NATIONAL ACADEMIES Sciences Engineering Medicine

Government-University-Industry Research Roundtable
May 2023 Webinar

Standards Development for Critical and Emerging Technologies

Abstract:
The Government-University-Industry Research Roundtable will convene a webinar to discuss the importance of standards development for critical and emerging technologies (CETs). Novel discoveries, technical insights, and refinements are at the core of many new critical and emerging technologies which are leading to new domains of standards development. Innovation and advancement of CETs requires active monitoring and engagement in standards development activities. Knowledge of standards development process combined with expertise in the specific technologies is needed to ensure standards development activities keep pace with technological evolution.

During this webinar, Jayne Morrow, Senior Advisor for Standards Policy at the National Institute of Standards and Technology (NIST), will provide a short overview of the **U.S. National Standards Strategy** for CETs and planning for implementation. Expert panelists (below) will discuss the importance of pre-standardization work, broadening participation and increased engagement in the standards development process, and creating a standards-savvy workforce.

Panelists:

- Alfred Grasso, Immediate Past President and CEO of MITRE Corporation
- Mary Saunders, Vice President, Government Relationship and Public Policy, American National Standards Institute

Guest Moderator:
Jennifer Marshall, Deputy Director, Standards Coordination Office, NIST

Speaker/Moderator Biographies:

Alfred Grasso is the immediate past President and Chief Executive Officer of the MITRE Corporation, a position he held from 2006 to 2017 and where he continues to serve as a Trustee and Consultant for the MITRE Corporation. Mr. Grasso's experience includes service on the boards for several scientifically driven organizations and non-profit institutions. Mr. Grasso is currently a member of the Defense Science Board and a former member of the Army Science Board. He currently serves on the George Mason University Foundation Board of Trustees and as a member (co-chair) of the National Academy of Science's Government, University, and Industry Research Roundtable. Mr. Grasso is a Permanent Director

and Executive Committee member of the Armed Forces Communications and Electronics Association (AFCEA) International's Board of Directors and served as Chairman from 2012 to 2014 and vice chairman from 2010 to 2012.

Mr. Grasso is the former President of the Board of the National GEM Consortium, a non-profit organization that promotes the participation of under-represented groups in the science, technology, engineering, and math fields. He has served as a member of the Stevens Institute Systems Engineering Research Center Advisory Board, the University of Virginia's Department of Systems and Information Engineering Advisory Board, Howard University's College of Engineering, Architecture and Computer Sciences Board of Visitors, and the Northern Virginia Technology Council. Mr. Grasso holds a bachelor's degree in electrical engineering from the University of Massachusetts Amherst and a master's degree in computer science from Worcester Polytechnic Institute.

Jennifer Marshall works directly with executives across the federal government, and private standards developing organizations (SDOs) to help the U.S. remain a leader in international standards development for critical and emerging technology (CET) that impact the global economy and international trade. Ms. Marshall coordinates international standards development policy and strategies related to multiple technical areas including NIST priorities in critical and emerging technology. In addition, she participates in international standards development efforts as a member of the US Technical Advisory Group (TAG) for ISO TC 229 (Nanotechnologies) and is the US TAG secretary to IEC TC 45 (Nuclear Instrumentation). She is an expert in leading and coordinating standards development efforts in homeland security and public safety that impacts EMS, fire, and law enforcement communities. Jennifer has managed homeland security standards developing efforts spanning chemical, biological, chemical, radiological, and nuclear (CBRNE) detection equipment; personal protective and operational equipment (PPOE); urban search and rescue robots; and various security technologies.

Prior to NIST, Ms. Marshall worked for the DHS Science and Technology (S&T) Directorate from its early inception in 2003 where she developed multi-year research, development, test and evaluation (RDTE) plans for the CBRNE countermeasures, infrastructure protection, and standards development programs that supported the Federal, state and local public safety community.

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Jayne Morrow has a broad portfolio of technical program and policy development expertise relevant to the United States and international research and standards development. Throughout her career, she has demonstrated a dynamic ability to work across stakeholder groups to foster engagement, create strategic visions, and build consensus on a range of technical program and public policy areas, including national security, environmental health, public health and safety, and law enforcement. Dr. Morrow formerly led a research career at NIST and served as a Research Professor in Civil Engineering and the Assistant Vice President for Research and Economic Development at Montana State University where she focused on complex microbial communities and microbial transport in engineered and natural systems. She led national science and technology (S&T) strategic policy development as the Executive Director of the National Science and Technology Council in the Executive Office of the President during the Obama Administration. She currently serves as the Senior Advisor to the Director of NIST where she is working to develop stronger connections between standards and the innovation ecosystem of the United States by focusing on broadening participation in international standards development among academia, industry and government agencies. She has a B.Sc. degree in Civil Engineering from Montana State University as well as a M.S. and Ph.D. in Environmental Engineering with a specialty in molecular and microbiology from the University of Connecticut.

Her research career at NIST focused on metrology for biological science programs and underpinning biological response frameworks with measurement science. Working across the federal agencies, industry, and academia to generate standards to enable confident decision-making founded on scientific evidence for response to Anthrax, Ebola, SARS-CoV-2 and applied these same principles to the analytical characterization of the opioid epidemic. Her standards work led to science policy development with the National Biosurveillance and Biological Response and Recovery Science and Technology Roadmaps published during the Obama Administration. Recently in response to COVID-19 pandemic, Dr. Morrow partnered with motivated volunteers to form a non-profit IBEC, and host the CLEAN2020 Summit series, bringing together leaders from business, policy, standards development, science, and engineering to identify opportunities to work together to control viral transmission in the built environment. These efforts to continue to help translate the research, standards and guidance into practice were welcomed by the White House COVID Task Force and Office of Science and Technology Policy as they work to define a campaign for clean indoor air.

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Mary Saunders is vice president, government relations and public policy, at the American National Standards Institute (ANSI). In this position, Ms. Saunders serves as ANSI's spokesperson and liaison to federal, state, and local government agencies and to Congress and congressional staff. She supports the activities of the ANSI National Policy Advisory Group (NPAG) and the ANSI Government Member Forum, working with the members of these groups to develop and advance the Institute's positions and policies at all levels of government. In turn, she identifies and communicates to ANSI stakeholders emerging issues of importance for the standards and conformity assessment community.

Prior to joining ANSI in 2017, Ms. Saunders was the associate director for management resources for the U.S. Department of Commerce's National Institute of Standards and Technology (NIST), and served as a vice chair on the ANSI Board of Directors. She was responsible for all NIST-wide institutional support and administrative offices and their functions, including: workforce management, information technology and services, safety and environmental management, facilities maintenance and construction, accounting and finance, acquisitions and grants management, budget formulation, strategic planning, and emergency response. Ms. Saunders previously served as the director of NIST's Standards Coordination Office. In this capacity, she represented NIST and its significant interests in the standards and conformity assessment community, advising the NIST director and other officials throughout the administration on policy and strategy as they relate to the federal government's role in standardization.

She also served as deputy assistant secretary for manufacturing and services in the International Trade Administration (ITA), managing more than 200 industry specialists, economists, and international trade experts. In that capacity, she helped strengthen the competitive position of U.S. industries globally by coordinating Commerce Department strategies, policies, and programs with U.S. industries in mind.