Geospatial Frontiers in Health and Social Environments
Symposium on Enabling a National Geospatial Cyberinfrastructure for Health Research
July 27-28, 2012

Biographical Sketches

David Balshaw, PhD
National Institute of Environmental Health Sciences

Dr. Balshaw received training in pharmacology and biophysics from the University of Cincinnati and University of North Carolina at Chapel Hill. He is a program director in the Center for Risk and Integrated Sciences, part of the Division of Extramural Research and Training at the National Institute of Environmental Health Sciences (NIEHS), one of the U.S. National Institutes of Health (NIH). He is the primary scientist responsible for emerging technologies with particular emphasis on developing innovative approaches to improving exposure and risk assessment and enabling high data-content techniques to define the biological response to environmental exposures. Dr. Balshaw is responsible for planning, directing, and administration of NIEHS-funded translational research programs in (1) bioengineering, integrated systems, and computational methods to understand complex systems; (2) development of novel sensor technologies for comprehensive environmental exposure assessment; (3) validation of emerging biomarkers of exposure, susceptibility, and effect including development of databases; and (4) application of innovative "omics" research for reducing risk of exposure and disease. His activities include leadership roles in the NIH Genes, Environment, and Health Initiative Exposure Biology Program, and the NIEHS DISCOVER Program; he is also heavily involved in several interagency and international activities in environmental health.

Christina Bivona-Tellez, RN, MPH
Esri

Christina Bivona-Tellez joined Esri after a 20 year career as a healthcare professional with roles in nursing administration, public health, and most recently as an executive in a large hospital trade association. She is experienced across many areas including hospital operations both in for profit and not-for-profit sectors, nursing administration, community development, government relations, public relations, public health, and behavioral health. She has experience in many areas critical to our future growth in areas like health information exchanges, electronic medical records, quality performance, outcomes measurement, and health workflow management. Christina's extensive experience in the health industry equips her to work effectively with our customers and prospects - physicians, hospital directors, community public health organizations, academic medical center managers, social service and not-for-profits organizations. Importantly she is also a leader in an industry that continues to grow. Christina earned her nursing degree (BSN) from Alfred University, New York and holds a dual Masters of public health degree in maternal and child health and public health nursing administration (with a concentration in International and Global health) from the University of North Carolina, Chapel Hill. Before moving to Redlands in 1990, Christina has lived and worked in New York, Macon, Georgia; Vienna, Austria; Quito and Colta, Ecuador; Vicksburg, Mississippi; Charlotte and Chapel Hill, North Carolina.

Kimberly Brouwer, PhD
University of California, San Diego

Kimberly C. Brouwer, PhD is an Associate Professor of Medicine and infectious disease epidemiologist at the University of California San Diego, Division of Global Public Health. She also co-directs the SDSU/UCSD Joint Doctoral Program in Global Health. Her research interests lie in studying the dynamic between the host and environment, and how this relates to disease susceptibility and transmission. Since coming to UCSD in 2004, she has acquired additional skills in spatial epidemiology through a K01 award from the National Institute on Drug Abuse (K01DA020364). In an effort to inform appropriate public health interventions, Dr. Brouwer is currently collaborating with Mexican and Guatemalan officials in studies exploring the spatial patterns of disease and migration/mobility issues surrounding HIV and substance use in the Americas. She leads two five-year NIDA funded R01 grants, including a study (R01DA028692; Mapa de Salud) which employs mapping, qualitative, and quantitative methods to compare risk environments for HIV transmission and substance use in border cities with very different policies toward sex work. Additionally, she is directing a pilot study assessing mobility and disease transmission along the trans-Caprivi highway in Namibia. Dr. Brouwer trained as a molecular epidemiologist at the Johns Hopkins School of Public Health and was awarded a Fulbright Fellowship to study schistosomiasis in Zimbabwe. Prior to her appointment at UCSD, she worked in the Division of Parasitic Diseases at the Centers for Disease Control and Prevention investigating HIV/malaria interactions in western Kenya.

