

Panel on Review of the Information Technology Laboratory at the National Institute of Standards and Technology

Committee

Constantine Gatsonis

Chair

CONSTANTINE GATSONIS is the Henry Ledyard Goddard Professor and Chair of the Department of Biostatistics at Brown University School of Public Health. Dr. Gatsonis is a leading authority on the evaluation of diagnostic and screening tests and has extensive involvement in methodologic research in medical technology assessment and in health services and outcomes research. He is Group Statistician of the American College of Radiology Imaging Network (ACRIN), a National Cancer Institute funded collaborative group conducting multi-center studies of diagnostic imaging and image-guided therapy for cancer. In his ACRIN work, Dr. Gatsonis is Chief Statistician of the Digital Mammography Imaging Screening Trial (DMIST) and Chief Statistician for ACRIN's arm of the National Lung Screening Trial (NLST). Dr. Gatsonis earned a B.A. in Mathematics from Princeton University and an M.S. and Ph.D. Mathematical Statistics from Cornell University.

Narendra Ahuja

Member

NARENDRA AHUJA is the Donald Biggar Willett Professor of Engineering in the Department of Electrical and Computer Engineering, and the Coordinated Science Laboratory (CSL) at the Beckman Institute in the University of Illinois Urbana-Campaign and a full-time faculty member in the Beckman Institute Artificial Intelligence group. His fields of professional interest are next generation cameras, 3D computer vision, video analysis, image analysis, pattern recognition, human computer interaction, image processing, image synthesis, and robotics. The central theme of Dr. Ahuja's research is the understanding of computational relationships between images and 3D scenes for human-computer interaction. Recent work has led to a family of versatile new cameras that extend the capabilities of the traditional devices in a variety of ways. His work on 3D vision has emphasized scene description by integrating information in different visual cues, such as stereo, texture, motion, and shading. As a part of 3D vision, he has also developed camera systems that, like human eyes, actively select, focus, and analyze different parts of the scene. He has introduced novel methodologies for using the derived 3D descriptions of the scenes for autonomous robot navigation, video compression and video synthesis. He received his Ph.D. from the University of Maryland.

Don E. Detmer

Member

DON DETMER, IOM, is University Professor of Health Policy (Emeritus) and Professor of Medical Education in the Department of Public Health Sciences at the University of Virginia School of Medicine, Senior Advisor to the American Medical Informatics Association, and Visiting Professor at the Center for Health Informatics and Multiprofessional Education (CHIME) at the University College of London. Dr. Detmer's research interests include national and international health information and communications policy, quality improvement, administrative medicine, vascular surgery, education of clinician-executives, and leadership of academic health sciences centers. He is the founder and co-chair of the Blue Ridge Academic Health Group, chair of the IOM membership committee, Chair of the board of MedBiquitous, Associate Editor of AMIA's Standards, and a director of the Corporation for National Research Initiatives. He is a member of the Institute of Medicine, a lifetime Associate of the National Academies, a recipient of the IOM's Walsh McDermott medal for lifetime contributions, and a fellow of American Association for the Advancement of Science (AAAS), American College of Medical Informatics, American College of Surgeons, and American College of Sports Medicine (emeritus). Dr. Detmer is the immediate past President and CEO of the AMIA and is a past Chairman of the IOM Board on Health Care Services, National Library of Medicine (NLM) Board of Regents, and the National Committee on Vital and Health Statistics (NCVHS). He sat on the Strategic Plan Work Group of the Policy Advisory Committee to the Office of the National Coordinator for Health Information Technology (HIT). He chairs the Steering Committee of the AMIA Global Partnership Program. Faculty appointments have been held at University of Wisconsin-Madison, University of Utah, University of Virginia, and Cambridge University. He served as Vice-President for Health Sciences at Utah and Virginia. His education and training include work at the University of Kansas, Johns Hopkins University, the National Institutes of Health, Duke University, the Institute of Medicine, and the Harvard Business School. He earned an M.A. from Cambridge University and an M.D. from the University of Kansas.

