OCTOBER 23-25, 2016

2nd Seattle Symposium on Health Care Data Analytics

Learning from Electronic Data to Advance Health and Health Care

Meet Our Speakers, Discussants, and Short Course Instructors

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Dr. Veera Baladandayuthapani is currently an Associate Professor and Institute Faculty Scholar in the Department of Biostatistics at UT MD Anderson Cancer Center, Houston, Texas. His research interests are mainly in high-dimensional data modeling and Bayesian inference. This includes functional data analyses, Bayesian graphical models, Bayesian semi-/non-parametric models and machine learning. These methods are motivated by large and complex datasets such as high-throughput genomics, epigenomics, transcriptomics and proteomics as well as high-resolution neuro- and cancer- imaging. A special focus is on developing integrative models combining different sources of data for biomarker discovery and clinical prediction to aid precision/translational medicine. His work has been published in top statistical/biostatistical/bioinformatics and biomedical journals. He has also co-authored a book on Bayesian analysis of gene expression data. He currently holds multiple PI-level grants from NIH and NSF to develop innovative and advanced biostatistical and bioinformatics methods for big datasets in oncology. He is also a fellow of the American Statistical Association. More details at: http://odin.mdacc.tmc.edu/~vbaladan

Veera Baladandayuthapani, PhD

Dr. Cai is a Professor of Biostatistics at the Harvard T.H. Chan School of Public Health. Her current research interests are mainly in the area of predictive modeling; personalized medicine in disease diagnosis, prognosis and treatment; statistical inference with high dimensional data; and analysis of electronic medical records data. In addition to her methodological research, Dr. Cai also collaborates with the BD2K center at Harvard Medical School on developing infrastructure and platforms for effectively combining and synthesizing information from genetic, environmental, imaging, behavioral, and clinical data on individual patients.

Tianxi Cai, ScD
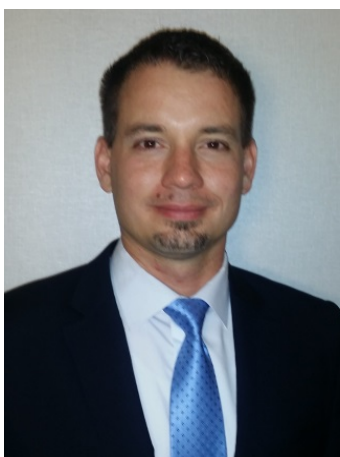
Evan Carey received his master's degree in Applied Biostatistics from the Colorado School of Public Health (CSPH). He is currently a PhD candidate in Epidemiology at the CSPH. Mr. Carey is a statistician/data scientist with the Veteran Healthcare Administration system and the University of Colorado, School of Public Health. Mr. Carey has designed and implemented large administrative cohort studies in the VA system for the past 5 years, working with datasets exceeding billions of rows. Mr. Carey has designed and given seminars in R, Python, and Hadoop programming for data science for multiple fortune 500 companies and federal agencies.

Evan Carey, MS

Andrea Cook, PhD

Andrea Cook is a Senior Investigator in the Biostatistics Unit at Group Health Research Institute and an Affiliate Associate Professor of Biostatistics at the University of Washington. Dr. Cook's research focuses on leveraging electronic health record data to conduct both complex observational studies and randomized clinical trials. Her two primary methodological research areas focus on postmarket safety surveillance and pragmatic clinical trials. Dr. Cook provides national leadership for the NIH's Health Care Systems Research Collaboratory as a Coordinating Center co-investigator and member of the Biostatistics Core. She has also lead numerous methods task orders for the Food and Drug Administration's (FDA) Mini-Sentinel Initiative, a pilot project to facilitate development of an active surveillance system for monitoring the safety of all FDA-regulated medical products using a distributed electronic health care database network. She works on numerous clinical areas including obesity research, built environment and health outcomes, cardiovascular prevention trials, alternative medicine trials, and drug and vaccine safety surveillance. Dr. Cook received a BS from the University of Washington and a PhD in Biostatistics from Harvard University in 2005.

