Li Li, Barry and Shirley Isett Professor, PhD, she/her/hers
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PROFESSIONAL PREPARATION

2005	Ph.D. in Environmental Engr. + Water Resources	Princeton University, USA
1999	M.S. in Environmental Chemistry	Nanjing University, China
1996	B.S. in Environmental Chemistry	Nanjing University, China

APPOINTMENTS

4/2022 –	Barry and Shirley Isett Professor, Dept. Civil & Environ. Engr., PSU
8/2018 – 6/2019	Visiting professor (on sabbatical at ECHO lab (Andrea Rinaldo), École polytechnique fédérale de Lausanne (EPFL), Switzerland
9/2009 –	Full (7/2020 - present), Associate (7/2015 – 6/2020), Assistant (9/2009 – 6/2015) Professor, PSU
9/2005-9/2009	Research Scientist (9/2007 – 9/2009), Geological Postdoctoral Fellow (9/2005 – 8/2007), Earth Sciences Division, Lawrence Berkeley National Laboratory

RESEARCH INTERESTS

Li works at the intersections of hydrology, biogeochemistry, and ecology. She asks questions on how climate and human perturbations (e.g., land use) regulate Earth surface and subsurface processes, particularly hydrological processes and biogeochemical reactions of C, N, and other elements, and ultimately water quality. Her group uses big data, machine learning tools, and reactive transport models to understand processes that drive temporal trends and spatial patterns of water quality from watershed to continental scales.

SELECTED HONORS AND AWARDS

Penn State Engineering Alumni Society (PSEAS) outstanding research award, Penn State Univ., 2019
Commission for Woman Achieving Woman Award (faculty category), Penn State Univ., 2017
Invited participant, US Frontiers of Engineering, National Academy of Engineering, 2015
Wilson award for excellence in teaching, EMS, Penn State University, 2015
Wilson initiation award, EMS, Penn State University, 2010
Awards to advisees (> 35 since 2010)

SUPERVISION OF GRADUATE STUDENTS/POSTDOCTORAL FELLOWS (current group ~ 80%, overall > 70% women and minority)

Li has supervised and mentored more than 19 Ph.D. students (11 completed, 8 current), 7 postdocs, 5 MS students, and 19 undergraduates. Among former doctoral students and postdocs holding Faculty / postdoc / research scientist positions: N. Gawande (research scientist, Pacific Northwestern National Laboratory, USA), J. Vilcaez (Oklahoma State University, USA), P. Heidari (Missouri University of Science and Technology, USA), B. Stewart (Caltech., USA), V. K. Surasani (Birla Institute of Science and Technology, India), L. Wang (Xi'an Jiaotong University, China), H. Wen (Tianjin U., China), W. Zhi (Hohai University, China)

ONLINE EDUCATION TO THE BROAD COMMUNITY

Li Group has a track record of generating online instruction materials for the global community. Examples:

- Online instruction materials on Reactive Transport Modeling in Porous Media (https://www.e-education.psu.edu/png550/node/829). Based on website analysis, this teaching website has been accessed for > 70,000 times by > 45,000 users from > 20 countries across the globe since its launch in 2015.
- Instruction videos for a recently developed watershed-scale reactive transport model, BioRT-HBV (https://www.youtube.com/@LiReactiveWaterLi/videos, work in progress, scheduled to have full release with relevant reading materials in summer 2024.

BROADER SOCIETAL IMPACTS / MEDIA COVERAGE

The paper on widespread deoxygenation in warming rivers (Zhi et al., 2023. *Nature Climate Change* 13,1105–1113) has been covered extensively by media (based on data analysis from Office of Strategic Communications at Penn State): > 7 million media impressions; featured in outlets nationally and internationally, including

Scientist, Newsweek, EoS, Scripps News, EurekAlert, ScienceDaily, The Freshwater Blog, ABC27 (Harrisburg, PA), Deutschlandfunk , as well as dozens of other outlets. The story piece in The Conversation received > 6,000 reads and was republished by > 20 news outlets. Penn State release was viewed > 24,000 times on EurekAlert, a database for journalists.