David DiBiase, GISP, CMS
Esri

David leads the Education Team within Industry Solutions, a unit of Esri's Marketing Division. The team promotes and supports GIS use and spatial thinking in higher education, primary and secondary education, and museums and libraries worldwide. Prior to joining Esri in 2011, David founded and led the Penn State Online certificate and master's degree programs in GIS. He was lead editor of the GIS&T Body of Knowledge and the U.S. Department of Labor's Geospatial Technology Competency Model, and led the NSF-funded project gisprofessionalethics.org. His interests include geospatial workforce development, learning design, e-learning, and professional ethics. He continues to lead workshops in responsible scholarship and professional practice for Penn State Online.

Lawrence Frank, PhD, AICP, CIP, ASLA
University of British Columbia

Dr. Frank is a Professor and the Bombardier Chairholder in Sustainable Transportation at the University of British Columbia. He specializes in the interaction between land use, travel behavior, air quality; and health and the fuel consumption and climate change impacts of urban form policies. He has been studying the effects of neighborhood walkability on travel patterns and sustainability for 20 years and has led over $18 million in funded research and published over 100 peer reviewed articles and reports on these topics. Dr. Frank works directly with local, regional, provincial or state, and federal agencies to help translate results from research into practice based tools that provide direct feedback on the health and environmental impacts of alternative transportation and land development proposals. His position at UBC is split between the Schools of Population and Public Health in the Faculty of Medicine (home department) and Community and Regional Planning in the Faculty of Applied Science.

Tommi Gaines, PhD
University of California, San Diego

Dr. Tommi L. Gaines, Dr.P.H. is a biostatistician examining the social epidemiology of STD/HIV infection. Dr. Gaines' research captures the complex dependencies between individuals and their environments by modeling the interaction of social conditions, geographic location, and individual risk characteristics using a hierarchical Bayesian spatial analysis. Her area of expertise is in statistical methodology and research interests include Bayesian modeling, multilevel analysis, health surveys, missing data applications, and public health research. Her prior work involved cross-disciplinary, inter-university projects investigating substance use in relation to health outcomes among inner city emergency room populations. Dr. Gaines received her Doctorate in Public Health with a specialization in Biostatistics from the University of California, Los Angeles, and her Master's degree in Statistics from San Diego State University. She was recently selected as a fellow for the Indigenous HIV/AIDS Research Training Program. Under this program, Dr. Gaines will apply her biostatistical training to examine the social epidemiology of HIV/STIs in Native communities.

Arthur Getis, PhD
San Diego State University

Arthur Getis is Distinguished Professor of Geography Emeritus at San Diego State University. His Ph.D. is from the University of Washington and Master's and Bachelor's degrees from the Pennsylvania State University. He had been president of several academic societies including the Western Regional Science Association and the University Consortium for Geographical Information Sciences. He has published widely, including a number of articles with J. Keith Ord, on the creation and development of local statistics, and books with Barry Boots on spatial pattern analysis, published by Cambridge University Press and Sage Scientific Books. He has also developed widely used spatial clustering algorithms and spatial filtering techniques. In addition, he has edited a number of scholarly texts on spatial analysis including *Handbook of Applied Spatial Analysis* (with M.M. Fischer). A festschrift in his honor edited by Luc Anselin and Serge Rey, *Perspectives on Spatial Data Analysis*, was published in 2010. He is now honorary editor-in-chief of the *Journal of Geographical Systems*, a journal he founded with Manfred M. Fischer. With the support of NIH and NICHD, he is doing research on the transmission of infectious diseases in Thailand and Peru, and on women's health in Ghana.

He has received the Walter Isard Distinguished Scholarship award from the North American Regional Science Association, Distinguished Scholarship honors from the Association of American Geographers (AAG), and the Robert Aageenbrug Distinguished Career award from the Geographic Information Systems Specialty Group of the AAG. He has been the Johnson lecturer at San Diego State University, the Robinson lecturer at the Ohio State University, the Miller lecturer at the Pennsylvania State University, and the Hooker lecturer at McMaster University. He is a fellow of the Western Regional Science Association, the Regional Science Association International, and the University Consortium for Geographical Information Science. He recently received the Founder's Medal of the Regional Science Association International. His textbooks on geography with Judith Getis and Jerome D. Fellmann are widely used by undergraduates; *Introduction to Geography*, now in its 13th edition, is the leader among books of its type. He has chaired geography departments at Rutgers University and the University of Illinois at Urbana-Champaign. He has been a visiting faculty member at Bristol University, Princeton University, University of California Los Angeles, and University of British Columbia.