Lesley Curtis, PhD

Dr. Curtis oversees a portfolio of projects that uses observational data to address questions related to clinical and comparative effectiveness, pharmacoepidemiology, health care delivery, and epidemiological trends across a broad array of clinical conditions and clinical care settings. An expert in the use of Medicare claims data for health services and clinical outcomes research, she has led the linkage of Medicare claims with several large clinical registries and epidemiological cohort studies including the Framingham Heart Study and the Cardiovascular Health Study. Dr. Curtis serves on the American Heart Association/American College of Cardiology Task Force on Practice Guidelines and on the American Heart Association's Task Force on Performance Measures, working to continuously improve the incorporation of evidence into health care delivery. Additionally, she serves as Co-Lead of the Data Core for the FDA's Sentinel Initiative, Co-PI of the NIH Health Care Systems Collaboratory, and Lead of the Distributed Research Network Operations Center for PCORI's National Clinical Research Network (PCORnet), working with health systems and patient networks to develop a harmonized data infrastructure for robust observational and interventional research.

Sascha Dublin, MD, PhD

Sascha Dublin is a general internist and epidemiologist at Group Health Research Institute. Her research focuses on studying the outcomes of medication use and other therapeutic interventions in pregnancy using real-world health care data. She continues to see patients one day a week in primary care, through which she experiences electronic medical records both as a user/creator and a researcher. An NIH K award funded her early years as faculty and she currently has R01 grants from NICHD to examine the impact of elective induction of labor on maternal and neonatal outcomes and the impact of pharmacologic treatment for hypertension in pregnancy. She has particular interest in research methods including the use of innovative approaches to integrate new data (e.g. natural language processing) and to better account for confounding (e.g., marginal structural models). Since 2008, she has been working with big data through multisite collaborations, including the FDA-funded Medication Exposure in Pregnancy Risk Evaluation program (MEPREP), the HMO Research Network Center for Education and Research on Therapeutics (funded by AHRQ), and the FDA's Mini-Sentinel Initiative, where she helped link state birth certificates with health plan data to expand FDA's ability to study medication safety in pregnancy. She mentors students and postdoctoral fellows through an NICHD T32 training grant in Reproductive, Perinatal and Pediatric Epidemiology.

Debashis Ghosh, PhD

Debashis Ghosh is Professor and Chair of the Department of Biostatistics and Informatics at the Colorado School of Public Health in Denver. In addition, he serves as Associate Director for Bioinformatics for the Center for Personalized Medicine at the University of Colorado Anschutz Medical Campus. Prior to arriving at Colorado, Ghosh was Professor of Statistics and Public Health Sciences at Penn State University. He was previously Assistant and Associate Professor at the University of Michigan. Dr. Ghosh's has published more than 170 peer-reviewed articles, commentaries and book chapters in statistical and scientific literature. He is a Fellow of the American Statistical Association and was recently honored with the 2013 Mortimer Spiegelman Award for outstanding early career statistical contributions to public health.

Susan Gruber, PhD, MPH, MS

Susan Gruber is Director of the Biostatistics Center in the Department of Population Medicine at Harvard Medical School and Harvard Pilgrim Health Care Research Institute. She received her Ph.D. in Biostatistics and MPH in Epidemiology and Biostatistics from UC Berkeley, and an MS in Computer Science from UC San Diego. Her work focuses on methods development for detecting safety signals in electronic health data, and applications of machine learning in predictive modeling and data-adaptive propensity score estimation. Dr. Gruber was formerly the Senior Director of IMEDS Methods Research at the Reagan-Udall Foundation for the Food and Drug Administration (FDA). She worked with senior FDA officials and industry representatives to develop an IMEDS-Methods Research Agenda geared towards furthering the scientific mission of the FDA. Her leadership on a series of joint IMEDS/Mini-Sentinel/FDA projects is helping to improve our understanding of the challenges and opportunities in safety surveillance in a distributed data network. Dr. Gruber has also made key contributions in improving finite sample performance of double robust targeted minimum loss-based estimators (TMLE). She is the recipient of a 2016 Pyle Fellowship that will apply TMLE and super learning to estimate variable importance measures in the context of black-box risk score prediction.

