

Army Research Laboratory Technical Assessment Board

Committee

Robert W. Brodersen

Chair

Professor Brodersen is a member of the National Academy of Engineering (NAE), the John Whinnery Chair professor in the Electrical Engineering and Computer Science Department at the University of California at Berkeley and Co-Scientific Director of the Berkeley Wireless Research Center. His expertise is in solid-state circuitry and microelectronics, and his current research is in new applications of integrated circuits focused in the areas of low-power design and wireless communications and the CAD tools necessary to support these activities. He is a fellow of the Institute of Electrical and Electronics Engineers (IEEE), and has received numerous prestigious awards throughout his career. Prof. Brodersen received his Ph.D. in electrical engineering from MIT. He is a former member of the Sensors and Electron Devices Panel, having served with distinction from 1996 through 2000.

Kim K. Baldridge

Member

Dr. Baldridge is director of Computational Applications and Professor of Theoretical Chemistry at the University of Zurich, Switzerland. She additionally holds a distinguished scientist position at the San Diego Supercomputer Center and adjunct professorship in the Department of Chemistry at the University of California, San Diego. Her expertise covers a wide area of computational chemistry, including: direct application of quantum chemical software; development of new quantum chemical algorithms; and development of visualization, middleware, database, and analysis tools for adaptation of computational chemistry and biochemistry applications to grid environments. Dr. Baldridge is a fellow of the American Physical Society and of the American Association for the Advancement of Science. She is co-author of a major computational chemistry software package used world-wide, and has a publication list of 100 research articles.

Phillip Colella

Member

Dr. Colella is a senior mathematician and group leader of the Applied Numerical Algorithms Group in the Computational Research Division at the Lawrence Berkeley National Laboratory. His expertise is in numerical methods for partial differential equations and their application to science and engineering problems. He is a recipient of the IEEE Computer Society's Sidney Fernbach Award (1998) and the SIAM/ACM prize in computational science (2003), and is a member of the NAS (2004). Dr. Colella is also a current member of the Digitization and Communications Science Panel.

Douglas H. Harris

Member

Dr. Harris is chairman and principal scientist of Anacapa Sciences, a company that he formed in 1969 to improve human performance in complex systems and organizations. His principal contributions have been in the areas of inspection, investigation, intelligence, and maintenance performance. Dr. Harris is a past president of the Human Factors and Ergonomics Society and a past chair of the National Research Council (NRC) Committee on Human Factors. He was an author of the first volume of the Wiley Series in Human Factors (Human Factors and Quality Assurance) and was chair of an NRC panel that produced the book *Organizational Linkages: Understanding the Productivity Paradox*. As an officer in the U.S. Navy, he completed underwater demolition training and served as the operations and training officer of an underwater demolition team.

Alfred O. Hero, III

Member

Dr. Hero is a professor in the Department of Electrical Engineering and Computer Science, the Department of Biomedical Engineering, and the Department of Statistics at the University of Michigan. His expertise includes statistical signal and image processing, detection and estimation theory, bioinformatics, and tomographical imaging. He has held visiting positions at the University of Nice, Ecole Normale Supérieure de Lyon, Ecole Nationale Supérieure des Télécommunications, Scientific Research Labs of the Ford Motor Company, Ecole Nationale des Techniques Avancées, Ecole Supérieure d'Electricité, and MIT Lincoln Laboratory. In addition, throughout his career, Dr. Hero has served the IEEE in various leadership roles and has received a number of prestigious honors, awards, and fellowships, including an IEEE Signal Processing Society Meritorious Service Award and the IEEE Third Millennium Medal. He is a fellow of the IEEE and was named a William Clay Ford Fellow by Ford Motor Company in 1992. He was chair of USNC URSI Commission C and is president-elect of the IEEE Signal Processing Society. He received his Ph.D. in electrical engineering from Princeton University.

S. M. Hudson

Member

Mr. Hudson retired in 2002 from the position of vice chairman of Rolls-Royce North America. After Allison Engine Company was acquired by Rolls-Royce, Mr. Hudson served as president, chief executive officer, chief operating officer, and as a member of the board of directors of Allison Engine Company. Previously, during his tenure at Allison, he served as executive vice president for engineering, chief engineer for advanced technology engines, chief engineer for small production engines, supervisor of the design for Model 250 engines, and chief of preliminary design and chief project engineer in vehicular gas turbines. Mr. Hudson is a member of the NRC's Aeronautics and Space Engineering Board and has served as a member of several of the ASEB's committees.

