Wind Turbine Generator Impacts to Marine Vessel Radar

Committee

William L. Melvin

Chair

Dr. William Melvin is Deputy Director for Research at the Georgia Tech Research Institute (GTRI), Director of the Sensors and Intelligent Systems Directorate at GTRI, a University System of Georgia Regents' Researcher, and an Adjunct Professor in Georgia Tech's Electrical and Computer Engineering Department. His research interests include all aspects of sensor technology development, systems engineering, developmental planning, autonomous and intelligent systems and machine learning. He has authored numerous papers and reports in his areas of expertise and holds three US patents on adaptive sensor technology. He is the co-editor of two of the three volumes of the popular Principles of Modern Radar book series. Among his distinctions, Dr. Melvin was chosen as an IEEE Fellow for his contributions to adaptive radar technology, is a Fellow of the Military Sensing Symposium (MSS), and was awarded the 2014 IEEE Warren White Award for outstanding achievement in the field of radar. He has served on the Board on Army Science and Technology through the National Academy of Science, served on the Air Force Studies Board study on Developmental Planning organized through the National Academy of Science, and has served on other committees sponsored by the National Research Council. Dr. Melvin received the Ph.D. in Electrical Engineering from Lehigh University, as well as the MSEE and BSEE degrees (with high honors) from this same institution, respectively.

Jennifer T. Bernhard

Member

Prof. Jennifer T. Bernhard is the Donald Biggar Willett Professor of Engineering and Director of the Illinois Applied Research Institute at the University of Illinois at Urbana-Champaign. She earned the B.S.E.E. degree from Cornell University in 1988 and the M.S. and Ph.D. degrees in Electrical Engineering from Duke University in 1990 and 1994, respectively. Prof. Bernhard has been a faculty member specializing in Applied Electromagnetics in the Electromagnetics Laboratory in the Department of Electrical and Computer Engineering at the University of Illinois since 1999, and served as the Associate Dean for Research in the Grainger College of Engineering from 2012-2019. Her academic research group focuses on the development and analysis of multifunctional reconfigurable antennas and systems, as well as high-security physical layer-based modulation schemes. She is an IEEE Fellow and a Defense Science Study Group (DSSG) alumna, and a former member of the IEEE Board of Directors (2017-2018) and the ASEE Engineering Research Council Executive Board (2016-2019). Prof. Bernhard previously served as a member of the external review panel for the Radar Division of NRL (2010), the PCAST working group on Government-Held Electromagnetic Spectrum (2011-2012), and an assessment committee for the National Science Council (2015). She currently serves as the chair of the Engineering Review Committee for the Lawrence Livermore National Laboratory and on the Board of Directors for IEEE-USA.

Benjamin Karlson

Member

Benjamin Karlson has been a member of the Wind Energy Technology Department at Sandia National Laboratories since 2007. During this time Benjamin has been involved with many projects that addressed wind energy power system integration, wind turbine reliability, and transmission planning. He currently leads the Wind Turbine Radar Interference Mitigation (WTRIM) activities for Sandia. The WTRIM effort is a multi-federal agency effort aimed at developing solutions that allow the continued deployment of wind energy while maintaining the nation’s air space missions. Prior to joining Sandia, Benjamin worked for the Federal Energy Regulatory Commission as an expert witness in electric rate filings. Benjamin has a BS in Electrical Engineering from the University of New Mexico, an MS in Electric Engineering from New Mexico State University, and was a registered Professional Engineer in New Mexico

Hao Ling

Member

Dr. Hao Ling is the L. B. Meaders Professor Emeritus in Engineering at the University of Texas at Austin. His areas of research include antennas, wave propagation, and radar. Dr. Ling received his B.S. degrees in electrical engineering and physics from MIT in 1982, and his M.S. and Ph.D. degrees in electrical engineering from the University of Illinois at Urbana-Champaign in 1983 and 1986, respectively. He was on the faculty at the University of Texas for 31 years. From 2015 to 2017, he was also a Program Director at the National Science Foundation, and managed the Communications, Circuits, and Sensing Systems program. Dr. Ling was the lead PI of a 2013 DOE-funded study to assess the effect of offshore wind farms on sea surface, subsurface and airborne electronic systems. He is a Fellow of the IEEE.

Andrew McGovern

Member

Andrew McGovern has worked at the forefront of key issues affecting maritime safety for decades; technology, licensing, medical, navigation, and accident investigation issues as well as local, national and international regulatory and legislative processes. Andrew served as President of the Pilots Association for six terms and is continuing to serve as the long-time Chair of the NY/NJ Harbor Safety Committee. He also served on the Port of NY/NJ Area Maritime Security Committee, and the NYC Mayor’s Waterfront Management Advisory Board. At the national level, Andrew has worked with most, if not all the agencies affecting the marine transportation sector – including serving on NOAA’s Hydrographic Services Review Panel and the USCG’s Merchant Marine Personnel Advisory Committee (almost 20 years as chair). He was also a member of the National Academies, Transportation Research Board, Maritime Safety and Human Factors Committee. Internationally, Andrew has served on many delegations to the International Maritime Organization and several to the International Labor Organization addressing issues such as Standards of Training, Certification and Watchkeeping Code (STCW), the Maritime Labor Convention (MLC), the International Ship and Port Security Code (ISPS).

John M. Stone

Member

Commander John Stone, USCG (Ret.) has over 20 years of experience in marine navigation as an Active Duty U.S. Coast Guard Officer, and an operational perspective on marine vessel radar operation. He holds a 100-ton Merchant Mariner license and has significant experience as a marine radar operator in multiple locations and climates. In his current role as a Marine Transportation Specialist at U.S. Coast Guard headquarters, Mr. Stone manages federal regulations pertaining to navigation safety and ship carriage requirements, and participates in Navigation Safety Risk Assessments (NSRA) associated with wind energy and other Offshore Renewable Energy Installation (OREI) development. Previously, he also served as an Assistant Professor of Mathematics at the U.S. Coast Guard Academy. Mr. Stone is a U.S. Coast Guard Academy graduate and holds a Master of Science in Computer Science and a Master of Business Administration from the University of Rhode Island.