Michael Goodchild, PhD
University of California, Santa Barbara

Michael F. Goodchild is Jack and Laura Dangermond Professor of Geography at the University of California, Santa Barbara, and Director of UCSB's Center for Spatial Studies. He received his B.A. degree from Cambridge University in Physics in 1965 and his Ph.D. in geography from McMaster University in 1969, and has received four honorary doctorates. He was elected member of the National Academy of Sciences and Foreign Member of the Royal Society of Canada (2002), member of the American Academy of Arts and Sciences (2006), and Foreign Member of the Royal Society and Corresponding Fellow of the British Academy (2010); and in 2007 he received the Prix Vautrin Lud. He was editor of *Geographical Analysis* between 1987 and 1990 and editor of the Methods, Models, and Geographic Information Sciences section of the *Annals of the Association of American Geographers* from 2000 to 2006. He serves on the editorial boards of ten other journals and book series, and has published more than 15 books and 400 articles. He was Chair of the National Research Council's Mapping Science Committee from 1997 to 1999, and of the Advisory Committee on Social, Behavioral, and Economic Sciences of the National Science Foundation from 2008 to 2010. His current research interests center on geographic information science, spatial analysis, and uncertainty in geographic data.

Michael Gould, PhD
Esri

Michael Gould received the PhD in Geography/GIS from National Center for Geographic Information and Analysis (NCGIA), University of Buffalo, and then moved to Spain in 1991. There he worked for Esri-Spain and as university GIS professor, before joining Esri (California) in 2008 as education manager based in Spain and covering mostly the EMEA region. His academic position at Universitat Jaume I (Castellon) as (now part-time) professor of information systems has included work with the fledgling School of Medicine to investigate possible research areas in geo-medicine and related health applications of geospatial technology. He is also interested in public health aspects of smart cities/campus.

Mei-Po Kwan, PhD
University of California, Berkeley

Mei-Po Kwan is a Visiting Professor in the Department of Geography at the University of California, Berkeley, an Adjunct Professor of Epidemiology and Biostatistics in the School of Medicine at Case Western Reserve University, and a Fellow of the American Association for the Advancement of Science. She received the 2005 UCGIS Research Award from the University Consortium for Geographic Information Science (UCGIS) and AAG Distinguished Scholarship Honors from the Association of American Geographers (AAG) in 2011. Kwan is Editor of the *Annals of the Association of American Geographers* and Associate Editor of *Geographical Analysis*. She is currently a regular member of the Community Influences on Health Behavior Study Section of the Center for Scientific Review (NIH), and a member of two committees of the Transportation Research Board (U.S. National Academies). Her research interests include geographic information science, access to healthcare, the effect of sociogeographic context on health behaviors and outcomes, protection of geoprivacy through geographic masking, and human activity-travel behavior in space-time. She has developed innovative GIS-based 3D geovisualization and geocomputational methods for the analysis of activity-travel diary and GPS data. Kwan has recently received several NIH grants totaling about $13 million as a PI or Co-PI. These projects examine the health risks of female sex workers, adolescent participation in high risk drug use, tobacco cessation in Ohio smokers, and methods for health behavior research.

Nina Lam, PhD
Louisiana State University

Nina Lam is Professor in the Department of Environmental Sciences at Louisiana State University. She has served previously as Chair of the Department (2007-2010) and Program Director of the Geography and Spatial Sciences Program at NSF (1999-2001). Lam was elected and served as President of University Consortium on Geographic Information Science (UCGIS) in 2004. Lam's research interests are in GIS, remote sensing, spatial analysis, environmental health, and resilience. She has worked on topics such as spatial interpolation, fractals, cancer mortality, spatial data mining, health and uncertainties, AIDS in America, and lately on modeling business return in New Orleans after Katrina and community resilience assessment in the Gulf of Mexico region.

