

Roundtable on Data Science Postsecondary Education

Committee

Eric Kolaczyk

Co-Chair

Eric Kolaczyk (co-chair) is a professor of Mathematics and Statistics at Boston University. He obtained a BS degree in mathematics from the University of Chicago, and MS and PhD degrees in statistics from Stanford University. He has been on the faculty in the Department of Mathematics and Statistics at Boston University since 1998, and was faculty in the Department of Statistics at the University of Chicago before that. He also has been visiting faculty at Harvard University and l'Universite Paris VII. He currently teaches an annual short course at l'Ecole Nationale de la Statistique et de l'Administration Economique (ENSAE) in Paris. Professor Kolaczyk's main research interests currently revolve around the statistical analysis of network-indexed data, and include both the development of basic methodology and inter-disciplinary work with collaborators in bioinformatics, computer science, geography, neuroscience, and sociology. Besides various research articles on these topics, he has also authored two books in this area: *Statistical Analysis of Network Data: Methods and Models* (Springer, 2009) and, joint with Gabor Csardi, *Statistical Analysis of Network Data in R* (Springer, 2014). Prior to his working in the area of networks, Professor Kolaczyk spent a decade working on statistical multiscale modeling. He is an elected fellow of the American Statistical Association (ASA), an elected senior member of the Institute for Electrical and Electronics Engineers (IEEE), an elected member of the International Statistical Institute (ISI), and a member of the Institute of Mathematical Statistics (IMS).

Kathleen McKeown

Co-Chair

Kathleen R. McKeown (co-chair) is the Henry and Gertrude Rothschild Professor of Computer Science at Columbia University and she also serves as the Director of the Institute for Data Sciences and Engineering. She served as Department Chair from 1998-2003 and as Vice Dean for Research for the School of Engineering and Applied Science for two years. McKeown received a Ph.D. in Computer Science from the University of Pennsylvania in 1982 and has been at Columbia since then. Her research interests include text summarization, natural language generation, multi-media explanation, question-answering and multi-lingual applications. In 1985 she received a National Science Foundation Presidential Young Investigator Award, in 1991 she received a National Science Foundation Faculty Award for Women, in 1994 she was selected as a AAAI Fellow, in 2003 she was elected as an ACM Fellow, and in 2012 she was selected as one of the Founding Fellows of the Association for Computational Linguistics. In 2010, she received the Anita Borg Women of Vision Award in Innovation for her work on text summarization. McKeown is also quite active nationally. She has served as President, Vice President, and Secretary-Treasurer of the Association of Computational Linguistics. She has also served as a board member of the Computing Research Association and as secretary of the board.

John M. Abowd

Member

John M. Abowd is the Edmund Ezra Day Professor of Economics, Professor of Statistics and Information Science at Cornell University and the Associate Director for Research and Methodology and Chief Scientist at the United States Census Bureau. At the Census, he leads a directorate of research centers, each devoted to domains of investigation important to the future of social and economic statistics. At Cornell, his primary appointment remains in the Department of Economics in the ILR School. He is also Research Associate at the National Bureau of Economic Research, Research Affiliate at the Centre de Recherche en Economie et Statistique (CREST, Paris, France), Research Fellow at the Institute for Labor Economics (IZA, Bonn, Germany), and Research Fellow at IAB (Institut für Arbeitsmarkt-und Berufsforschung, Nürnberg, Germany). Abowd is the Director of the Labor Dynamics Institute at Cornell. He is the past President (2014-2015) and Fellow of the Society of Labor Economists. He is past Chair (2013) of the Business and Economic Statistics Section and Fellow of the American Statistical Association. He is an elected member of the International Statistical Institute. Abowd is also a fellow of the Econometric Society. He served as a Distinguished Senior Research Fellow at the United States Census Bureau (1998-2016). He served on the National Academies' Committee on National Statistics (2010-2016). He currently serves on the American Economic Association's Committee on Economic Statistics (2013-2018). He served as Director of the Cornell Institute for Social and Economic Research (CISER) from 1999 to 2007. Prof. Abowd has taught and done research at Cornell University since 1987, including seven years on the faculty of the Johnson Graduate School of Management. His current research and many activities of the LDI focus on the creation, dissemination, privacy protection, and use of linked, longitudinal data on employees and employers. In his earlier work at the Census Bureau he provided scientific leadership for the Longitudinal Employer-Household Dynamics Program, which produces research and public-use data integrating censuses, demographic surveys, economic surveys, and administrative data. The LEHD Program's public use data products include the Quarterly Workforce Indicators, the most detailed time series data produced on the demographic characteristics of local American labor markets and OnTheMap, a user-driven mapping tool for studying work-related commuting patterns. His original and ongoing research on integrated labor market data is done in collaboration with the Institut National de la Statistique et des Etudes Economiques (INSEE), the French national statistical institute. Prof. Abowd's other research interests include network models for integrated labor market data; statistical methods for confidentiality protection of micro-data; international comparisons of labor market outcomes; executive compensation with a focus on international comparisons; bargaining and other wage-setting institutions; and the econometric tools of labor market analysis. Prof. Abowd served on the faculty at Princeton University, the University of Chicago, and the Massachusetts Institute of Technology before coming to Cornell.