Luis A. Escobar

Member

LUIS A. ESCOBAR is a Professor in the Department of Experimental Statistics at the Louisiana State University. His research and consulting interests include statistical analysis of reliability data, accelerated testing, survival analysis, and linear and non-linear models. He previously served as a member of the technical staff in the Quality Assurance Center of AT&T Bell Laboratories. Dr. Escobar is President of the Inter-American Statistical Institute. He is also an Associate Editor for "Lifetime Data Analysis" and past Associate Editor for "Technometrics." He is a fellow of the American Statistical Association and an elected member of the International Statistics Institute. Dr. Escobar earned a B.S. in Administrative Engineering from National University in Medellin, Colombia, an M.S. degree in Statistics from the Inter-American Statistical Training Center in Santiago, Chile, and a Ph.D. in Statistics from Iowa State University.

Peter T. Higgins

Member

PETER T. HIGGINS is Principal Scientist and Founder of Higgins & Associates, International, which is now the Higgins-Hermansen Group, LLC. He has 35 years of experience in the information technology field and has been involved with biometrics since the late 1980s. He is a well-known consultant in the field of large-scale biometric procurement and testing and is also an instructor in biometrics at the University of California Los Angeles Extension School. He has chaired the International Association for Identification's Automated Fingerprint Identification System (AFIS) Committee for 5 years . Previously he served as Deputy Assistant Director of Engineering with the Federal Bureau of Investigation (FBI) and was the Program Manager for the FBI's Integrated Automated Fingerprint Identification System (IAFIS). Prior to this he served in technical, operational, and executive positions with the Central Intelligence Agency. Mr. Higgins received a B.A. in Mathematics from Marist College and an M.S. in Theoretical Mathematics and Computer Science from Stevens Institute of Technology.

Gerard J. Holzmann

Member

GERARD J. HOLZMANN, NAE is the Senior Faculty Associate in Computer Science with Caltech CMS. His research interests include: software reliability/safety, formal methods, analysis of multi-threaded code, logic model checking and software engineering. A focus of his work is the design of tools that can bridge the gap between theory and practice in the area of software analysis, test, and verification. He was previously a Fellow and a Senior Research Scientist at the National Aeronautics and Space Administration's Jet Propulsion Laboratory and also held positions as Director of Computing Principles Research and Distinguished Member of Technical Staff at Bell Laboratories. He holds a B.Sc, M.Sc., and a Ph.D. in Electrical Engineering and Computer Science from Delft University of Technology, in the Netherlands.

Anil K. Jain

Member

ANIL K. JAIN is a University Distinguished Professor in the Departments of Computer Science and Engineering, and Electrical and Computer Engineering at Michigan State University. His research interests include pattern recognition, computer vision, and biometric recognition. He is a Fellow of the Association for Computing Machinery (ACM), Institute of Electrical and Electronics Engineers (IEEE), American Association for the Advancement of Science (AAAS), International Association for Pattern Recognition (IAPR) and the international society for optics and photonics (SPIE). He is also the holder of six patents in the area of fingerprints (which were transferred to IBM), and is the author of several books: "Handbook of Biometrics," "Handbook of Multibiometrics," "Handbook of Face Recognition," "Handbook of Fingerprint Recognition," "Markov Random Fields: Theory and Applications," and "Algorithms For Clustering Data." He received a B.Tech. from the Indian Institute of Technology in Kanpur, India, an M.S. and Ph.D. from Ohio State University, in Electrical Engineering.

Nikil S. Jayant

Member

NIKIL S. JAYANT, NAE is Emeritus Professor at Georgia Institute of Technology where he was a Georgia Research Alliance Eminent Scholar and the Executive Director of the Georgia Centers for Advanced Telecommunication Technology. He is currently an Adjunct Professor with the University of California at Santa Barbara. Prior to his 15-plus-year career in academia, he worked at Bell Laboratories for nearly 30 years, as an individual Researcher and as the Founding Director of three research organizations in the areas of audiovisual signal processing and digital communications. Contributions of his individual and team research are reflected in International Telecommunication Union (ITU) and ISO-MPEG standards for multimedia communications, and in U.S. standards for HDTV and Digital Audio Radio. He was also the co-founder of two video communications companies in the areas of compression and automatic quality assessment. Dr. Jayant holds 40 patents. He has been inducted into the New Jersey inventors Hall of Fame and named a Distinguished Alumnus of the Indian Institute of Science. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) and a member of the National Academy of Engineering. He has a Ph.D. in Digital Communications from the Indian Institute of Science.