In 1983, Lam received the Andrew McNally Best Paper Award for her article on spatial interpolation methods. Her edited book *Fractals in Geography*, published in 1993 by Prentice-Hall, was reprinted in 2003 by the Blackburn Press. Lam's research on the AIDS epidemic in the United States was widely featured in the media in the mid-1990s. With grants from NASA, Lam and her collaborators developed the software called ICAMS (Image Characterization And Modeling System) to measure land-use land-cover changes. Lam has received major research awards from LSU (Distinguished Faculty Award in 2006, LSU Rainmaker Award in 2008, Distinguished Research Master in 2010, and the LSU School of the Coast and Environment Outstanding Faculty Research Award in 2011) and from the Remote Sensing Specialty Group of the Association of American Geographers (Outstanding Contributions in Remote Sensing Award in 2004). Lam has published one book and over 65 refereed journal articles and chapters, and has served as the PI or co-PI of over 35 external grants. Lam has advised 1 post-doc, 16 PhDs, and 26 M.S. students.

R. Ryan Lash
University of Georgia and Centers for Disease Control and Prevention

R. Ryan Lash is a PhD student in Geography, at the University of Georgia, and also works as an Oak Ridge Institute for Science Education (ORISE) Fellow in the Rickettsial Zoonoses Branch at the Centers for Disease Control and Prevention (CDC) in Atlanta, GA. His Bachelors and Masters degrees were both earned in Geography at the University of Kansas. Prior to starting his PhD degree, he worked for two years as an Atlanta Research & Education Foundation (AREF) Guest Researcher in the Poxvirus and Rabies Branch at CDC. His research interests are the methods and application of geospatial science and technology to the study of zoonotic infectious diseases, and the development and implementation of geospatial applications for public health. He has published on methods and applications for: geocoding historic disease data (Monkeypox virus) in Africa; analyzing temporal trends in vegetation indicies associated with filovirus outbreaks; and modeling spatial uncertainty of historic filovirus outbreaks for ecological niche models of disease risk. He is a co-author on other publications about the geography, ecology, and surveillance of poxviruses and rickettsial diseases. He has also produced and contributed numerous maps for print and online publication.

Jean McKendry, PhD
Association of American Geographers

Jean McKendry is a senior researcher with the Association of American Geographers where she contributes to research, education, and outreach projects related to GIScience, professional development and careers in geography, diversity and broadening participation, and sustainable development. Prior to joining the AAG, Dr. McKendry worked on a wide range of cooperative programs with the National Park Service (NPS), other Federal Agencies, and nongovernmental organizations (NGOs). She helped establish and develop a national NPS Social Science Program. As deputy national coordinator for the Cooperative Ecosystem Studies Units (CESU) Network, she worked with 13 Federal Agencies and more than 200 universities to promote collaboration on research, technical assistance, and education. Dr. McKendry also helped coordinate the Canon National Parks Science Scholars Program, working with the American Association for the Advancement of Science (AAAS) and Canon U.S.A., Inc. She has participated in applied research projects, such as developing a series of socioeconomic atlases for national parks. Dr. McKendry received a B.A. in political science from the University of Arizona and an M.A. and Ph.D. in geography from Clark University, where her focus was on cartography and GIS applied to resource management decision-making.

Sara McLafferty, PhD
University of Illinois at Urbana-Champaign

Sara McLafferty is Professor of Geography at the University of Illinois at Urbana-Champaign. Her research investigates place-based disparities in health and access to health services for women, immigrants and racial/ethnic minorities in the United States. An ongoing multidisciplinary project, funded by the American Cancer Society, examines the impact of inequalities in spatial and social accessibility to health services on racial disparities in prostate and colorectal cancer outcomes in Chicago. Dr. McLafferty has also written about the use of GIS and spatial analysis methods in exploring inequalities in health and access to health care. Her books include *GIS and Public Health* (with Ellen Cromley), *A Companion to Health and Medical Geography* (with Tim Brown and Graham Moon), *Geographies of Women's Health* (with Isabel Dyck and Nancy Lewis), and *Location Strategies for Retail and Service Firms* (with Avijit Ghosh). Her publications have appeared in a wide range of geography, epidemiology, and urban studies journals. She is currently an Associate Editor of *Health and Place* and serves on the editorial boards of the *Annals of the Association of American Geographers*, *Geographical Analysis*, and *Spatial and Spatiotemporal Epidemiology*.