Deb Agarwal

Member

Deb Agarwal is a senior scientist at Lawrence Berkeley National Laboratory. Her research focuses on scientific tools which enable sharing of scientific experiments, advanced networking infrastructure to support sharing of scientific data, data analysis support infrastructure for eco-science, and cybersecurity infrastructure to secure collaborative environments. Dr. Agarwal is a Senior Fellow at the Berkeley Institute for Data science and an Inria International Chair, where she co-leads the DALHIS (Data Analysis on Large-scale Heterogeneous Infrastructures for Science) Inria Associated team. Dr. Agarwal also leads teams developing data server infrastructure to significantly enhance data browsing and analysis capabilities and enable eco-science synthesis at the watershed-scale to understand hydrologic and conservation questions and at the global-scale to understand carbon flux. Some of the projects Dr. Agarwal is working on include Genomes to Watersheds SFA2.0, AmeriFlux Management Project, FLUXNET, International Soil Carbon Network, and NGEET Tropics. Dr. Agarwal received her Ph.D. in electrical and computer engineering from University of California, Santa Barbara and a B.S. in Mechanical Engineering from Purdue University.

Ronald J. Brachman

Member

Ron Brachman is the Director of the Jacobs Technion-Cornell Institute and a professor of Computer Science at Cornell University. He is responsible for the oversight of all Institute activities and programs, continuing to develop its vision and strategy and grow it into a completely new role model of innovation for graduate education, while training new leaders who use deep science to change the world. Dr. Brachman received his B.S.E.E. from Princeton University (1971), from which he graduated Summa Cum Laude and Phi Beta Kappa. He was captain of the Heavyweight Crew his senior year. He received his S.M. (1972) and Ph.D. (1977) degrees in Applied Mathematics from Harvard University. His research specialization was Artificial Intelligence, specifically, Knowledge Representation and Reasoning, an area in which he went on to become a world-renowned authority, authoring dozens of highly-cited research papers, creating the new field of Description Logics, and co-authoring a leading textbook. Before coming to Cornell Tech, Ron had an outstanding career in research and research leadership at world-leading institutions like Bell Labs, AT&T Labs, DARPA, and Yahoo Labs – at these institutions he was responsible for recruiting world-class research teams and creating and leading innovative research and academic relationship programs. Ron has served as President of AAAI and currently serves on the Board of Directors of the Computing Research Association. He is a Fellow of ACM, IEEE, and AAAI.

Jeffrey Brock

Member

Jeffrey Brock is Director of the Data Science Initiative and Professor of Mathematics at Brown University. He focuses on low-dimensional geometry and topology, particularly on spaces with hyperbolic geometry (the most prevalent kind of non-Euclidean geometry). His joint work with R. Canary and Y. Minsky resulted in a solution to the “ending lamination conjecture” of W. Thurston, giving a kind of classification theorem for hyperbolic 3-dimensional manifolds that are topologically finite in terms of certain pieces of “mathematical DNA” called laminations. He received his undergraduate degree in mathematics at Yale University and his Ph.D. in mathematics from U.C. Berkeley, where he studied under Curtis McMullen. After holding postdoctoral positions at Stanford University and the University of Chicago, he came to Brown University as an associate professor. He was awarded the Donald D. Harrington Faculty Fellowship to visit the University of Texas and has had continuous National Science Foundation support since receiving his Ph.D. In 2008 he was awarded a John S. Guggenheim Foundation Fellowship. He and his wife Sarah live in Barrington, Rhode Island, with their two boys Elliot and Sam and their daughter Nora.

Alok N. Choudhary

Member

Alok Choudhary is Henry and Isabel Dever Professor of Electrical Engineering and Computer Science and a professor at the Kellogg School of Management at Northwestern University. He is the founding director of the Center for Ultra-scale Computing and Information Security (CUCIS), which involves several schools, national labs and universities. Professor Choudhary is a fellow of the Institute of Electrical and Electronics Engineers (IEEE), fellow of the Association of Computing Machinery (ACM), and a fellow of the American Academy of Advancement of Science (AAAS). Professor Choudhary is the founder, chairman and chief scientist of 4C, which is a big-data science and social media analytics company. 4C is formerly known as VoxSup Inc., and Professor Choudhary served as its chief executive officer from 2011 to 2013. Professor Choudhary was a co-founder and vice president of technology of Accelchip Inc., in 2000, which was eventually acquired by Xilinx. Professor Choudhary served as the chair of Electrical Engineering and Computer Science department from 2007 to 2011. From 1989 to 1996, Dr. Choudhary was on the faculty of the Electrical and Computer Engineering Department at Syracuse University. He is the recipient of the prestigious National Science Foundation's Presidential Young Investigator Award in 1993. He has also received an IEEE Engineering Foundation award, an IBM Faculty Development award, and an Intel Research Council award. In 2006, he received the first award for "Excellence in Research, Teaching and Service" from the McCormick School of Engineering. Professor Choudhary received his PhD in electrical and computer engineering from the University of Illinois, Urbana-Champaign, in 1989, an MS degree from the University of Massachusetts, Amherst, in 1986, and his BE (Hons.) degree from the Birla Institute of Technology and Science, Pilani, India in 1982.

