

Mapping Science Committee

Member Biographical Sketches, 2017

Harvey J. Miller, Chair, is the Bob and Mary Reusche Chair in Geographic Information Science, director of the Center for Urban and Regional Analysis, and professor in the Department of Geography, The Ohio State University. He also a courtesy professor in the Department of City and Regional Planning, an affiliated faculty of the Institute for Population Research and the Translational Data Analytics initiative, and a member of the leadership team for the Sustainable and Resilient Economy initiative at Ohio State. Dr. Miller's research and teaching interests are at the intersection between geographic information science and transportation, in particular, the analysis of human mobility within cities and regions. The main questions driving his research include sustainable transportation, livable cities, and the relationships between human mobility, health and social equity. Dr. Miller's awards and honors include the Hewings Award for Outstanding Young Scholar from the North American Regional Science Council (1997), the Edward L. Ullman Award for Outstanding Contributions to Transportation Geography from the Association of American Geographers (2009) and the Research Award for scholarly contributions to Geographic Information Science from the University Consortium for Geographic Information Science (2015). Dr. Miller received his B.A. and M.A. in geography from Kent State University, and his Ph.D. in geography from Ohio State University.

Daniel G. Brown is a professor and interim dean in the School of Natural Resources and Environment and director of the Environmental Spatial Analysis Laboratory at the University of Michigan. He is also a research professor in the university's Institute for Social Research. Dr. Brown's research focuses on linking landscape patterns with ecological and social processes. In particular, he studies land-use and land-cover dynamics using multiple methods, including GIS, remote sensing, digital terrain analysis, ecological mapping, social surveys and statistics, and computer simulation. Dr. Brown chaired the NRC Committee on Needs and Research Requirements for Land-Change Modeling and was a member of the NRC Panel on Human Health and Security for the Decadal Survey on Earth Science and Applications from Space. He has also served on several committees of the Association of American Geographers, and chaired specialty groups for remote sensing and GIS. Dr. Brown is a fellow of the American Association for the Advancement of Science. He earned a B.A. in geoenvironmental studies from Shippensburg University of Pennsylvania, and an M.A. and Ph.D. in geography from the University of North Carolina, Chapel Hill.

A. Stewart Fotheringham is a professor of computational spatial science in the School of Geographical Sciences and Urban Planning at Arizona State University. He is also a senior scientist in the Julie Ann Wrigley Global Institute of Sustainability. Dr. Fotheringham's research interests are in the analysis of spatial data sets using statistical, mathematical, and computational methods. He is well-known in the fields of spatial interaction modelling and local statistical analysis; the latter as one of the developers of geographically weighted regression. He also has substantive interests in health data, crime patterns, retailing, and migration. Dr. Fotheringham established both the Centre for GeoInformatics at the University of St Andrews in Scotland and the National Centre for Geocomputation in Ireland. He serves on the Executive Committee of the Transportation Research Board. He is a member of the National Academy of Sciences and the

Academia Europaea, and a Fellow of the UK's Academy of Social Sciences. He received a B.S. from the University of Aberdeen, and an M.S. and Ph.D. from McMaster University, all in geography.

Henry Lin is a professor of hydrogeology/soil hydrology in the Department of Ecosystem Science and Management at the Pennsylvania State University. He also holds an adjunct professorship at the Institute of Earth Environment, The Chinese Academy of Sciences. His research and teaching interests are centered on the development of hydrogeology for integrated and multiscale study of landscapes, soil, water, and ecosystems across space and time. His research in fundamental understanding and practical applications of systems soil and water sciences, soil architecture and preferential flow, complexity science and nonlinear dynamics, and the Earth's critical zone is often linked to geospatial analysis, environmental modeling, and scientific visualization. Dr. Lin received the Outstanding Research Award from the Northeastern Branch of Agronomy Society of America, Crop Science Society of America, and Soil Science Society of America in 2015. He is a fellow of the Agronomy Society of America and of the Soil Science Society of America. Dr. Lin received a B.A. in soil science and agrochemistry from Fujian Agricultural and Forestry University, an M.S. in soil geography from The Chinese Academy of Sciences, and a Ph.D. in soil physics and pedology from Texas A&M University.

Mark Reichardt is president and chief executive officer of the Open Geospatial Consortium, Inc. (OGC), an international geospatial and location-based standards organization with more than 390 industry, government, academic, and research organization members. Before joining the OGC in 2000, Mr. Reichardt spent 20 years at the National Imagery and Mapping Agency and its predecessor Defense Mapping Agency working on technology modernization and production programs. In 1998 he accepted an assignment with Vice President Gore's National Partnership for Reinventing Government to manage a program to demonstrate the effectiveness of geospatial information and technologies for improving coordination and decision making across local, state, and federal levels of government. In early 1999, he established and led a spatial data infrastructure program for the interagency Federal Geographic Data Committee. Mr. Reichardt serves on the board of directors of the Global Spatial Data Infrastructure Association and is a former member of the U.S. National Geospatial Advisory Committee. He received a B.S. in agriculture from the University of Maryland.