Douglas Richardson, PhD
Association of American Geographers

Douglas Richardson is the executive director of the Association of American Geographers. He was previously the founder and president of GeoResearch, Inc., which invented, patented, and developed the first real-time interactive GPS/GIS mapping technologies, resulting in far-reaching changes in the way geographic information is now collected, mapped, integrated, and used in geography and in health research, as well as in society more broadly. He has conducted extensive research in the science, applications, and technologies of geography, and has implemented many large-scale integrated GPS and GIS systems around the world. Dr. Richardson has worked together with NIH biomedical researchers in several institutes and recently co-edited the book, *Geography and Drug Addiction*, as part of a productive long-term collaboration with researchers at the National Institute on Drug Abuse.

Lauren Rosenshein
Esri

Lauren Rosenshein is a Product Engineer on the Analysis and Geoprocessing Team at Esri, specializing in Spatial Statistics. She works on the design, testing, and documentation of the Spatial Statistics tools, as well as the education of the wide range of Spatial Statistics users. Other responsibilities include contributing vision for innovative analytical software development, teaching graduate level workshops in spatial statistics, and evangelizing the value of spatial analytics. She received her MS in Geographic and Cartographic Science from George Mason University, and her BA in Geography from McGill University.

Robert Shankman, GISP
Department of Health & Human Services

Rob Shankman is a graduate of Frostburg Sate University with a dual major in Geography and Cartography. As he has progressed in his career from engineering firms to county government up to federal he has learned the advantage of technology and how to leverage it to aid in emergency decision making. For the past 8 years he has been the GIS Program Manager for the Department of Health and Human Services where he has implemented a secure on-line application where decision makers from many different agencies can visualize their data and overlay it with other agency data to get a complete picture of what is happening in the field. This data is enhanced by the ability to edit data from deployed personnel thus allowing complete communication of status from the "boots on the ground" to the executive level of HHS. This program has been the main situational awareness tool for the Operation Center at HHS since its inception over 4 years ago and continues to grow and gain momentum.

Shashi Shekhar, PhD
University of Minnesota

Shashi Shekhar is a McKnight Distinguished University Professor at the University of Minnesota, Minneapolis, MN, USA. For contributions to spatial databases, spatial data mining, and geographic information systems (GIS), he received the IEEE Technical Achievement Award and was elected a Fellow of the IEEE as well as the American Association for the Advancement of Science. He has co-authored over 250 research papers in peer-reviewed forums, co-edited an Encyclopedia of GIS (Springer, 2008, isbn 978-0-387-30858-6), and co-authored a textbook on Spatial Databases (Prentice Hall, 2003, isbn 0-13-017480-7) which has been translated into multiple foreign languages. He is serving as a member of the National Academies Committee on GEOINT workforce (2011-12), a member of the Computing Community Consortium Council, a co-Editor-in-Chief of *Geo-Informatica: An Intl. Journal on Advances in Computer Sc. for GIS (ISSN 1384-6175)* , an editor for the SpringerBriefs GIS series, a co-chair of the Conference on Geographic Information Science (2012), and a member of the steering committee for the IEEE Workshop on Spatial and Spatio-temporal Data Mining. He served on two committees of the National Research Council National Academy of Sciences, namely, the committee on mapping sciences (2004-2009) and the committee to review the basic and applied research at National Geospatial-Intelligence Agency (2005). He also served as a member of the Board of Directors of the University Consortium on GIS (2003-2004), a co-chair of the Symposium on Spatial and Temporal Databases (2011), a member of the editorial boards of IEEE Transactions on Knowledge and Data Eng., a member of the steering committee of the ACM Intl. Conference on GIS, a member of the IEEE-CS Computer Science & Engineering Practice Board, a program co-chair of the ACM Intl. Workshop on Advances in GIS (1996), and a technical advisor to United Nations Development Program (UNDP), Environmental Systems Research Institute (ESRI), and other organizations. His research projects have been sponsored by the NSF, NASA, UDOD, USDOT, MN/DoT etc. He received a Ph.D. degree in Computer Science from the University of California (Berkeley, CA).