Karen Kafadar

Member

KAREN KAFADAR is the Chair and Commonwealth Professor in the Department of Statistics at the University of Virginia. She was previously the Professor of Statistics in the Department of Mathematical and Statistical Sciences at the University of Colorado at Denver. Her research focuses on robust methods, data analysis, and characterization of uncertainty in the physical, chemical, biological, and engineering sciences. Her previous appointments include the National Institute of Standards and Technology (NIST), Hewlett Packard, and the National Cancer Institute. At the University of Colorado, she directed the Statistical Consulting Service, collaborated with researchers in the School of Medicine, and taught courses in applied and theoretical statistics. She has served as Editor or Associate Editor on several editorial review boards and on the governing boards of the American Statistical Association (ASA), the Institute of Mathematical Statistics, and the International Statistical Institute. She received her B.S. in Mathematics, an M.S. in Statistics from Stanford, and her Ph.D. in Statistics from Princeton.

James M. Landwehr

Member

JAMES M. LANDWEHR is retired from his position as Director, Data Analysis Research Department, Avaya Labs, Basking Ridge, NJ. Previously he was a member of the Bell Labs Statistics and Data Analysis Research Department in Murray Hill, NJ, where he was appointed a Distinguished Member of the Technical Staff and Research Supervisor. In 2000 he assumed the Avaya position when Avaya was spun off from Lucent Technologies. His research areas have included creating integrated analytical capabilities for contact centers from detailed process and event data; assessing and monitoring data networks so that VoIP and video could be deployed and maintained with high quality-of-service; classification and clustering; modeling for categorical data and logistic regression; and a wide variety of applications. One of his papers won the American Statistical Association (ASA) Outstanding Statistical Application Award in 2003 and the Frank Wilcoxon Award. His leadership in professional organizations includes serving as Chair of the Board of Trustees of the National Institute of Statistical Science (NISS); member of the Governing Board of the Statistics and Applied Mathematical Sciences Institute (SAMSI); and editor of The American Statistician. He is a Fellow of AAAS and ASA and received ASA's Founders Award. Currently he teaches an advanced undergraduate applied statistical methods course at Columbia University, is co-Editor-in-Chief of the Wiley Interdisciplinary Reviews journal Computational Statistics, and chairs the ASA Development Committee. He received his B.A. in mathematics-economics magna cum laude from Yale University and his Ph.D. in statistics from the University of Chicago.

Gary Marchionini

Member

GARY MARCHIONINI is Dean and Cary C. Boshamer Professor in the School of Information and Library Science (SILS) at the University of North Carolina at Chapel Hill. His research interests include: information interaction, human-computer interaction, human-centered computing, information retrieval, digital libraries, information architecture, digital government, cyberspace identity, and information policy. He formerly taught courses in human-information interaction, interface design and testing, and digital libraries. He heads the Interaction Design Laboratory at SILS. He was previously a Professor in the College of Library and Information Services at the University of Maryland and a member of the Human-Computer Interaction Laboratory. He was Principal Investigator for the Results Framework Project funded by the National Science Foundation (NSF) and organized the Information Seeking Support System Workshop with NSF support. He was the Principal Investigator for a collaborative project funded by the National Cancer Institute to develop usability guidelines for personal health records (PHRs) and Principal Investigator for a NSF project that investigated the efficacy of Second Life for preserving ephemeral information. He led the development of a digital video repository, The Open Video Project and was Principal Investigator for an NSF-funded project to develop and test interfaces for video retrieval and browsing (Agile Views for video browsing: advanced surrogates, control mechanisms, and usability). He was the Principal Investigator for a NSF-Library of Congress grant Preserving Video Objects and Context: A Demonstration Project that developed strategies for harvesting and preserving digital video context. He was Principal Investigator for multiple grants from the National Science Foundation's Digital Government Program that focused on helping people find and understand government statistical data. He was Principal Investigator for a U.S. Department of Education Challenge Grant project, the Baltimore Learning Community. Dr. Marchionini has a B.A. in Mathematics and English from Western Michigan University, an M.Ed in Secondary Mathematics Education from Wayne state University and a Ph.D. in Curriculum Development and Mathematics Education from Wayne State University.