Dr. Haneuse is an Associate Professor of Biostatistics at the Harvard T.H. Chan School of Public Health, where he has been for six years. Prior to that he worked at the Group Health Research Institute after obtaining his PhD at the University of Washington. His research interests include survival analysis, specifically the analysis of semi-competing risks data, the use of outcome-dependent sampling in resource limited settings, and the development of methods towards resolving selection bias in electronic health records data-based research. Substantively, his primary areas of interest are quality of end-of-life care and the long-term effects of bariatric surgery. He is also currently working on a series of prevention studies, including the evaluation of interventions tailored for skin cancer and childhood obesity.

Sebastien Haneuse, PhD

Patrick Heagerty is Professor and Chair of the Department of Biostatistics at the University of Washington (UW). He also directs the Center for Biomedical Statistics, responsible for coordinating biostatistical collaboration in Seattle and the greater Northwest region of Wyoming, Alaska, Idaho, and Montana. Dr. Heagerty received a BS from Cornell University, an MS in Mathematics and Statistics from the State University of New York at Albany, and a PhD in Biostatistics from Johns Hopkins University. He is an elected fellow of the American Statistical Association and has won numerous other awards for his research focusing on methods for the analysis of longitudinal data and on the evaluation of biomarkers. He has also taught from middle school to graduate school, and was named the UW School of Public Health's Outstanding Teacher in 2009.

Patrick Heagerty, PhD

George Hripcsak is Vivian Beaumont Allen Professor and Chair of Columbia University's Department of Biomedical Informatics and Director of Medical Informatics Services for NewYork-Presbyterian Hospital/Columbia Campus. He is a board-certified internist with degrees in chemistry, medicine, and biostatistics. Dr. Hripcsak's current research focus is on the clinical information stored in electronic health records and on the development of next-generation health record systems. Using nonlinear time series analysis, machine learning, knowledge engineering, and natural language processing, he is developing the methods necessary to support clinical research and patient safety initiatives. He leads the Observational Health Data Sciences and Informatics (OHDSI) coordinating center; OHDSI is an international network with 160 researchers and 600 million patient records. He co-chaired the Meaningful Use Workgroup of U.S. Department of Health and Human Services's Office of the National Coordinator of Health Information Technology; it defines the criteria by which health care providers collect incentives for using electronic health records. He led the effort to create the Arden Syntax, a language for representing health knowledge that has become a national standard. Dr. Hripcsak chaired the U.S. National Library of Medicine's Biomedical Library and Informatics Review Committee, and he is a fellow of the National Academy of Medicine, the American College of Medical Informatics, and the New York Academy of Medicine.

George Hripcsak, MD, MS

Jim Hughes is a Professor of Biostatistics at the University of Washington (UW) and full member of the Fred Hutchinson Cancer Research Center. He received his PhD from the UW Department of Statistics in 1993. He is director of the University of Washington STI Cooperative Research Center Biostatistics Core and has served as lead statistician on a large number of HIV and STI clinical trials. Dr Hughes' research interests focus on statistical methods for the design and analysis of HIV and STI prevention trials with a particular interest on cluster randomized trials and step wedge trial designs. Dr. Hughes has received the American Association for Cancer Research Team Science Award (2011), the UW School of Public Health Outstanding Teaching award (2007) and was named the UW Prentice Professor of Biostatistics in 2013.