E. Thomas Ewing

Member

E. Thomas Ewing is an associate dean for Graduate Studies, Research, and Diversity in the College of Liberal Arts and Human Sciences and a professor in the Department of History at Virginia Tech. His education included a B.A. from Williams College and a Ph.D. in history from the University of Michigan. He teaches courses in digital humanities and created the course “Data in Social Context”. His publications include, as author, *Separate Schools: Gender, Policy, and Practice in the Postwar Soviet Union* (2010) and *The Teachers of Stalinism. Policy, Practice, and Power in Soviet Schools in the 1930s* (2002); as editor, *Revolution and Pedagogy: Transnational Perspectives on the Social Foundations of Education* (2005); and as co-editor, with David Hicks, *Education and the Great Depression: Lessons from a Global History* (2006). He has received funding from the National Endowment for the Humanities, the Spencer Foundation, and the National Council for Eurasian and East European Research.

Emily Fox

Member

Emily Fox is an Associate Professor in the Paul G. Allen School of Computer Science & Engineering and Department of Statistics at the University of Washington, and is the Amazon Professor of Machine Learning. She received an S.B. in 2004 and Ph.D. in 2009 from the Department of Electrical Engineering and Computer Science at MIT. She has been awarded a Presidential Early Career Award for Scientists and Engineers (PECASE, 2017), Sloan Research Fellowship (2015), ONR Young Investigator award (2015), NSF CAREER award (2014), National Defense Science and Engineering Graduate (NDSEG) Fellowship, NSF Graduate Research Fellowship, NSF Mathematical Sciences Postdoctoral Research Fellowship, Leonard J. Savage Thesis Award in Applied Methodology (2009), and MIT EECS Jin-Au Kong Outstanding Doctoral Thesis Prize (2009). Her research interests are in large-scale Bayesian dynamic modeling and computations.

James Frew

Member

James Frew is an associate professor in the Bren School of Environmental Science and Management at the University of California, Santa Barbara (UCSB), and a principal investigator in UCSB's Earth Research Institute (ERI). His research interests lie in the emerging field of environmental informatics, a synthesis of computer, information, and Earth sciences. He is interested in information architectures that improve the discoverability, usability, and reliability of distributed environmental information. Trained as a geographer, he has worked in remote sensing, image processing, software architecture, massive distributed data systems, and digital libraries. His current research is focused on geospatial information provenance, science data curation, and applications of array databases, using remote sensing data products as operational test beds. He has affiliate appointments in UCSB's Departments of Geography and Computer Science. He received his PhD in geography from UCSB in 1990. As part of his doctoral research, he developed the Image Processing Workbench, an open-source set of software tools for remote sensing image processing. He served as both the manager and the acting director of UCSB's Computer Systems Laboratory (ERI's predecessor), and as the associate director of the Sequoia 2000 Project, a 3-year \$14M multi-campus consortium formed to investigate large-scale data management aspects of global change problems. He was a co-PI on the Alexandria Project (part of NSF's Digital Libraries Initiative), where he directed the development of the Alexandria Digital Earth Prototype (ADEPT) testbed system. He also served on the National Research Council's Committee on Earth Science Data Utilization, and as president (2009-2011) of the Federation of Earth Science Information Partners. During the 2005-2006 academic year, he was a visiting professor at the University of Edinburgh's Digital Curation Centre.

Constantine Gatsonis

Member

Constantine Gatsonis is Henry Ledyard Goddard university professor of Biostatistics at Brown University School of Public Health. He is the founding chair of the Department of Biostatistics and the founding director of Center for Statistical Sciences at Brown. Dr Gatsonis is a leading authority on the evaluation of diagnostic and screening tests and evidence synthesis for diagnostic accuracy studies. He has also made major contributions to the development of methods for medical technology assessment and health services and outcomes research. Dr Gatsonis is a co-founder of the American College of Radiology Imaging Network (ACRIN) and is now a Group Statistician for the ECOG-ACRIN collaborative group, an NCI-funded collaborative group conducting multi-center studies across the spectrum of cancer care. Dr Gatsonis chairs the Committee on Applied and Theoretical Statistics and is a member of the Committee on National Statistics and the Committee to Evaluate the Department of Veterans Affairs Mental Health Services. He has previously served on Academies committees for a variety of scientific and health-related topics, including forensic science, comparative effectiveness research, immunization safety, aviation security, and modified risk tobacco products. Dr Gatsonis was the founding editor-in-chief of Health Services and Outcomes Research Methodology and currently serves as Associate Editor of the Annals of Applied Statistics. He was also elected fellow of the American Statistical Association and received the 2015 Long-term Excellence Award from Health Policy Statistics section of the ASA. He has a B.A. in mathematics from Princeton, an M.A. in mathematics from Cornell, and a Ph.D. in mathematical statistics from Cornell.