Mitchell P. Marcus

Member

MITCHELL P. MARCUS is the RCA Professor of Artificial Intelligence in the Department of Computer and Information Science at the University of Pennsylvania (Penn), where he is also Professor of Linguistics. His research interests include statistical natural language processing, human-robot communication, and cognitively plausible models for automatic acquisition of linguistic structure. Previously, he was a member of technical staff at AT&T Bell Laboratories. He was also the Principal Investigator for the Penn Treebank Project, was part of the OntoNotes text annotation effort within the DARPA GALE project, and was recently the Principal Investigator on an Army Research Office funded Multidisciplinary University Research Initiative (MURI) project investigating natural language interfaces for autonomous robots. He has served as Chair of the Department of Computer and Information Science at Penn, Chair of the Penn Faculty Senate, as well as President of the Association for Computational Linguistics. He is a fellow of the American Association of Artificial Intelligence, a founding fellow of the Association for Computational Linguistics and is Chair of the advisory board of the Human Language Technologies Center of Excellence at Johns Hopkins University. He received his Ph.D. from the Massachusetts Institute of Technology in Electrical Engineering and Computer Sciences.

Michael Muller

Member

MICHAEL MULLER is a Research Staff Member and Design Researcher in the Collaborative User Experience group at International Business Machines Corporation Research. He is an internationally recognized expert in participatory design, having co-developed participatory practices such as the plastic interface for collaborative technology initiatives through video exploration (PICTIVE), collaborative analysis of requirements and design (CARD) and Participatory Heuristic Evaluation. His current work explores activity-centric usage and design in organizations. Dr. Muller also serves on the Lotus Patent Review Board. He has worked in research and practice in usability, user-centered design, and work analysis at Microsoft, U.S. West Advanced Technologies, and Bellcore. He is on the editorial board of International Journal of Human Computer Systems and interactions magazine. He has a Ph.D. in Cognitive Psychology from Rutgers University.

Philip M. Neches

Member

PHILIP M. NECHES, NAE, is the Founder and Chief Scientist of Teradata Corporation. He is also an Independent Consultant working with early-stage companies in the information technology and communications service industries on their technical, market and business strategies as an Advisor, Board Member, and Investor. He began his career as the Manager for the Systems Evaluation Group at Transaction Technology, Incorporated (a Citicorp subsidiary), where he led analysis of consumer banking networks, including the first large-scale deployment of automated teller machines (ATMs) in the United States. Later, at Teradata, he pioneered the application of parallel processing to commercial applications. As Senior Vice President and Chief Scientist for the National Cash Register (NCR) corporation, he led both the repositioning of their computer product family and the product plan for a merger with AT&T corporation. Dr. Neches served as Vice President and Chief Technical Officer of Multimedia Products and Services Group at AT&T Corporation. He has served on the Board of Directors of ExpandBeyond Incorporated and on the Advisory Boards of EarthLink, Tacoda Systems, Luxtera, and the Technology Group of Merrill Lynch. Other prior directorships include Microelectronics and Computer Technology Corporation, Semitech, Dayton Public Radio DemoGraFx, MediaMap, PeopleLink, and VendQuest. He serves on the Caltech Board of Trustees and sits on its Audit, Business and Finance, Development, Jet Propulsion Laboratory, Student Experience, and Executive committees; and Chairs the Technology Transfer Committee and the Engineering and Applied Science Division Visiting Committee. Dr. Neches holds a B.S., M.S., and Ph.D. in Computer Science from the California Institute of Technology.