Jim Hughes, PhD

Predrag "Pedja" Klasnja is currently an Assistant Investigator at Group Health Research Institute. Dr. Klasnja's research focuses on how technology can help individuals effectively manage health behaviors, both on their own and in collaboration with their health care providers. He has extensive experience developing technological interventions to support health management and has helped guide the design and evaluation of behavior-change technologies. His work spans consumer health informatics and human-computer interaction, drawing on behavior science to provide a theoretical foundation for the interventions he develops.

Dr. Klasnja has a PhD in information science from the University of Washington and a bachelor's degree in physics and religious studies from the University of Tennessee.

Pedja Klasnja, PhD

Dr. Eric B. Larson is Vice President for Research, Group Health and Executive Director of the Group Health Research Institute. A graduate of Harvard Medical School, he trained in internal medicine at Beth Israel Hospital, in Boston, completed a Robert Wood Johnson Clinical Scholars and MPH program at the University of Washington, and then served as Chief Resident of University Hospital in Seattle. He served as Medical Director of University of Washington Medical Center and Associate Dean for Clinical Affairs from l989-2002. His research spans a range of general medicine topics and has focused on aging and dementia, including a long running study of aging and cognitive change set in Group Health Cooperative - The UW/Group Health Alzheimer's Disease Patient Registry/Adult Changes in Thought Study. He has served as President of the Society of General Internal Medicine, Chair of the OTA/DHHS Advisory Panel on Alzheimer's Disease and Related Disorders and was Chair of the Board of Regents (2004-05), American College of Physicians. He is an elected member of the National Academy of Sciences Institute of Medicine, now National Academy of Medicine.

Eric B. Larson, MD, MPH, MACP

Grace Lee, MD

Dr. Lee is Associate Professor of Population Medicine & Pediatrics at Harvard Pilgrim Health Care Institute & Harvard Medical School, Director of the Center for Healthcare Research in Pediatrics and Associate Medical Director of Infection Prevention and Control at Boston Children's Hospital. Dr. Lee has expertise in the use of qualitative and quantitative methods to understand decision-making by policymakers, hospitals, providers and patients. She has received grant funding from CDC, NIH and AHRQ to evaluate the impact of national payment or financing policies and immunization policies, understand barriers to the delivery of public health interventions, and develop new quality metrics and associated preventive interventions. Dr. Lee serves as the principal investigator on the CDC-funded Vaccine Safety Datalink project and as an investigator on the FDA-funded Sentinel Project. She is PI of an AHRQ-funded grant to develop a national surveillance definition for pediatric ventilator-associated events and to identify potential intervention bundles to improve quality of care. Dr. Lee has served as a member on the Institute of Medicine (IOM) Committee to Review Priorities in the National Vaccine Plan, IOM Committee on the Ethical and Scientific Issues in Studying the Safety of Approved Drugs. She is currently a member of the IOM Board on Population Health and Public Practice.

Todd A. Lee, PharmD, PhD

Todd A. Lee is Professor and Associate Head for Research in the Department of Pharmacy Systems, Outcomes and Policy at the University of Illinois at Chicago (UIC). He holds additional appointments in the Division of Epidemiology and Biostatistics in the School of Public Health and the Section of Pulmonary, Critical Care, Sleep and Allergy in the College of Medicine at UIC. Dr. Lee's research focuses on evaluation of outcomes from the use of medications with an emphasis on safety related issues associated with medication use. He has conducted both observational and interventional research across a variety of therapeutic areas including COPD, asthma, diabetes, cancer, and mental illness with particular interest in understanding the impact of multiple chronic conditions. He is currently directing a Reagan-Udall Foundation funded Center of Excellence focused on collecting and annotating research relevant to medication safety surveillance. Dr. Lee has received more than $20 million dollars in research funding from organizations that include the National Institute of Health, Department of Veterans Affairs, Robert Wood Johnson Foundation, and Agency for Healthcare Research and Quality and has published over 125 peer-reviewed journal articles.
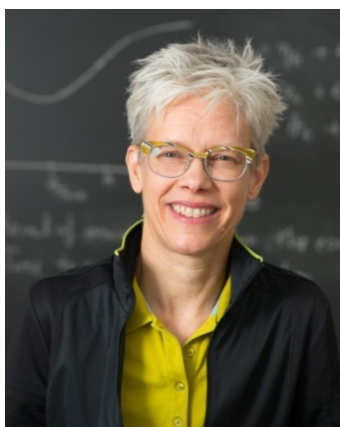
Susan A. Murphy, PhD