Lise Getoor

Member

Lise Getoor is a professor in the computer science department at UC Santa Cruz and the director of the UC Santa Cruz D3 Data Science Center. Her research areas include machine learning and reasoning under uncertainty; in addition she works in data management, visual analytics, and social network analysis. She has over 200 publications and is a fellow of the Association for Artificial Intelligence, an elected board member of the International Machine Learning Society, serves on the board of the Computing Research Association, has served as Machine Learning Journal action editor, associate editor for the ACM Transactions of Knowledge Discovery from Data, JAIR associate editor, and on the AAAI Council. She is a recipient of an NSF Career Award and eleven best paper and best student paper awards. In 2014, she was recognized as one of the top ten emerging researchers in data mining and data science based on citation and impact according to KD Nuggets. She is on the external advisory board the San Diego Super Computer Center, and the scientific advisory board for the Max Planck Institute for Software Systems, and has served on the advisory board for companies including Sentient Technologies. She received her Ph.D. from Stanford University in 2001, her M.S. from UC Berkeley, and her B.S. from UC Santa Barbara, and was a professor at the University of Maryland, College Park from 2001-2013.

Mark L. Green

Member

Mark L. Green is the Distinguished Research Professor in the Department of Mathematics at the University of California at Los Angeles. He received his B.S. from the Massachusetts Institute of Technology and his M.A. and Ph.D. from Princeton University. After teaching at the University of California at Berkeley and MIT, he came to UCLA as an assistant professor in 1975. He was a founding co-director and later Director of the NSF-funded Institute for Pure and Applied Mathematics. Dr. Green's research has taken him into different areas of mathematics: several complex variables, differential geometry, commutative algebra, Hodge theory, and algebraic geometry. He received an Alfred P. Sloan fellowship, was an invited speaker at the International Congress of Mathematicians in Berlin in 1998 and gave the Chern Medal plenary laudation at the International Conference of Mathematicians in Seoul in 2014, and is a Fellow of the American Academy of Arts & Sciences, of the American Association for the Advancement of Science and of the American Mathematical Society. Prof. Green served as vice-chair of the high-profile BMSA study on The Mathematical Sciences in 2025, and served on the International Advisory Panel for the Canadian Long Range Planning Study for Mathematics. He was part of the US Delegation to the General Assembly of the International Mathematical Union in Bangalore in 2010 and Chair of the Committee of Visitors for the Division of Mathematical Sciences at NSF in 2013. He has served on the scientific boards of the Institute for Pure and Applied Mathematics, the Centre de Recherches Mathematiques and the Banff International Research Station, and was a Trustee of the American Mathematical Society. He served on the Mathematical Advisory Panel for the exhibition "Man Ray: Human Equations" at the Phillips Collection in Washington, DC. He serves on the Board of Governors of the group Transforming Postsecondary Education in Math, and the Advisory Committee of the Association for Women in Mathematics and on the Board on Mathematical Sciences and Analytics.

Alfred O. Hero, III

Member

Alfred O. Hero III is the R. Jamison and Betty Williams Professor of Engineering at the University of Michigan. He received the BS (summa cum laude) from Boston University (1980) and PhD from Princeton University (1984), both in electrical engineering. His primary appointment is in the Department of Electrical Engineering and Computer Science and he also has appointments, by courtesy, in the Department of Biomedical Engineering and the Department of Statistics. In 2008 he was awarded the Digiteo Chaire d'Excellence, sponsored by Digiteo Research Park in Paris, located at the Ecole Supérieure d'Electricité, Gif-sur-Yvette, France. He is an Institute of Electrical and Electronics Engineers (IEEE) Fellow and several of his research articles have received best paper awards. Professor Hero was awarded the University of Michigan Distinguished Faculty Achievement Award (2011). He received the IEEE Signal Processing Society Meritorious Service Award (1998) and the IEEE Third Millennium Medal (2000). He was president of the IEEE Signal Processing Society (2006-2008) and was on the Board of Directors of the IEEE (2009-2011) where he served as Director of Division IX (Signals and Applications). Dr. Hero's recent research interests have been in detection, classification, pattern analysis, and adaptive sampling for spatio-temporal data. Of particular interest are applications to network security, multimodal sensing and tracking, biomedical imaging, and genomic signal processing.

Nicholas Horton

Member

Nicholas Horton is a Professor of Statistics at Amherst College. He has taught a variety of courses in statistics and related fields and is passionate about improving quantitative and computational literacy for students with a variety of backgrounds as well as engagement and mastery of higher-level concepts and capacities to undertake research. He is the Chair of the Committee of Presidents of Statistical Societies and has served on the Board of Directors of the American Statistical Association and as Chair of the Statistical Education Section of the ASA. He has published more than 150 papers in statistics and biomedical research and four books on statistical computing and data science. He has been the recipient of a number of national teaching awards. As an applied biostatistician, Dr. Horton's work is based squarely within the mathematical sciences, but spans other fields in order to ensure that research is conducted on a sound footing. The real-world research problems that these investigators face often require the use of novel solutions and approaches, since existing methodology is sometimes inadequate. Bridging the gap between theory and practice in interdisciplinary settings is often a challenge, and has been a particular focus of Dr. Horton's work. Dr. Horton earned his Sc.D. in biostatistics from the Harvard School of Public Health.

