewed by invitation since 2014:

Nature Sustainability

Environmental Modeling and Software

Energy Policy

Journal of Water Resources Planning and Management

Journal of American Water Resources Association

Environmental Modeling and Software

Environment, Development; and Sustainability

MDPI: Sustainability

Journal of Environmental Management

Lake and Reservoir Management

Journal of Industrial Ecology

Environmental Science and Technology

Energy Efficiency

Journal of Infrastructure Systems

Water Resources Research

Urban Water Journal

MDPI Water

MDPI Hydrology

Lake and Reservoir Management

Hydrology

Sustainable and Resilient Infrastructure

AFFILIATIONS

- ASCE & Environmental and Water Resources International Congress
- International Society for Industrial Ecology (member Sustainable Urban Systems Group)
- Association of Pacific Rim Universities (APRU), Re-drawing Urban Waters Working Group
- California Native Plants Society
- American Geophysical Union member

OTHER RECENT PROFESSIONAL EXPERIENCE

- 2019 Bay Area Stormwater Management Agencies (BASMAA)- San Francisco Bay Area, CA
Peer Reviewer: Reasonable Assurance Analysis
- Invited peer reviewer for stormwater management plans (Reasonable Assurance Analysis) for five counties within the San Francisco Bay Area.
 - Reviewed modeling setup, data, evaluation criteria, and results as part of regulatory review process.
- 2013 Sustainable Cities International (SCI)- Vancouver, BC, Canada and Los Cabos, Mexico
Affiliated Researcher
- Worked with SCI and a Mexico-based urban sustainability planning organization, IMPLAN, to implement modeling and risk analysis of water planning and management into urban landscape redevelopment projects for mixed recreational and water management ends.
 - Collaborated with architects, ecologists, and urban planners to develop analysis frameworks for master plans of urban development in flood-prone arroyos, with stormwater, wastewater, flood control, and recreational aspects.
- 2011-2014 Davis Energy Group- Davis, CA
Technical Writer and Analyst
- Conducted analysis and write reports, proposals, and research papers for residential energy efficiency incentive programs.
 - Contributing researcher and author for 2012 report on cost assessment of Zero Net Energy buildings performed under contract to Pacific Gas and Electric

MEDIA

"Evaluating Landscape Effects of Turf Replacement". *California Water Blog*. May 19, 2019.

"Rising to the challenges of 21st century water management in Los Angeles". *University of California Agricultural and Natural Resources Blog*. February 11, 2019.

GoGreen Radio Podcast. "The Water/Energy Nexus: Lessons from Southern California". July 12, 2019.

"Groundwater Exchange Pools in Los Angeles: An Innovative Example of Adaptive Management". *California Water Blog*. July 27, 2018.

WaterDeeply Podcast. "Water Conservation and Efficiency Challenges". July 26, 2018.

"Improving Urban Water Conservation in California." *California Water Blog*. May 6, 2018.

"Los Angeles and the Future of Urban Water Management in California". *California Water Blog*. January 22, 2018.

"The Hard Work of Sustainable Groundwater Management". *California Water Blog*. August 15, 2015.

SKILLS

- Optimization modeling software, including CPLEX, GAMS, and GUROBI
- *Python, Matlab, and Visual Basic* programming
- GIS applications, including *GRASS GIS, QGIS, ArcGIS, CartoDB, and Mapbox*
- Network analysis software
- HTML, PHP, SQL programming, web design, and website management
- Policy analysis tools including *Lexis-Nexis*, U.S. government sources, and international sources.
- Statistical software packages, including *SPSS, SAS, GeoDa, and R*.

LANGUAGES

English- Fluent

Spanish- Elementary

German- Intermediate

Kiswahili- Elementary