Susan A. Murphy is the H.E. Robbins Distinguished University Professor of Statistics & Professor of Psychiatry and a Research Professor at the Institute for Social Research. Her research focuses on improving sequential, individualized, decision making in health, in particular on clinical trial design and data analysis to inform the development of mobile health interventions. She participates in a variety of mobile health collaborations including the "Mobile Sensor Data to Knowledge," https://md2k.org/, Center for Complex Data to Knowledge in Drug Abuse and HIV Behavioral Science, https://methodology.psu.edu/node/657, and multiple R01's involving the development of just-in-time adaptive interventions in mobile health. Susan is a Fellow of the Institute of Mathematical Statistics, a Fellow of the College on Problems in Drug Dependence, a former editor of the Annals of Statistics, a member of the US National Academy of Sciences, the US National Academy of Medicine and a 2013 MacArthur Fellow.

Jennifer Nelson, PhD

Jennifer Nelson is Director of Biostatistics and a Senior Investigator at Group Health Research Institute and an Affiliate Professor of Biostatistics at the University of Washington (UW). She received her PhD in Biostatistics at the UW in 1999. Dr. Nelson's research focuses on methods to assess post-market drug and vaccine safety and effectiveness. She is particularly interested in addressing the statistical challenges of multi-site safety studies that use electronic health record data from large health care systems and has authored over 75 publications, primarily in this area. Since 2009, Dr. Nelson has provided national leadership as the Methods Core Co-Lead and Senior Statistician for the Food and Drug Administration's (FDA) Sentinel Initiative, a program designed to facilitate active and rapid safety surveillance for FDA-regulated medical products. She has also led the Methodology Committee for the Centers for Disease Control and Prevention sponsored Vaccine Safety Datalink (VSD) project, a national collaboration that has involved 10 health care systems and monitored vaccine safety in the U.S. since 1990. Dr. Nelson's honors include the 2009 VSD Margarette Kolczak Award for outstanding contributions in biostatistics and epidemiology in the field of vaccine safety and a 2013 American Journal of Epidemiology Article of the Year award.


Michael Nguyen, MD

Michael Nguyen is the Agency-wide Sentinel Program Lead at the US Food and Drug Administration (FDA). He serves in the Office of Surveillance and Epidemiology (OSE) under the direction of Dr. Gerald Dal Pan, the Sentinel Program's Executive Sponsor and OSE Director. He previously worked as the Deputy Director of the Division of Epidemiology in FDA's Office of Biostatistics and Epidemiology in the Center for Biologics Evaluation and Research (CBER), where he also served as the Lead for the CBER Sentinel Program since its inception. He received his undergraduate and medical degrees at the University of Rochester. Prior to working at the FDA, he trained in Pediatrics at Washington University in St. Louis, and served as an officer in the Epidemic Intelligence Service at the Centers for Disease Control and Prevention. He was born in Vietnam, grew up in Rochester, New York, and is currently married with three children.

