

River Science at the U.S. Geological Survey

Committee

Donald I. Siegel

Chair

Donald I. Siegel, chair, is a professor of geology at Syracuse University, where he teaches graduate courses in hydrogeology and aqueous geochemistry. He holds B.S. and M.S. degrees in geology from the University of Rhode Island and Pennsylvania State University, respectively, and a Ph.D. in hydrogeology from the University of Minnesota. His research interests are in solute transport at both local and regional scales, wetland-ground water interaction, and paleohydrogeology. He was a member of two NRC committees: Committee on Techniques for Assessing Ground Water Vulnerability and Committee on Wetlands Characterization.

A. A. Bradley

Member

A. Allen Bradley, Jr. is an associate professor of civil and environmental engineering at the University of Iowa and a research engineer at IIHR Hyrosience & Engineering. His research interests are in the areas of hydrology and hydrometeorology, including flood and drought hydrology, hydroclimate forecasting, and water resource applications of remote sensing. He received his B.S. in civil engineering from Virginia Tech, an M.S. in civil engineering from Stanford University, and a Ph.D. in civil and environmental engineering from the University of Wisconsin.

Martha H. Conklin

Member

Martha H. Conklin is a professor and founding faculty member at the School of Engineering of the University of California, Merced. She was formerly a professor in the Department of Hydrology and Water Resources at the University of Arizona. Her research interests include biogeochemistry, metal cycling, surface water/shallow groundwater interactions, organic chemical distribution in soil and groundwater; and chemical processes in snow. She received her B.A. in physics from Mount Holyoke College and her M.S. and Ph.D. in environmental engineering science from the California Institute of Technology.

Clifford S. Crawford

Member

Clifford S. Crawford is a professor emeritus of biology at the University of New Mexico (UNM). He received a B.A. in biology from Whitman College in 1954, and M.S. and Ph.D. degrees in entomology from Washington State College in 1958 and 1961, respectively. After three years on the biology faculty at Portland State College, he spent the rest of his career at UNM. Until the mid-1980s his research dealt mainly with the biology of terrestrial arthropods in arid and semi-arid ecosystems. Since then, he has focused on the riparian ecology of those regions, with emphasis on the functioning and management of the Rio Grande river forest (bosque). He led an interagency team that wrote the "Middle Rio Grande Ecosystem: Bosque Biological Management Plan" in 1993. He is now the director of the Bosque Ecosystem Monitoring Program, which involves the public in tracking long-term environmental change along the Middle Rio Grande.

Gerald E. Galloway, Jr.

Member

Gerald E. Galloway is a research professor and professor of engineering at the Glen L. Martin Institute, University of Maryland, College Park. Before joining the University of Maryland, he was vice president of the Enterprise Engineering Group at the Titan Corporation in Arlington, Virginia. Dr. Galloway is a former secretary of the U.S. Section of the International Joint Commission. Dr. Galloway has served as a consultant on water resources engineering and management issues to the Executive Office of the President, the World Bank, the Organization of American States, the Tennessee Valley Authority, and the U.S. Army Corps of Engineers. Dr. Galloway is a former dean of the Academic Board (chief academic officer) of the U.S. Military Academy. Dr. Galloway holds M.S. degrees from Princeton, Penn State, and the U.S. Army Command and General Staff College. Dr. Galloway received his Ph.D. degree in geography from the University of North Carolina.

Marcelo H. Garcia

Member

Marcelo Garcia is the Chester and Helen Siess Professor and Director of the Ven Te Chow Hydrosystems Laboratory at the Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign. He is a leader in the field of river mechanics, sediment transport, sedimentation engineering and environmental hydraulics. He is best known for his research in sediment entrainment from riverbeds, flow and transport in vegetated channels, the mechanics of oceanic turbidity currents, and the dynamics of mudflows in mountain areas. He is author of the book *Hydrodinamica Ambiental* (Environmental Hydrodynamics), and has served as Editor of the *Journal of Hydraulic Research* (IAHR) since 2001. He holds a Ing. Dipl. from the Universidad Nacional del Litoral, Argentina in water resources, and an M.S. and Ph.D. from the University of Minnesota, both in civil engineering.

Richard E. Howitt

Member

Richard E. Howitt is professor of economics at the University of California-Davis. Dr. Howitt's research focuses on resource and environmental economics, quantitative methods, and econometrics. His interests include developing calibration methods based on maximum entropy estimators to model the economic structure of resource use from disaggregated physical data, including remote sensing methods, to infer the underlying economic functions. Much of his research has focused on California's water resources, including water markets in the San Joaquin Valley and the Westlands Water District. He has published in such areas as river water quality, water use, water management, and water institutions. Dr. Howitt received his Ph.D. and M.S. degrees in economics from the University of California-Davis.