Kathleen Stewart is director of the Center for Geospatial Information Science and associate professor in the Department of Geographical Sciences at the University of Maryland, and an adjunct associate professor in the Department of Geographical and Sustainability Sciences, University of Iowa. Dr. Stewart is an expert in geographic information science with a particular interest in space-time GIS. She is interested in mobility, dynamics, and big geospatial data, and is investigating movement and mobility for a number of applications, such as public health, transportation, and natural hazards. Dr. Stewart's awards and honors include the Dean's Scholar Award from the University of Iowa (2010-2012) and the Dean's Award of Excellence from the University of Maine (2006). Dr. Stewart is a member of the Board of Directors for the University Consortium of Geographic Information Science, and the steering committees for the International Conference on GIScience and the International Conference on Spatial Information Theory, as well as numerous other international expert panels. She received a B.A. (Hons.) in geography from McMaster University, Canada, an M.S. in geography from the University of

British Columbia, Canada, and a Ph.D. in spatial information science and engineering from the University of Maine.

Kristin M. Tolle is director of development for the Environmental Science Services team at Microsoft Research. The team is developing freely available tools to enable global scientific discovery in climate change, to foster citizen science, and to help inform policy decisions in ecological and environmental research. Other recent work at Microsoft Research focused on creating partnerships with academic communities to drive research on genome wide association studies as well as to develop tools to support language translation systems and data curation. Prior to joining Microsoft in 2000, Dr. Tolle was a research associate at the University of Arizona's Artificial Intelligence Lab, where she managed the group on medical information retrieval and natural language processing. Dr. Tolle's research interests include natural language processing, automatic ontology capture, data mining, data visualization, sensors, and data curation and management. Many of her publications focus on the application of these technologies to improving global public health. Other publications focus on advancing scientific study. In 2009, for example, she was an author and co-editor of "The Fourth Paradigm: Data Intensive Scientific Discovery," a collection of essays on the emerging field of data-intensive science. Dr. Tolle is an editor for the area of decision support systems for the Journal of Health Systems. She earned a B.S. in computer information systems from Boise State University, and an M.S. and Ph.D. in management information systems with a minor in computational linguistics from the University of Arizona.

Grady H. Tuell is President of 3D Ideas, a small business engaged in developing remote sensing systems. He has 36 years experience in this work in government, academia, and industry. He is formerly the Associate Director of the Electro-Optical Systems Laboratory at the Georgia Tech Research Institute, where he led efforts to develop real-time lidars. Prior to joining GTRI he was President of Optech International, where he lead the evolution of that company's bathymetric lidar technologies. He also spent 2 years as an associate professor at the University of Florida and 20 years at the National Oceanic and Atmospheric Administration working primarily in shoreline mapping and hydrographic surveying. Dr. Tuell's current interests are three-dimensional imaging of the shallow-water seafloor and forest environments, and parameter estimation from remotely-sensed data. He won the 2015 SPIE Goddard Award, the gold and bronze medals from the U.S. Department of Commerce, and the Karo Award from the Society of American Military Engineers. Dr. Tuell received a B.S. in physical geography from the University of Georgia, an M.S. in geodetic science from the Ohio State University, and a Ph.D. in civil and environmental engineering and geodetic science from the Ohio State University.

Martha McCart Wells is director of consulting services at Spatial Focus, Inc., an independent consulting firm that specializes in planning, design, implementation, and technical services associated with geographic information systems. She is currently working on a project involving street addressing, cadastral mapping and systems, GIS implementation planning, and data conversion and quality assurance. Ms. McCart Wells has more than 35 years of experience in local government planning and zoning, real estate development, transportation planning, and coastal zone management. She has held a variety of positions, including director of international projects at American Cadastre, Inc.; principal planner and GIS project manager for Gwinnett County, Georgia; associate planner and director of community development for the town of

Tiburon, CA; and founder and principal at Lombard-McCart Associates. Ms. McCart Wells has been involved with the interagency Federal Geographic Data Committee (FGDC), chairing its Framework Working Group when the National Spatial Data Infrastructure was being developed, and, recently, co-authoring the FGDC U.S. Thoroughfare, Landmark and Postal Address Data Standard. She is a former president and board member of the Urban and Regional Information Systems Association (URISA). She has served on several URISA committees, including those dealing with geographic or land information systems, and is the recipient of several URISA awards. She received a B.A. in geography and history from San Francisco State University, and an M.S. in regional planning from the University of Massachusetts.