Eric Horvitz

Member

Eric Horvitz (NAE) is a technical fellow and director at Microsoft Research. His interests include theoretical and practical challenges with developing computing systems that can learn from data and that can perceive, reason, and make decisions. His efforts and collaborations have led to fielded systems in the areas of online services, healthcare, transportation, ecommerce, operating systems, and aerospace. He has received the Feigenbaum Prize and the ACM-AAAI Allen Newell Prize for his contributions to artificial intelligence. He has been elected fellow of AAAI, ACM, and the National Academy of Engineering (NAE). He served as president of the AAAI and has served on advisory boards for the Allen Institute for Artificial Intelligence, NSF, NIH, DARPA, the Computing Community Consortium (CCC), and the Computer Science and Telecommunications Board (CSTB). He is co-chair of the Partnership on AI to Benefit People and Society, recently announced by Amazon, Facebook, Google, IBM, and Microsoft. Eric did his doctoral work at Stanford University.

Bill Howe

Member

Bill Howe is an associate professor in the Information School, adjunct associate professor in Computer Science and Engineering, and associate director of the University of Washington (UW) eScience Institute. His research interests are in data management, curation, analytics, and visualization in the sciences. Howe played a leadership role in the Data Science Environment program at UW through a \$32.8 million grant awarded jointly to UW, New York University, and University of California, Berkeley. With support from the MacArthur Foundation and Microsoft, Howe leads UW's participation in the national MetroLab Network focused on smart cities and data-intensive urban science. He also led the creation of the UW Data Science Master's Degree and serves as its inaugural program director and faculty chair. He has received two Jim Gray Seed Grant awards from Microsoft Research for work on managing environmental data, has had two papers selected for Very Large Databases Journal's "Best of Conference" issues (2004 and 2010), and co-authored what are currently the most-cited papers from both Very Large Databases (2010) and Special Interest Group on Management of Data (2012). Howe serves on the program and organizing committees for a number of conferences in the area of databases and scientific data management, developed a first MOOC on data science that attracted over 200,000 students across two offerings, and founded UW's Data Science for Social Good program. He has a PhD in computer science from Portland State University and a bachelor's degree in industrial and systems engineering from Georgia Tech.

Charles Isbell

Member

Charles Isbell has been a leader in education efforts both at Georgia Tech's College of Computing, where he is Senior Associate Dean for Academic Affairs, and nationally, where he has co-chaired the Computing Research Association's Subcommittee on Education and currently co-chairs the Coalition to Diversify Computing. At Georgia Tech, Dr. Isbell was one of the co-leaders of Threads. Threads is a successful, comprehensive restructuring of the computing curriculum that provided a cohesive, coordinated set of contexts or threads for teaching and learning computing skills, with a goal of making computing more inclusive, relevant and exciting for a much broader audience. Dr. Isbell has won numerous teaching awards. Dr. Isbell received his Ph.D. from MIT. His research focuses on artificial intelligence and machine learning.

Mark E. Krzysko

Member

Mark E. Krzysko is Deputy Director of Enterprise Information for the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics Acquisition Resources and Analysis. In this role, Mr. Krzysko champions and facilitates innovative uses of information technologies to improve and streamline the acquisition process. Prior to this position, he served as the Deputy Director of Defense Procurement & Acquisition Policy in the Electronic Business Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. He also served as the Division Director of Electronic Commerce Solutions for the Naval Air Systems Command, in various senior level acquisition positions at the Naval Air Systems Command, and as Program Manager of Partnering, the Acquisition Business Process Reengineering Effort, and as Acquisition Program Manager for the Program Executive Office for Tactical Aircraft. Mr. Krzysko began his career in the private retail sector in various executive and managerial positions. He holds a Bachelor of Science Degree in Finance and a Master of General Administration, Financial Management from the University of Maryland, University College.

Duncan T. Lang

Member

Duncan Temple-Lang is a professor in the Department of Statistics, and director of the Data Sciences Initiative at the University of California, Davis. He joined UC-Davis in January of 2004. Prior to that, Dr. Lang worked in the Statistics and Data Mining group at Bell Labs, the research arm of Lucent Technologies. He graduated from the University of California, Berkeley with a Ph.D. in statistics, primarily in statistical computing systems. While trained in statistics, the focus of his research is innovations in information technology and integrating computer science research concepts with the process of scientific and statistical research. An important aspect of his work is to facilitate the integration of software from different communities. Dr. Temple Lang returned to academia from industrial research with the purpose of introducing modern statistical computing to the statistics curriculum.

