

Emerging Trends in Aviation Safety

Committee

Amy R. Pritchett

Chair

Amy R. Pritchett, chair, is a professor and head of the Department of Aerospace Engineering at the Pennsylvania State University. Previously, she was on the faculty of the Schools of Aerospace Engineering and Industrial and Systems Engineering at the Georgia Institute of Technology, and she served via the Intergovernmental Personnel Act as the director of NASA's Aviation Safety Program in 2008-2009. Her research focuses on the intersection of technology, expert human performance, and aerospace operations, with a particular focus on designing to support safety. Her research topics have included autonomous flight and unmanned aerial vehicles, vehicle dynamics and controls, and vehicle systems engineering. She is a fellow of the AIAA and HFES. She has served on many National Academies' committees, including chair of the Committee for a Study of FAA Air Traffic Controller Staffing and the Committee on Lead Emissions from Piston-Powered General Aviation Aircraft, and as a member of the Committee on Assessing the Risks of Unmanned Aircraft Systems (UAS) Integration, and Committee of the Federal Aviation Administration Research Plan on Certification of New Technologies into the National Airspace System. In addition, she served as a member of the National Academies' Aeronautics and Space Engineering Board. She is a licensed pilot in airplanes and sailplanes. Dr. Pritchett earned a ScD, SM, and SB in aeronautics and astronautics from MIT.

Ann M. Bisantz

Member

Ann Bisantz is Dean of Undergraduate Education at the University at Buffalo, State University of New York, where she is also a SUNY distinguished professor and past chair of Industrial and Systems Engineering. Her research includes displaying complex and uncertain information; modeling human judgment and decision making; applying cognitive engineering methods to design IT concepts for complex work situations; and understanding aspects of human trust in automated systems; her work has been conducted in work environments that include health care, military systems, emergency management, and transportation. Bisantz has been PI or CoI on over 15M in projects from agencies including the National Science Foundation, Agency for Healthcare Research and Quality, and numerous defense agencies. She received the SUNY Chancellor's Award for Research and Creative Activity and is a Fellow of the Human Factors and Ergonomics Society (HFES) where she also served as a member-at-large of the Executive Council. She is the recipient of the HFES Fitts' Education award for her contributions to human factors education and was the 2020 HFES WOMAN Mentor of the year. Bisantz received her PhD in Industrial and Systems Engineering from the Georgia Institute of Technology and an MS and BS in Industrial Engineering from UB. She has been a member of the National Academies Board on Human-Systems Integration since 2024.

Donald E. Brown

Member

Dr. Brown is the Senior Associate Dean for Research and Quantitative Foundation Distinguished Professor in Data Science and the W.S. Calcott Professor in the Department of Systems and Information Engineering. Dr. Brown is also the Founding Director of the Data Science Institute and Co-Director of the Translational Health Institute of Virginia. His research includes machine learning, data fusion, knowledge discovery, and simulation optimization. Dr. Brown is the Past-President of Commonwealth Computer Research, Inc. Dr. Brown has received many research awards to include the IEEE Joseph Wohl Career Achievement Award and the IEEE Norbert Wiener Award for Outstanding Research in the areas of systems engineering, data fusion, and information analysis. He also received the IEEE Intelligence and Security Informatics Award and the Governor's Technology Award. Dr. Brown is a Fellow of the IEEE, the past Editor-in-Chief of the IEEE Transaction on Systems, Man, and Cybernetics, Part A: Systems and Humans, and a past President of the IEEE Systems, Man, and Cybernetics Society. He served on the National Research Council (NRC) Committee on Transportation Security and on the National Academy of Sciences panel on High Performance Computing and Crisis Management.

Sheryl Chappell

Member

Dr. Sheryl Chappell is an independent human factors consultant, providing advice to scientists and practitioners on research and product development. Previously she was a Scientific and Technical Advisor for Human Factors at the US Federal Aviation Administration (FAA). Her research areas included pilot training, uncrewed aircraft operations, aircraft maintenance, air traffic procedures, flight deck automation, and flightcrew fatigue. Prior to the FAA, she was the Chief Scientist for NASA's Safety Reporting System, designed soldier uncrewed air- and ground-vehicle systems for the US Army, developed pilot training for Delta Air Lines, and developed safety recommendations for the National Transportation Safety Board (NTSB). Sherry received her PhD in Cognitive-Experimental Psychology from the Ohio State University. She is a Certified Human Factors Professional, an instrument-rated commercial pilot, and a certified commercial remote pilot. Sherry is a fellow of the Human Factors and Ergonomics Society and a Coordinating Committee Member for the International Symposium on Aviation Psychology.