J. Marc Overhage

Member

J. MARC OVERHAGE, IOM, is Chief Medical Informatics Officer at the Cerner Corporation. He was formerly Chief Medical Information Officer at Siemens Health Services, and before that, he was the Director of Medical Informatics and a Research Scientist at the Regenstrief Institute, Inc., and Professor of Medicine and Regenstrief Professor of Medical Informatics at the Indiana University School of Medicine. He also is a member of the medical staff of the Wishard Memorial Hospital. His research has focused on the use of informational interventions to modify provider behavior including computerized provider order entry, clinical decision support systems, and other forms of feedback. These systems require clinical data to drive them and have led him to begin developing approaches to health information exchange. In order to facilitate this work, he has engaged in developing clinical information standards, advising the federal government on policy-guiding health information technology, and developing sustainable models for providing health information services. Dr. Overhage serves as President and CEO of the Indiana Health Information Exchange, a not-for-profit corporation created to sustain health information exchange. He is a fellow of the American College of Medical Informatics and the American College of Physicians. He received his B.A. in Physics from Wabash College, and an M.D. in Medicine and a Ph.D. in Biophysics from the Indiana University School of Medicine.

George J. Pappas

Member

GEORGE J. PAPPAS is the Joseph Moore Professor and Chair of the Department of Electrical and Systems Engineering at the University of Pennsylvania. He also holds a secondary appointment in the Departments of Computer and Information Sciences, and Mechanical Engineering and Applied Mechanics. He is a member of the General Robotics, Automation, Sensing and Perception (GRASP) Laboratory and the Penn Research in Embedded Computing and Integrated Systems Engineering (PRECISE) Center. He has previously served as the Deputy Dean for Research in the School of Engineering and Applied Science. His research focuses on control theory and in particular, hybrid systems, embedded systems, hierarchical and distributed control systems, with applications to unmanned aerial vehicles, distributed robotics, green buildings, and biomolecular networks. He is also a Fellow of Institute of Electrical and Electronics Engineers. Dr. Pappas earned a Ph.D. in Control Systems, Robotics and Cyber from the University of California, Berkeley.

Daniel A. Reed

Member

DANIEL A. REED is Vice President for Research and Economic Development and the Professor of Computer Science, Electrical and Computer Engineering, and Medicine at the University of Iowa. He also holds the University Computational Science and Bioinformatics Chair at Iowa. Dr. Reed was previously Corporate Vice President at Microsoft, responsible for global technology policy and extreme computing, and Director of Scalable and Multicore Computing. Prior to joining Microsoft, he was the Founding Director of the Renaissance Computing Institute at the University of North Carolina at Chapel Hill, where he also served as Chancellor's Eminent Professor and Vice Chancellor for Information Technology. Before joining the University of North Carolina at Chapel Hill in 2003, Dr. Reed was Director of the National Center for Supercomputing Applications (NCSA), Gutgsell Professor and Head of the Department of Computer Science at the University of Illinois at Urbana-Champaign. Dr. Reed was appointed to the President's Council of Advisors on Science and Technology (PCAST), by President Bush, in 2006 and served on the President's Information Technology Advisory Committee (PITAC). As Chair of PITAC's computational science subcommittee, he was lead author of the report "Computational Science: Ensuring America's Competitiveness" and co-Chaired the Networking and Information Technology subcommittee. Dr. Reed is the past Chair of the Board of Directors of the Computing Research Association (CRA) and currently serves on its Government Affairs Committee. Dr. Reed received a B.S. in Computer Science from the University of Missouri-Rolla and a M.S. and Ph.D. in Computer Science from Purdue University.