SERVICE TO THE ACADEMIC AND SCIENCE COMMUNITIES (excerpts)

Editorial: Associate Editor: *Global Biogeochemical Cycles* (2022 –); *Water Resources Research* (2017 – 2022); *Hydrological Processes* (2021 -); *Frontiers in Water - Water Quality* (2019 – 2021); **Committees**: Advisory committee for Coastal Observations, Mechanisms, and Predictions Across Systems and Scales – Great Lake Modeling (COMPASS-GLM, member, 2021 -); AGU Horton Award (2023 -); Steering committee of Chesapeake Community Modeling Program (CCMP, member, 2019 – 2021); Penn State CEE Promotion and Tenure Committee (chair or member, 2019 – current);

Leadership in diversity, equity, and inclusion: Global monthly seminar series WARR: "Women Advancing River Research" Seminar Series co-host with Ellen Wohl (2021 - 2022), Rebecca Barnes (2023 - 2024), https://www.cee.psu.edu/events/women-advancing-river-research.aspx; Workshop "Expanding the Critical Zone Research Network", July 18 – 21, 2022 (https://sites.google.com/view/czrcn/home?authuser=0) ; Bringing the Science Home: a cybersymposium for earth surface scientists, June 23-24, 2020; Growing the critical zone research network: Cyberseminars introduced basic concepts in CZ science to those not totally familiar with this field but interested in, 2020; Workshop "Expanding the role of reactive transport modeling in biogeochemical sciences." (lead PI, with Kate Maher and Alexis Navarre-Sitchler), 2014; Li Reactive Water Group has hosted education activities for kindergarteners, girl scouts, primary and middle school students, and high school students from underrepresented groups. The high school student teams from my group won 1st and 3rd place, respectively, in 2012 and 2016, in the research competitions in the PSU Upward Bound Math and Science Summer Academy.

Conference sessions: AGU Fall meeting sessions "Modeling the Critical Zone: Integrating Processes and Data across Disciplines and Scales", 2013 – 2018; Computational Methods in Water Resources (CMWR), 2016

Proposal review panel: German Research Foundation, Deutsche Forschungsgemeinschaft (DFG), 2021; NSF, Hydrological Sciences (HS), 2021; Graduate Research Fellowship Program (GRFP), 2018; Environmental Engineering, 2017; Low temperature geochemistry and geobiology, 2015; DOE, SBR program, 2020; DOE, ESSD program, Early Career award panel, 2022; SBR SLAC National Accelerator Laboratory Scientific Focus Area, 2017; SBR, Oak Ridge National Laboratory scientific focus area on Mercury Biogeochemistry, 2015

Proposal reviewer: Swiss National Science Foundation (SNSF), German Research Foundation, US NSF, Division of Earth Sciences (Hydrological Sciences, Geobiology and low-temperature geochemistry, Marine geosciences), DOE (Basic Energy Sciences, Subsurface Biogeochemical Research (SBR), Office of Sciences), US-Isarel Binational Foundation, Stanford Synchrotron beamline, Consortium for Clean Coal Utilization (CCCU), Canadian Research Councils (the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes of Health Research (CIHR), Geological Survey Ireland, ETH Zurich Research Commission

Journal Reviewer: PNAS; Science Advances; Water Resources Research; Global Biogeochemical Cycles; J Hydrology; Advances in Water Resources; Environmental Science & Technology; Geochimica Et Cosmochimica Acta; HESS, Hydrological Processes; Science of the Total Environment, Scientific Reports, etc

MEMBERSHIPS

American Geophysical Union (2003 - present); American Association for the Advancement of Science (AAAS) (2020 - present); Ecological Society of America (2022 – present); American Chemical Society (2009 – 2015); Geological Society of America (2012 – 2022)

BIBLIOGRAPHY (see Google Scholar, 109 total journal publications, 20 in AGU journals, citation > 5,000, h-index 41; h10-index: 83, as of 03/01/2024)