Cody Fleming

Member

Cody Fleming is an Associate Professor with the Department of Mechanical Engineering at Iowa State University. Prior to Iowa State, he had joint appointments in Systems Engineering and Mechanical and Aerospace Engineering at the University of Virginia. He was a founding member of the interdisciplinary Link Lab for Cyber-physical Systems at UVA. He also has a wide range of interest ranging from Dynamics and Control, System Safety, Autonomy and Planning, System Integration, and Safety by Design. Dr. Fleming has a Bachelor's degree in Engineering from Hope College, a Master of Engineering in Civil and Environmental Engineering from MIT, and a Doctor of Philosophy Degree in Aeronautics and Astronautics from MIT.

Robert J. Hansman, Jr.

Member

R. John Hansman is the T. Wilson Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology (MIT), where he is the director of the MIT International Center for Air Transportation. He conducts research in the application of information technology in operational aerospace systems. He has over 6000 hours of pilot in-command time in airplanes, helicopters and sailplanes including meteorological, production and engineering flight test experience. He chairs the U.S. Federal Aviation Administration Research Engineering and Development Advisory Committee as well as other national and international advisory committees. He is a member of the U.S. National Academy of Engineering, is a Fellow of the AIAA and the Royal Aeronautical Society. He has received numerous awards including the AIAA Dryden Lectureship in Aeronautics Research, the ATCA Kiske Air Traffic Award, a Laurel from Aviation Week & Space Technology, the FAA Excellence in Aviation Award and the Wright Brothers Master Pilot Award. He is currently a member of the Board on Army Science and Technology, and the Committee on Aviation Safety Assurance at the National Academies. He holds a Ph.D. in physics, meteorology, and aeronautics from MIT.

Christopher A. Hart

Member

Christopher A. Hart is the founder of Hart Solutions LLP, which specializes in using aviation safety improvement processes to improve safety in a variety of contexts.

He is Chairman of the Washington Metrorail Safety Commission that was created in 2019 to oversee the safety of the Washington area subway system, and he is a member of the FAA Management Advisory Committee. In 2021 he was asked to join the Board of the Joint Commission, a non-government organization that accredits hospitals, to help improve healthcare safety. In 2019 he was asked by the Federal Aviation Administration to lead the Joint Authorities Technical Review that was created to review the FAA certification of the Boeing 737 MAX. After an Uber test vehicle killed a pedestrian in 2018, he was asked to help recommend to Uber how to resume street testing safely.

From 2009 until 2018 Mr. Hart was Chairman, Vice Chairman, and a Member of the National Transportation Safety Board, after being nominated by President Obama. The NTSB investigates transportation accidents, determines the causes, and makes recommendations to prevent recurrences. He was previously a Member of the NTSB from 1990 to 1993, after being nominated by (the first) President Bush.

Mr. Hart's previous positions include Deputy Director, FAA Air Traffic Safety Oversight Service; Assistant FAA Administrator for System Safety; Deputy Administrator for the National Highway Traffic Safety Administration; Deputy Assistant General Counsel for the Department of Transportation; and Managing partner of Hart & Chavers, a Washington, D.C., law firm.

Mr. Hart has a law degree from Harvard Law School and a Master's Degree and a Bachelor's Degree in Aerospace Engineering from Princeton University. He is a member of the District of Columbia Bar and the Lawyer-Pilots Bar Association, and he is a pilot with commercial, multi-engine, and instrument ratings, as well as a Cessna Citation SIC Type Rating.

Karen Marais

Member

Dr. Karen Marais is a Professor at Purdue University's School of Aeronautics and Astronautics, where she also serves as the School's Associate Head for Undergraduate Education. Early in her career, she practiced as an Electronic Engineer in South Africa. Her research focuses on developing ways to deliver value through reliability, safety, and sustainability in complex engineering systems. Together with her students, she has developed new accident models to analyze safety in systems ranging from General Aviation to potential future space habitats. She teaches a popular graduate course on Complex System Safety to on-campus students and full-time professionals. She received an NSF CAREER award in 2014, Purdue University's Murphy Award for Undergraduate Teaching in 2021, and is an Associate Fellow of the AIAA. Dr. Marais holds a B. Eng. in electrical and electronic engineering from the University of Stellenbosch and a B.Sc. in mathematics from the University of South Africa. She also holds a master's degree in space-based radar from MIT. She received her Ph.D. from the Department of Aeronautics and Astronautics at MIT in 2005.