Joel Saltz

Member

JOEL SALTZ is the Cherith Chair of Biomedical Informatics and Professor in the Department of Biomedical Informatics at Stony Brooke University. He was previously the founding chair of the Department of Biomedical Informatics, and Professor in the School of Medicine, Department of Pathology and Laboratory Medicine in the Department of Mathematics and Computer Science, and the School of Public Health's Department of Biostatistics and Bioinformatics at Emory University. Dr. Saltz is a leader in research on advanced information technologies for large scale data analytics, and biomedical and scientific research. He has developed innovative clinical informatics systems including the first published whole slide virtual microscope system and leading edge clinical data warehouse frameworks. He has spearheaded several multi-disciplinary efforts creating cutting-edge tools and middleware components for the management, analysis, and integration of heterogeneous biomedical data. Dr. Saltz broke new ground with middleware systems that target distributed and high-end systems including the filter-stream based DataCutter system, the map-reduce style Active Data Repository and the inspector-executor runtime compiler framework. He led the Biomedical Informatics Ph.D. track in Emory's Computer Science and Informatics Program and ran "Clinical and Translational Informatics Rounds" which are monthly lectures and discussions in the area of clinical and translational informatics. At Emory, he helped launch Biomedical Informatics-specific Masters and Doctoral programs, in addition to a myriad of other department specific courses on informatics. Prior to his appointment at Emory, he served as Professor and Founding Chair of the new Department of Biomedical Informatics at the Ohio State University College of Medicine. At Ohio State, he served as Associate Vice President for Health Sciences for Informatics, and he played important leadership roles in the Cancer Center, Heart Institute and Department of Pathology. Dr. Saltz received his B.S. and M.S. degrees in Mathematics from the University of Michigan and then entered the M.D./Ph.D. program at Duke University, with his Ph.D. studies performed in the Department of Computer Sciences.

Alberto L. Sangiovanni-Vincentelli

Member

ALBERTO SANGIOVANNI-VINCENTELLI, NAE is a Professor in the Department of Electrical Engineering and Computer Science and holds the Edgar L. and Harold H. Buttner Chair of Electrical Engineering and Computer Sciences at the University of California at Berkeley. His research interests focus on several issues concerning the application of mathematical ideas and approaches to the design of electronic systems. In particular, he is focused on numerical analysis for the solution of large scale systems of non-linear equations arising from the analysis of large scale integrated circuits, developing the waveform relaxation approach and contributing to the development of SPICE (a general-purpose circuit simulation program for nonlinear dc, nonlinear transient, and linear ac analyses). He is also interested in the design and optimization of digital circuits and is one of the founders of the field of logic synthesis, with the widely used programs ESPRESSO and MIS. He has also developed new approaches to the problem of integrated circuits layout, yielding the widely used placement program TIMBERWOLF and the routers YACR and MIGHTY, and to the parallelization of complex algorithms in computer-aided design and recently has been focusing on design methodologies and tools for mixed signal integrated circuits including high-frequency and low power circuits, and for embedded controllers. He has been a Visiting Professor at the Massachusetts Institute of Technology and has held a number of Visiting Professor positions at Italian Universities, including Politecnico di Torino, Università di Roma, La Sapienza, Università di Roma, Tor Vergata, Università di Pavia, Università di Pisa and the Scuola di Sant'Anna. He is a member of the Advisory Board of the Lester Center for Innovation of the Haas School of Business and of the Center for Western European Studies and is a member of the Berkeley Roundtable of the International Economy (BRIE). He has co-founded several enterprises in the United States and Europe. In particular, he was a co-Founder of Cadence and Synopsys. He was the founder and Scientific Director of the Project on Advanced Research on Architectures and Design of Electronic Systems (PARADES), a European Group of Economic Interest located in Rome supported by Cadence, Magneti-Marelli and STMicroelectronics. He was a co-founder of the Advanced Laboratory for Embedded Systems (ALES) that acquired PARADES. Dr. Sangiovanni-Vincentelli earned a Ph.D. in Engineering and Computer Science from the Politecnico di Milano. He also has an Honorary Doctorate in Communication Engineering.