Margaret A. Palmer

Member

Margaret A. Palmer is Professor of Biology at the University of Maryland (UM). She has also served as the Director of the Ecology Program at the National Science Foundation (NSF), Director of the Biological Sciences Program at UM, and visiting scientist at the Smithsonian Institution. She was recently named an Ecological Society of America Aldo Leopold Leadership Fellow. She studies a broad range of marine and freshwater ecological topics, including the relationship between biodiversity and ecological processes in freshwater ecosystems and the influence of global environmental change on biodiversity linkages between land and freshwater ecosystems. She serves on the Scientific Advisory Board for NSF's National Center for Ecological Analysis and Synthesis and the Scientific Advisory Board for the Grand Canyon Monitoring and Research Center. She has an undergraduate degree in Biology from Emory University in Georgia, and graduate degrees in Oceanography from the University of South Carolina.

John Pitlick

Member

John Pitlick, Ph.D., Colorado State, 1988, is an Associate Professor with research interests in fluvial geomorphology and hydrology. His research focuses on processes of sediment transport and channel change in both natural and altered river systems. The principal goal of his research is to develop and test process-based models coupling geomorphology and sediment transport across a continuum of scales. Additional research being done in collaboration with fisheries biologists and aquatic ecologists seeks a more-detailed understanding of interactions between geomorphology and ecosystem processes, particularly in the upper Colorado River. In addition to field-based research, he has been actively involved in laboratory studies to model stream channel response to flood flows. He is an Associate Editor for Water Resources Research.

N. L. Poff

Member

N. LeRoy Poff is an associate professor in the Biology Department of Colorado State University. Dr. Poff received a B.A. in biology from Hendrix College, an M.S. in environmental sciences from Indiana University in Bloomington, and a Ph.D. in biology from Colorado State University. His primary research interests are in stream and aquatic ecology and in quantifying the responses of riverine ecosystems to natural and altered hydrologic regimes, from local to watershed to regional scales. Dr. Poff has served as a member of the Adaptive Management Forum for CALFED river restoration projects, the Scientific Review Team for the King County (Seattle, WA) Normative Flows Project, the Scientific and Technical Advisory Committee for American Rivers, and the Scientific Advisory Board of the David H. Smith Conservation Research Fellowship Program for The Nature Conservancy. He is also an Aldo Leopold Leadership Fellow of the Ecological Society of America.

Stuart S. Schwartz

Member

Stuart S. Schwartz is Director of the Center for Environmental Science, Technology, and Policy at Cleveland State University. Before joining CSU, Dr. Schwartz served as associate director of the Water Resources Research Institute of the University of North Carolina. Previously, Dr. Schwartz served as an associate hydrologic engineer at the Hydrologic Research Center in San Diego, California, and directed the Section for Cooperative Water Supply Operations on the Potomac at the Interstate Commission on the Potomac River Basin. Dr. Schwartz's research and professional interests are in the application of probabilistic hydrologic forecasting and multi-objective decision making in risk-based water resources management, watershed management, and water supply systems operations. He received his B.S. and M.S. in biology-geology from the University of Rochester, and Ph.D. in systems analysis from the Johns Hopkins University.

David G. Tarboton

Member

David G. Tarboton is Professor, Utah Water Research Laboratory and Department of Civil and Environmental Engineering, Utah State University. His research interests are in spatially distributed hydrologic modeling, applying digital elevation data and GIS in hydrology, stochastic hydrology using nonparametric techniques, snow hydrology, geomorphology, landform evolution and channel networks, and terrain stability mapping and stream sediment inputs. He is a member of the American Geophysical Union, American Society of Civil Engineers, American Water Resources Association, and is a Registered Professional Engineer (Utah). Dr. Tarboton received his B.S. in civil engineering from the University of Natal in Durban, South Africa in 1981, then a M.S. and Sc.D. in civil engineering from the Massachusetts Institute of Technology in 1987 and 1990 respectively.

William W. Woessner

Member

William W. Woessner is a professor in the Geology Department of the University of Montana, Missoula and Acting Director for the Center for Riverine Science and Stream Renaturalization. His research concentrates on quantifying flow systems in intermountain valleys, resource analysis, ground water - surface water interactions, characterization of hazardous wastes and contaminant transport including virus transport, and the use of groundwater flow models to evaluate conceptual models and make predictions. He is co-author of a widely used and widely translated text Applied Groundwater Modeling. He received his B.A. in Geology from the College of Wooster, an M.S. in Geology from the University of Florida, and an M.S. in Water Resources Management and Ph.D. in Geology from the University of Wisconsin, Madison.