Rachel Levy

Member

Rachel Levy joined the Mathematical Association of America (MAA) in Fall of 2018 as Deputy Executive Director. She came from Harvey Mudd College, where she was Professor of Mathematics and Associate Dean for Faculty Development. As Vice President for Education for the Society for Industrial and Applied Mathematics (SIAM), she advocated internationally for mathematical modeling education connecting K-16 to careers. She has co-authored a PDE text, served as a lead author of the Guidelines for Assessment and Instruction in Mathematical Modeling Education (GAIMME report), and The BIG Jobs Guide. She was a recipient of the 2016 Harvey Mudd College Outstanding Faculty Member Award and recognized by Princeton Press in The Best Writing on Mathematics series. She received a 2016-17 National Council of Teachers of Mathematics award for Linking Research and Practice and received a 2013 MAA Alder Award for teaching.

Brandeis Marshall

Member

Brandeis Marshall is an Associate Professor of Computer Science and Chair of the Computer and Information Sciences Department at Spelman College. She received her PhD and M.S. in Computer Science from Rensselaer Polytechnic Institute and her B.S. in Computer Science from the University of Rochester. Her research lies in the areas of information retrieval, data science, data mining, and social media. Dr. Marshall is the principal investigator of an NSF HBCU-UP Targeted Infusion Project entitled Data Science eXtension (<http://dsxhub.org>) that is integrating data science fundamentals into courses at Spelman and Morehouse Colleges. Dr. Marshall is also the Director of the Data Analytics and Exploration (da+e) Laboratory, a research and education environment that aims to address real-world data issues, challenges and solutions funded by federal and industry organizations. The da+e lab activities include timely data acquisition for aviation, BlackTwitter Project, and data/database security curricular development. She is active in mentoring the next generation of STEM professionals, particularly those from under-represented groups. These engagements include, but are not limited to serving on the program committees for the ACM Richard Tapia Diversity in Computing Conference and Grace Hopper Celebration of Women in Computing. From 2013-2016, she co-chaired the Broadening Participation in Data Mining Program (BPDM), co-located with the ACM SIGKDD Conference on Knowledge Discovery and Data Mining. BPDM fosters mentorship, guidance, and connections of minority and underrepresented groups in Data Mining, while also enriching technical aptitude and exposure.

Chris Mentzel

Member

Chris Mentzel is director of the Data-Driven Discovery Initiative at the Gordon and Betty Moore Foundation. Previously, he led the grants administration department and also worked as senior network engineer for the foundation. He has also held positions as a systems engineer and integrator at the University of California, Berkeley, and at various Internet consulting firms in the Bay Area. An active member of the broader big data and open science communities, Chris serves on a number of advisory boards and program committees and speaks frequently at conferences and workshops on topics related to data-driven research. Chris received a BA in mathematics from the University of California, Santa Cruz, and an MSc in management science and engineering at Stanford University.

Nina Mishra

Member

Nina Mishra is a Principal Scientist at Amazon in Palo Alto, CA. Her research interests are in data science, data mining, web search, machine learning and privacy. Mishra has over 16 years of experience leading projects in industry at Microsoft Research and HP Labs and over 6 years of experience in academia as Associate Professor at the University of Virginia and Acting Faculty at Stanford University. The projects that Mishra pursues encompass the design and evaluation of new data mining algorithms on real, colossal-sized datasets. She has authored ~50 publications in top venues including: Web Search: WWW, WSDM, SIGIR; Machine Learning: ICML, NIPS, AAAI, COLT; Databases: VLDB, PODS; Cryptography: CRYPTO, EUROCRYPT; Theory: FOCS and SODA. She has been granted 13 patent applications with a dozen more still in the application stage. Dr. Mishra received her Ph.D. in Computer Science from the University of Illinois, Urbana-Champaign.

Deborah Nolan

Member

Deborah Nolan is the chair of the statistics department and holds the Zaffaroni Family Chair at the University of California, Berkeley. Her research has involved the empirical process, high-dimensional modeling, cross-validation, and most recently technology in education and reproducible research. Professor Nolan has been recognized at Berkeley for excellence in teaching and undergraduate student advising and is noted for working with and encouraging all students in their understanding of statistics. She co-directs the Cal Teach and Math for America, Berkeley programs. Deborah also organizes Explorations in Statistics Research, a multi-campus summer program to encourage undergraduates to pursue graduate studies in statistics. Deborah is elected Fellow of the American Statistical Association and Fellow of the Institute of Mathematical Statistics. She is co-author of Stat Labs with Terry Speed, Teaching Statistics with Andrew Gelman, and data science in R with Duncan Temple Lang. Nolan received her AB from Vassar College and her PhD in statistics from Yale University.

Peter Norvig

Member

Peter Norvig is a Director of Research at Google Inc. He previously directed Google's core search algorithms group. He is co-author of *Artificial Intelligence: A Modern Approach*, the leading textbook in the field, and co-teacher of an Artificial Intelligence class that signed up 160,000 students, helping to kick off the current round of massive open online classes. He is a fellow of the AAAI, ACM, California Academy of Science, and American Academy of Arts & Sciences.