William L. Scherlis

Member

WILLIAM L. SCHERLIS is Professor and Director in the Institute for Software Research (SCS/ISR) and Director of the Ph.D. Program in Software Engineering in the School of Computer Science at Carnegie Mellon University (CMU). His research relates to software assurance, software evolution, and technology to support software teams. He was the lead Principal Investigator of the four-year High Dependability Computing Project (HDCP), in which CMU leads a collaboration with five universities to help National Aeronautics and Space Administration (NASA) address long-term software dependability challenges and is also co-Principal Investigator of a new project with NASA. Dr. Scherlis is involved in a number of activities related to technology and policy, recently testifying before Congress on innovation and information technology, and, previously, on roles for a Federal Chief Information Officer. He interrupted his career at CMU to serve at Defense Advanced Research Projects Agency (DARPA) for six years, departing as Senior Executive responsible for coordination of software research. While at DARPA he had responsibility for research and strategy in computer security, aspects of high performance computing, information infrastructure, and other topics. He is a member of the DARPA Information Science and Technology Study Group (ISAT). He has led or participated in national studies related to cybersecurity, crisis response, analyst information management, Department of Defense software management, and health care informatics infrastructure. He has been an advisor to major information technology companies. He has served as program chair for a number of technical conferences, including the Association for Computing Machinery Foundations of Software Engineering (FSE) Symposium. Dr. Scherlis joined the CMU faculty after completing a Ph.D. in Computer Science at Stanford University, a year at the University of Edinburgh (Scotland) as a John Knox Fellow, and an A.B. at Harvard University.

Stephanie A. Schuckers

Member

STEPHANIE A.C. SCHUCKERS is the Paynter-Krigman Endowed Professor of Engineering Science and Professor in the Department of Electrical and Computer Engineering at Clarkson University and the Director of the Center of Identification Technology Research (CITeR) at the National Science Foundation's Industry/University Cooperative Research Center. Professor Schucker's research focuses on processing and interpreting signals which arise from the human body. Her work is funded from various sources, including National Science Foundation, Department of Homeland Security, and private industry, among others. She was a consultant to the Army Science Board. Dr. Schuckers earned a Ph.D. in Electrical Engineering from the University of Michigan.

Peter Tu

Member

PETER TU is Senior Principal Scientist at General Electric Global Research. In partnership with Lockheed Martin, he has developed a set of latent fingerprint matching algorithms for the Federal Bureau of Investigation's (FBI) Automatic Fingerprint Identification System (AFIS). Dr. Tu is the Principal Investigator for the Defense Advanced Research Projects Agency's (DARPA) sponsored effort associated with group level behavior recognition at a distance. Currently Dr. Tu is the Principle Scientist for a group of 15 researchers in the field of multi-view video analysis with the aim of achieving reliable behavior recognition in complex environments. He has helped to develop a large number of analytic capabilities including: person detection from fixed and moving platforms, crowd segmentation, multi-view tracking, person reacquisition, face modelling, face expression analysis, face recognition at a distance, face verification from photo IDs and articulated motion analysis. Dr. Tu has also developed optical methods for the precise measurement of 3D parts in a manufacturing setting. He also led the General Electric video analytics team that participated in the Department of Homeland Security's Standoff Technology Integration and Demonstration Program (STIDP)—the goal of STIDP is to establish an effective defense against suicide bomber attacks. Dr. Tu was the Principal Investigator for the FBI ReFace project, which is tasked with developing an automatic system for face reconstruction from skeletal remains. He was the Principal Investigator for the National Institute of Justice's 3D Face Enhancer Program. This work was focused on improving face recognition from poor quality surveillance video. Dr. Tu has more than 25 U.S. patents. He earned a Ph.D. in Computer Vision from Oxford University.

Stephen B. Vardeman

Member

STEPHEN B. VARDEMAN is a University Professor of Statistics and Industrial Engineering and Manufacturing Systems in the Department of Statistics and Industrial and Manufacturing Systems Engineering at Iowa State University. His professional interests include engineering and natural science applications of statistics, statistics and metrology, defense and Homeland Security applications of statistics, industrial applications, statistical education, and the development of new statistical theory and methods. Dr. Vardeman is a fellow of the American Statistical Association, an (elected) Ordinary Member of the International Statistical Institute, and was editor of "Technometrics." He received his B.S. and M.S. in Mathematics from Iowa State University and his Ph.D. in Statistics from Michigan State University.