Yonette Thomas, PhD
Howard University

Dr. Thomas is currently the Associate Vice President for Research Compliance at Howard University. Prior to her joining the staff and faculty of Howard University, she served for almost a decade as program officer and Chief of the Epidemiology Research Branch at the National Institute on Drug Abuse, at the National Institutes of Health. She is an adjunct Associate Professor of Research and a Senior Research Fellow with the Center for Minority Health Services Research (CMHSR) within the College of Pharmacy at Howard University. She is a social epidemiologist, with training in epidemiology, medical sociology and demography. Her primary research and publications have focused on the social epidemiology of drug abuse and HIV/AIDS and the link with Geography and Geographic Methods. At the National Institute on Drug Abuse, she was instrumental in the development of the institute's research focus on the social epidemiology of drug abuse and HIV/AIDS and the national research agenda around the role of the social environment. At the NIH she led a trans-NIH workgroup on the mapping of the social environment as it relates to the social determinants of health, and developed and stimulated a portfolio of science broadly focused on social epidemiology, genetic liability and phenotypic heterogeneity, and human development across the life course.

Ming-Hsiang Tsou, PhD
San Diego State University

Ming-Hsiang (Ming) Tsou is Professor in the Department of Geography, San Diego State University. He received a B.S. from National Taiwan University in 1991, an M.A. from the State University of New York at Buffalo in 1996, and a Ph.D. from the University of Colorado at Boulder in 2001, all in Geography. His research interests are in Mapping Cyberspace, Internet mapping, Web GIS applications, mobile GIS and wireless communication, and cyberinfrastructure with grid computing technology. He is co-author of the book, *Internet GIS*, published in 2003 and served on the editorial boards of the *Annals of GIS* (2008-) and the *Professional Geographer* (2011-). Tsou was the co-chair of the NASA Earth Science Enterprise Data System Working Group (ESEDWG) Standard Process Group (SPG) from 2004 to 2007 and the 2007-2008 Chair of the Cartographic Specialty Group in the Association of American Geographers (AAG). In 2010, Tsou served as the Principle Investigator (PI) of a NSF-CDI project," Mapping ideas from Cyberspace to Realspace", funded by National Science Foundation, CDI-Type II Award # 1028177 http://mappingideas.sdsu.edu/. This NSF project integrates geographic information systems (GIS), computational linguistics (CL), web search engines (Bing and Yahoo) and social media (Twitter) API to track and analyze public-accessible websites and tweets for visualizing and analyzing information landscapes of ideas and events in cyberspace.

Shaowen Wang
University of Illinois, Urbana-Champaign

Shaowen Wang is Associate Professor of Geography and Geographic Information Science, Computer Science, and Urban and Regional Planning, and Faculty Affiliate within the Computational Science and Engineering Graduate Program and Illinois Informatics Institute at the University of Illinois at Urbana-Champaign; Associate Director for CyberGIS and Senior Research Scientist of the National Center for Supercomputing Applications (NCSA); and Founding Director of the CyberInfrastructure and Geospatial Information Laboratory. He received his B.S. in Computer Engineering from Tianjin University, China in 1995; M.S. in Geography from Peking University, China in 1998; M.S. of Computer Science and Ph.D. in Geography from the University of Iowa in 2002 and 2004 respectively. His research and teaching interests center on three interrelated themes: 1) computational theories and methods in geographic information science, 2) cyberinfrastructure and data-driven computational science, and 3) spatiotemporal synthesis and multi-scale geospatial problem solving. His research in these themes has been published in a number of peer-reviewed papers including articles in a wide variety of journals such as the *Annals of the Association of American Geographers*, *BioScience*, *Computers and Geosciences*, *Concurrency and Computation: Practice and Experience*, *International Journal of Geographical Information Science*, *Journal of Grid Computing*, *Parallel Computing*, *Proceedings of the National Academy of Sciences*, *Transactions in GIS*, and *Statistics and Computing*. He served on the University Consortium for Geographic Information Science Board of Directors from 2009 to 2012. He is serving as an Action Editor of *GeoInformatica*, and guest editor or editorial board member for multiple prestigious journals. He was appointed two terms as a Councilor of the Open Science Grid Consortium – the governing body of the Open Science Grid project jointly funded by the Department of Energy and National Science Foundation (NSF). He was a recipient of the prestigious NSF CAREER Award in 2009, a NCSA Fellow in 2007, and NSF-sponsored visiting scholar at Lund University in 2006. His research has been actively supported by multiple U.S. federal and state agencies.