Paul McCarthy

Member

Paul McCarthy served as Air Safety Chair of the Air Line Pilots Association (ALPA) and the International Federation of Air Line Pilots' (IFALPA) Associations from June 1990 to December of 2005. In those capacities he represented the pilot community in many industry and government safety initiatives including testimony before Congress. He represented IFALPA on the International Civil Aviation Organization (ICAO) Air Navigation Commission from 2006 until 2012. He was a Captain for Delta Airlines from January 1973 to 2004. His expertise is sought in aviation flying and safety issues. Captain McCarthy hold a Bachelors Degree in Accounting from the University of Notre Dame, and a Juris Doctor Degree from Suffolk University Law School.

Ashok Srivastava

Member

Ashok N. Srivastava, is the Senior Vice President and Chief Data Officer at Intuit. He is responsible for setting the vision and direction for AI and Data at Intuit to power prosperity across the world. He is an Adjunct Professor at Stanford in Electrical Engineering and a member of the Board of Directors of the University of Colorado Foundation. He is a Fellow of the IEEE, the American Association for the Advancement of Science (AAAS), and the American Institute of Aeronautics and Astronautics (AIAA). Previously, he was the VP of Big Data and Artificial Intelligence Systems and the Chief Data Scientist at Verizon. He was also the Editor-in-Chief of the AIAA Journal of Aerospace Information Systems. At NASA, he led advanced technology programs in Aerospace, Space Systems, and Earth and Space Sciences including the System-wide Safety and Assurance Technology and the Integrated Vehicle Health Management programs. He is the author of over 100 research articles in data mining, machine learning, and text mining and has edited four books. He has won numerous awards including the IEEE Computer Society Technical Achievement Award for "pioneering contributions to intelligent information systems," the NASA Exceptional Achievement Medal for contributions to state-of-the-art data mining and analysis, the NASA Honor Award for Outstanding Leadership, the NASA Distinguished Performance Award, several NASA Group Achievement Awards, the Distinguished Engineering Alumni Award from UC Boulder, the IBM Golden Circle Award, and the Department of Education Merit Fellowship. Dr. Srivastava holds a Ph.D. in Electrical Engineering from the University of Colorado at Boulder.

Kathleen M. Sutcliffe

Member

Kathleen M. Sutcliffe is a Bloomberg Distinguished Professor at Johns Hopkins University with appointments in the Carey Business School, the School of Medicine (Anesthesia and Critical Care Medicine), the School of Nursing, the Bloomberg School of Public Health, and the Armstrong Institute for Patient Safety and Quality. Her research program has been devoted to investigating how organizations and their members cope with uncertainty and how organizations can be designed to be more reliable and resilient. She has investigated organizational safety, high reliability, and resilience practices in oil and gas exploration and production, chemical processing, steel production, wildland firefighting, and in healthcare. She has published widely in the management, organizations, and healthcare literatures and has co-authored or co-edited seven books. She has received numerous research awards and is an elected fellow of the International Academy of Quality and Safety in Health Care and the Academy of Management. She serves on the editorial boards of several journals and has served as a proposal reviewer for the National Academies of Science, Engineering, and Medicine. She has consulted with the leadership teams of numerous companies including Goldman Sachs, Georgia Pacific, Marathon Oil, and ThyssenKrupp. She holds a PhD in Organization Theory and Organizational Behavior from the University of Texas at Austin.

Timothy Vogus

Member

Timothy J. Vogus is the Brownlee O. Currey, Jr. Professor of Management, Faculty Director of the Leadership Development Program at the Vanderbilt Owen Graduate School of Management and Deputy Director, Business Innovations for the Frist Center for Autism and Innovation at Vanderbilt University. He has published over 100 peer-reviewed articles and book chapters in leading autism, health care, industrial relations, and management journals. His research specifies how to create and sustain highly reliable (i.e., nearly error-free) performance by strengthening safety culture and habituating mindful organizing – a set of behaviors by which collectives detect and correct errors and unexpected events. He received his Ph.D. in Management and Organizations from the University of Michigan. He was named one of the 50 most influential business professors of 2013 and Top 40 Business School Professors under 40 by PoetsandQuants.com in 2011. He received the Excellence in Teaching Award from the Health Care Management Division from the Academy of Management in 2019. He serves as an Associate Editor of Health Care Management Review and previously served as Division Chair for the Health Care Management Division of the Academy of Management. He is also a founding and continuing member of the Blue-Ribbon Panel that developed the Leapfrog Group's Hospital Safety Grade and previously served the NRC on strengthening safety culture in the offshore oil and gas industry.

Lida Beninson

Staff Officer