C. David Page, PhD

David Page is Professor of Biostatistics and Medical Informatics in the School of Medicine and Public Health at the University of Wisconsin-Madison, with an appointment also in the Department of Computer Sciences where he teaches machine learning. He directs the Cancer Informatics Shared Resource of the University of Wisconsin's Carbone Cancer Center and is a member of the Genome Center of Wisconsin. He previously served on the NIH's BioData Management and Analysis Study Section and the scientific advisory boards for the Wisconsin Genomics Initiative and the Observational Medical Outcomes Partnership, as well as the editorial boards for Machine Learning and Data Mining and Knowledge Discovery. He currently is on the NLM Study Section and directs the Electronic Health Records project within UW-Madison's BD2K Center for Predictive Computational Phenotyping.
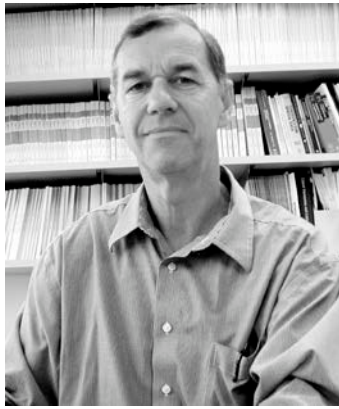
Ross Prentice, PhD

Ross Prentice is a Member in, and former Director of, the Public Health Sciences Division of the Fred Hutchinson Cancer Research Center, and is Professor of Biostatistics at the University of Washington. He served as Principal Investigator of the Clinical Coordinating Center for the Women's Health Initiative from 1992-2011. His personal research is mainly in the area of statistical methods development for population science research. Research support includes an NCI program grant that includes an emphasis on research designs and strategies for studies of diet, nutrition and chronic disease, including the strategy of strengthening observational studies through the inclusion of objective (biomarker) measures of nutrition and activity. He is a Member of the Institute of Medicine, and served on its Food and Nutrition Board. Honors include the Marvin Zelen Leadership Award from Harvard University, the Prentice Professorship for Biostatistical Collaboration at the University of Washington, the Research Excellence in Epidemiology and Prevention Award from the AACR and ACS, and the COPSS President's and R.A. Fisher Lectureship awards from the 'joint statistical societies'.

Michael Rosenblum, PhD

Michael Rosenblum is an Associate Professor of Biostatistics at the Johns Hopkins Bloomberg School of Public Health. Research interests include adaptive clinical trial designs, robustness to model misspecification, causal inference, and HIV/AIDS prevention and treatment. Recent funding includes PCORI funding for "Innovative Randomized Trial Designs to Generate Stronger Evidence about Subpopulation Benefits and Harms".

Susan Shortreed, PhD

Susan Shortreed is an Associate Investigator in the Biostatistics Unit at Group Health Research Institute. Dr. Shortreed's methodological work is focused on developing and evaluating statistical approaches for analyzing complex, longitudinal, observational data, such as data collected from electronic health care records. Specifically, she is interested in improving methods for creating individualized treatment strategies and selecting which pieces of information are important to include in analyses. Dr. Shortreed collaborates with scientists in a broad range of areas including cancer screening, chronic pain, drug safety in pregnancy, depression and suicide prevention.

Mark J. van der Laan is a Hsu/Peace Professor of Biostatistics at the University of California, Berkeley School of Public Health. He is the recipient of the 2005 COPSS Presidents' and Snedecor Awards, as well as the 2004 Spiegelman Award, and is a Founding Editor for the International Journal of Biostatistics and the Journal of Causal Inference. He has authored various books, and his most recent book is Targeted Learning: Causal Inference for Observational and Experimental Data, van der Laan, Rose (2011), Springer: New York.

Mark van der Laan, PhD

Dr. Zhao earned her PhD in Biostatistics from the University of North Carolina in 2012. Her statistical work includes methodologies for dynamic treatment regimes, longitudinal data analysis, observational data, and machine learning. Her collaborative research interests are in population health, epidemiology and translational biomedical science. Her statistical work in personalized medicine is particularly notable for these applications, including new statistical learning methodologies for individualized treatment rules. She is also interested in developing dynamic treatment regimens from complex observational and experimental data and communicating these regimens to clinical scientists.

Yingqi Zhao, PhD

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