Antonio Ortega

Member

Antonio Ortega received the Telecommunications Engineering degree from the Universidad Politecnica de Madrid, Madrid, Spain in 1989 and the Ph.D. in Electrical Engineering from Columbia University, New York, NY in 1994. In 1994 he joined the Electrical Engineering department at the University of Southern California (USC), where he is currently a Professor and has served as Associate Chair. He is also a visiting Professor at National Institute of Informatics, Tokyo, Japan. He is a Fellow of the IEEE and a member of ACM and APSIPA. He is currently a member of the Board of Governors of the IEEE Signal Processing Society (SPS), the inaugural Editor-in-Chief of the APSIPA Transactions on Signal and Information Processing, launched by APSIPA and Cambridge University Press in 2012, and a senior area editor for IEEE Transactions on Image Processing. He has received several paper awards, including most recently the 2016 IEEE Signal Processing Magazine Award. His recent research work has focused on multiview coding, error tolerant compression, wavelet-based signal analysis, wireless sensor networks and graph signal processing. Close to 40 PhD students have completed their PhD thesis under his supervision at USC and his work has led to about 400 publications in international conferences and journals, as well as several patents.

Claudia Perlich

Member

Claudia Perlich is the chief scientist at Dstillery, leading the machine learning efforts that power Dstillery's digital intelligence for marketers and media companies. With more than 50 published scientific articles, she is a widely acclaimed expert on big data and machine learning applications, and an active speaker at data science and marketing conferences around the world. Claudia is the past winner of the Advertising Research Foundation's (ARF) Grand Innovation Award and has been selected for Crain's New York's 40 Under 40 list, Wired Magazine's Smart List, and Fast Company's 100 Most Creative People. Claudia holds multiple patents in machine learning. She has won many data mining competitions and awards at Knowledge Discovery and Data Mining (KDD) conferences, and served as the organization's General Chair in 2014. Prior to joining Dstillery in 2010, Claudia worked at IBM's Watson Research Center, focusing on data analytics and machine learning. She holds a PhD in information systems from New York University (where she continues to teach at the Stern School of Business), and an MA in computer science from the University of Colorado.

Patrick Perry

Member

Patrick O. Perry is a statistician developing tools and methodology for nontraditional data, especially text and networks. He has worked on text summarization and scaling methods, dynamic network analysis, clustering methods for networks and other data, fitting methods for large-scale hierarchical models, and latent factor methods for high-dimensional data. His work has appeared in the Journal of the Royal Statistical Society, the Annals of Applied Statistics, and the Journal of Machine Learning Research, among other venues. Perry has developed and released open source implementations of his methods for the R software environment, and he has written a variety of other software packages for data analysis in the C and Haskell programming languages. Currently, Perry is an assistant professor of Information, Operations, and Management Sciences at the New York University Stern School of Business. He teaches courses in introductory statistics, forecasting time series data, and statistics for social data. Perry received a BS in mathematics, an MS in electrical engineering and a PhD in statistics from Stanford University, and he completed a postdoctoral fellowship at Harvard University.

Mehran Sahami

Member

Mehran Sahami is a Professor (Teaching) and Associate Chair for Education in the Computer Science department at Stanford University. He is also the Robert and Ruth Halperin University Fellow in Undergraduate Education. Mehran's research interests include computer science education, machine learning, and web search. Prior to joining the Stanford faculty in 2007, he was a Senior Research Scientist at Google. He served as co-chair of the ACM/IEEE-CS joint task force on Computer Science Curricula 2013, which created curricular guidelines for college programs in Computer Science at an international level. Mehran is also immediate past co-chair of the ACM Education Board and was appointed by California Governor Jerry Brown to serve on the K12 California CS Strategic Implementation Advisory Panel. He co-founded the Symposium on Educational Advances in Artificial Intelligence (EAAI) and the ACM Conference on Learning at Scale (L@S).

Victoria Stodden

Member

Victoria Stodden is an associate professor in the School of Information Sciences at the University of Illinois at Urbana-Champaign. She is a leading figure in the area of reproducibility in computational science, exploring how we can better ensure the reliability and usefulness of scientific results in the face of increasingly sophisticated computational approaches to research. Her work addresses a wide range of topics, including standards of openness for data and code sharing, legal and policy barriers to disseminating reproducible research, robustness in replicated findings, cyberinfrastructure to enable reproducibility, and scientific publishing practices. Stodden co-chairs the National Science Foundation (NSF) Advisory Committee for CyberInfrastructure and is a member of the NSF Directorate for Computer and Information Science and Engineering (CISE) Advisory Committee. She also serves on the National Academies' Committee on Responsible Science: Ensuring the Integrity of the Research Process. Previously an assistant professor of statistics at Columbia University, Stodden taught courses in data science, reproducible research, and statistical theory and was affiliated with the Institute for Data Sciences and Engineering. She co-edited two books released in 2014—Privacy, Big Data, and the Public Good: Frameworks for Engagement published by Cambridge University Press and Implementing Reproducible Research published by Taylor & Francis. Stodden earned both her PhD in statistics and her law degree from Stanford University. She also holds a master's degree in economics from the University of British Columbia and a bachelor's degree in economics from the University of Ottawa.

