

This webinar brought to you by the GSA Hydrogeology Division



Navigating the Graduate School Experience
Thursday, 28 January 2021, 5–6:30 MST
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About the Webinar

Dear students, are you...

- Interested in graduate school but feeling overwhelmed with the process?
- Recently accepted to multiple graduate programs and unsure of which to select?
- A current graduate student who would benefit from some helpful advice from experienced colleagues?

If you answer YES to any of the questions below, this webinar is for you.

The Geological Society of America (GSA) Hydrogeology Division is hosting a webinar to help you. In this webinar, students will have the opportunity to learn what they need to know before considering applying to graduate school, as well as general information about what it's like to be a graduate student. All panelists are faculty members who have vast experience and knowledge about topics such as how graduate school is different from being an undergraduate, applying to graduate school, selecting a research project/advisor. Panelists will reflect on what students should consider when choosing and entering graduate school.

Panelists



Nandita Basu, Ph.D., Director, Collaborative Water Program, University of Waterloo

Dr. Basu is an Associate Professor and University Research Chair, jointly appointed in the Departments of Civil and Environmental Engineering and Earth and Environmental Sciences at the University of Waterloo. She is the 2020 recipient of AGU's Sulzman Award for Excellence in Education and Mentoring. Nandita is currently a Member of the Royal Society of Canada, College of New Scholars, and Editor-in-Chief of the *Journal of Hydrology*.

Dr. Basu is a watershed hydrologist and biogeochemist, and her research interests cover a broad range of issues related to water in human-impacted environments. From problems of nutrient pollution in intensively farmed regions to drought in water-stressed areas of India to urban water pollution and water-quality effects of wildfire, Dr. Basu uses tools from environmental science, engineering, and the social sciences to improve our ability to sustainably manage water resources. Her current research focuses on the legacies of nutrients that accumulate in the subsurface and lead to time lags between implementation of watershed conservation measures and water quality improvement. Her team is developing travel-time-based models to quantify these time lags and to help identify management strategies such as wetland restoration and creation of riparian buffers to maximize nutrient removal and minimize watershed response times.



Michael Cardiff, Ph.D., Associate Professor, University of Wisconsin–Madison

Research interest: properties that control the flow, transport, and reactions in groundwater aquifers are heterogeneous at a range of scales — from individual pores to geologic unit assemblages — and this heterogeneity has often limited hydrogeologists' ability to accurately predict groundwater flow and transport.

Dr. Cardiff's interests lie in developing novel techniques to help us better understand aquifer heterogeneity, and in producing tools that aid in environmental decision-making. His research employs multi-physics numerical modeling, stochastic and Bayesian inference methods, optimization methods, and state-of-the-art hydrologic sensors and software in order to solve hydrogeologic problems.



Christopher A. Gelasch, Ph.D., Associate Professor, Eastern Michigan University (EMU)

Dr. Gelasch is a geologist with a focus on hydrogeology and water quality. He returned to EMU after more than 20 years serving as a U.S. Army Environmental Science and Engineering Officer. His previous academic experience includes serving as an assistant professor at the U.S. Military Academy at West Point and the Uniformed Services University of the Health Sciences (USU) in Bethesda, Maryland. He served as the Director of the Environmental Science Graduate Program at USU and supervised several graduate student research projects. His research combines aspects of hydrogeology and environmental engineering to determine the most likely pathways for chemical and biological contaminants to migrate through the subsurface and impact either public supply wells or surface water bodies.



Marcia Schulmeister, Ph.D., P.G., F. GSA, Director and Professor, University of Kansas (KU)

Dr. Schulmeister is the Director of KU's new Environmental Geology Professional Science Master's program and is also a faculty member in the KU Geology Department. She has taught and conducted research in applied hydrogeology and geochemistry for over 20 years at universities in U.S., China, Thailand, and Germany. Her professional experience includes employment at the Kansas Geological Survey, Kansas Department of Health and Environment, Michigan Department of Environmental Quality and Illinois State Water Survey, and in private consulting, where her work has focused on the characterization, modeling, and remediation of contaminated soil and groundwater. She is a Fulbright Scholar, a Fellow of the Geological Society of America (GSA), Associate Editor for *Groundwater*, and has served as an officer or member of the GSA, Kansas Water Resource Institute, Association for Women Geoscientists, and on other professional boards.



Bill Simpkins, Ph.D., Professor, Iowa State University

Dr. Simpkins was hired at Iowa State University in 1989 to start the hydrogeology program there. His research focuses primarily on groundwater flow and geochemistry in till aquitards. He applies radioactive and stable isotopes to understand geochemical reactions and to estimate groundwater sources and age. He has investigated groundwater transport of agricultural chemicals in till to lakes and streams. Most recently, he has investigated solute transport in till fractures and virus transport in the Ames aquifer in central Iowa. He recently published a four-year project with the U.S. Geological Survey to quantify the vertical integrity of four till aquitards in Minnesota.



Madeline Schreiber, Ph.D., Professor, Associate Head Department of Geosciences, Virginia Tech

Dr. Schreiber is a hydrogeologist at Virginia Tech. Schreiber and her research group use field observations, laboratory experiments, and numerical models to tackle challenging questions about solute behavior, with a practical goal of protecting water quality. Research results from her group have been published in hydrogeology, low temperature geochemistry, and environmental science journals. Her projects are supported by diverse funding sources, including NSF and other federal agencies, industry, non-profits, and private foundations. Schreiber is a former Chair of the GSA Hydrogeology Division (2014–15), has served on multiple GSA and Hydrogeology Division committees, and currently serves on GSA Council (2020–24).