Peter M. Kogge

Member

Dr. Kogge is Associate Dean of Engineering for Research and also holds the McCourtney Chair in Computer Science and Engineering (CSE) at the University of Notre Dame. Prior to his joining Notre Dame in 1994, he was with IBM, Federal Systems Division, and was appointed an IEEE fellow in 1990, and an IBM fellow in 1993. In 1977, he was a visiting professor in the ECE Department at the University of Massachusetts, Amherst. From 1977 through 1994, he was also an adjunct professor in the Computer Science Department of the State University of New York at Binghamton. Starting in the summer of 1997, he has been a distinguished visiting scientist at the Center for Integrated Space Microsystems at JPL. He is also the Research Thrust Leader for Architecture in Notre Dame's Center for Nano Science and Technology. For the 2000-2001 academic year, he was the Interim Schubmehl-Prein Chairman of the CSE Department at Notre Dame. Starting in the fall of 2003, he also is a concurrent professor of electrical engineering. His research interests are in advanced computer architectures using unconventional technologies such as 'Processing-In-Memory' and nano technologies such as Quantum dot Cellular Automata (QCA).

John C. Sommerer

Member

Dr. Sommerer (Board member in 2003) is chief technology officer of the Johns Hopkins University Applied Physics Laboratory (JHU/APL), and he chairs APL's Science and Technology Council. He manages APL's overall internal R&D program, its participation in the educational programs of JHU's Whiting School of Engineering, and its Office of Technology Transfer, and he is the line supervisor of the Research and Technology Development Center. In addition, he is an adjunct faculty member in applied physics, applied mathematics, and technical management. Dr. Sommerer has made internationally recognized theoretical and experimental contributions to the fields of nonlinear dynamics and complex systems. He has served on several technical advisory bodies for the U.S. government and has received numerous prestigious awards. Dr. Sommerer is a member of the Security Affairs Support Association, the American Physical Society (APS) and its Division of Fluid Mechanics, and SIAM and its Activity Group on Dynamical Systems. He is a director of the James Rouse Entrepreneurial Fund. He holds a Ph.D. in physics from the University of Maryland.

Dwight C. Streit

Member

Dr. Streit is an NAE member and Vice President, Foundation Technologies at Northrop Grumman Space Technology. He has overall responsibility for development of the basic engineering, science and technology required for space and communication systems. He has extensive experience in semiconductor devices and MMICs for applications up to 220 GHz, as well as in infrared and radiometer sensors. He has led development efforts for 10-40 Gbps optical communication systems, and has experience in the development and production of optoelectronic devices and circuits. He also has previous experience in FMCW and phased-array product development for X-band to W-band radar applications. He received his Ph.D. in electrical engineering from UCLA in 1986.

Dennis W. Thomson

Member

Dr. Thomson is a professor and former department head in the Department of Meteorology at the Pennsylvania State University. His expertise is in atmospheric physics and remote atmospheric sensing, and his major research interests include atmospheric electromagnetic and acoustic propagation phenomena, remote sensing of winds and turbulence, atmospheric sounds and noise propagation, boundary layer structure and processes, micrometeorology, and nonlinear dynamical systems. Dr. Thomson has received a number of prestigious awards; he is a fellow of the American Meteorological Society (AMS), and a former Intergovernmental Personnel Act (IPA) fellow to the Office of Naval Research. Other off-campus assignments for Dr. Thomson, on Penn State's faculty for more than 32 years, include Risoe National Laboratory, Denmark, and the Naval Postgraduate School. His national science community responsibilities have included a term as trustee of the University Corporation for Atmospheric Research, a number of DOD oversight and advisory committees, and extended service, both to Argonne National Laboratory and continuing at Lawrence Livermore National Laboratory. He is a multidegree graduate in physics and meteorology (Ph.D.) of the University of Wisconsin.

John D. Venables

Member

Dr. Venables received his Ph.D. in physics from the University of Warwick, England, and, until his retirement, he served as associate director and chief scientist at Martin Marietta Labs in Baltimore, Maryland. He has served on numerous study committees of the National Academies and was a member for six years of BAST, the Board on Army Science and Technology. He is co-author of an entry in the Encyclopedia Britannica, "Materials Science," and is currently a consultant for DARPA/DSO through Strategic Analysis, Inc.