P. U. Treisman

Member

Uri Treisman is Executive Director of the Charles A. Dana Center for Mathematics and Science Education and University Distinguished Teaching Professor of Mathematics and Public Affairs at The University of Texas at Austin. He is a Distinguished Senior Fellow at the Education Commission of the States and Chair of the Strong Start to Finish (SSTF) campaign's Expert Advisory Board, a joint initiative of the Bill & Melinda Gates Foundation, the Kresge Foundation, and the Great Lakes Higher Education Guaranty Corporation. SSTF is focused on supporting innovation at scale in American higher education (strongstart.org). Uri is active in the leadership of organizations working to improve American mathematics education. He is a founding member of Transforming Postsecondary Education in Mathematics (tpsemath.org) and serves as the representative of the American Mathematical Society to the American Association for the Advancement of Science (Education, Section Q). He leads the Dana Center Mathematics Pathways (dcmathpathways.org), an initiative that works to modernize entry-level college mathematics course sequences, and the Urban Mathematics Leadership Network, that supports mathematics leadership teams in America's largest urban school districts. He has served on the STEM working group of the President's Council of Advisors on Science and Technology, on the 21st-Century Commission on the Future of Community Colleges of the American Association of Community Colleges, and on the Carnegie/IAS Commission on Mathematics and Science Education. For his work in nurturing minority student high achievement in postsecondary mathematics, he was named a MacArthur Fellow in 1992 and the Harvard Foundation's Scientist of the Year in 2006.

Mark Tygert

Member

Mark Tygert is a research scientist for Facebook Artificial Intelligence Research. Prior to this position, he was on the faculty at NYU's Courant Institute, UCLA, and Yale. He received his B.A. in mathematics from Princeton University, and his Ph.D. from Yale University. His research has focused on fast spherical harmonic transforms, randomized algorithms for linear algebra, and complements to chi-square tests. His recent honors include the 2010 William O. Baker Award from the U.S. National Academy of Sciences and the 2012 DARPA Young Faculty Award. His current research interests are in machine learning, statistics, and computational science and engineering, particularly numerical analysis.

Jeffrey D. Ullman

Member

Jeffrey D. Ullman (NAE) is the S.W. Ascherman Professor of Engineering (Emeritus) at Stanford University, where he taught in the Department of Computer Science from 1979 to 2002. He worked at Bell Laboratories from 1966 to 1969 and taught at Princeton University (from which he also received his PhD in 1966) between 1969 and 1979. He is the author or coauthor of widely read textbooks in compilers, databases, and algorithms, as well as the book in automata on which his automata course is based and the book on data mining on which his “Mining of Massive Datasets” course is based. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences and winner of the ACM Karl V. Karlstrom Education award, the IEEE Von Neumann Medal, and the Knuth Prize.

Jessica M. Utts

Member

Jessica Utts is a professor of statistics at the University of California at Irvine where she served as Chair from 2010 to 2016. During her tenure as chair the Statistics Department created an undergraduate major in Data Science. She was also the 2016 President of the American Statistical Association (ASA), and during her presidential year the ASA Board discussed and endorsed the DeVeaux et al report “Curriculum Guidelines for Undergraduate Programs in Data Science.” She received her BA in math and psychology at SUNY Binghamton, and her MA and Ph.D. in statistics at Penn State University. She is the author of *Seeing Through Statistics* and the co-author with Robert Heckard of *Mind on Statistics and Statistical Ideas and Methods*. Jessica has been active in the statistics education community at the high school and college levels. She served as a member and then chaired the Advanced Placement Statistics Development Committee for six years, and currently serves as the Chief Reader for AP Statistics. She was a member of the American Statistical Association task force that produced the Guidelines for Assessment and Instruction in Statistics Education (GAISE) recommendations for elementary statistics courses. She was a founding member of the Statistics Department at the University of California, Davis, and spent many years on the faculty before moving to UC Irvine in 2008. She is the recipient of the Academic Senate Distinguished Teaching Award and the Magnar Ronning Award for Teaching Excellence, both at the University of California at Davis. She is also a fellow of the American Statistical Association, the Institute of Mathematical Statistics, and the American Association for the Advancement of Science. Beyond statistics education, Jessica’s major contributions have been in applying statistics to a variety of disciplines, most notably to parapsychology, the laboratory study of psychic phenomena. She has appeared on numerous television shows, including *Larry King Live*, *ABC Nightline*, *CNN Morning News*, and *20/20*, and appears in a documentary included on the DVD with the movie *Suspect Zero*.

Jane Ye

Member

Jane Ye is a Program Officer at the National Institutes of Health where she manages a portfolio of advanced research projects in biomedical informatics with a special focus on bioinformatics and translational informatics. She has graduate degrees from Dartmouth College and Cornell University. Jane spent the past 15 years as a program officer at the National Institutes of Health (NIH). Most of the research projects in her portfolio involve the application of computer and information sciences to improve the access, storage, retrieval, management, dissemination and use of biomedical information. Before coming to the NIH, she worked in the private sector as a senior bioinformatics scientist working on genomic data and gene discovery. She made contributions to the sequencing and publishing of human genome.