

WORLD STANDARDS WEEK 2019



NOVEMBER 6
WASHINGTON DC

Symposium: Fostering Partnerships to Integrate Standards into College Curricula



9:00 a.m. – 1:30 p.m., FHI 360, Academy Hall

1825 Connecticut Avenue, NW, 8th Floor, Washington, DC 20009

The National Institute of Standards and Technology (NIST), in partnership with the American National Standards Institute (ANSI), organized this symposium to bring together participants from industry, the standards community, and academia to look at the work of several institutions of higher education, explore next steps towards better preparing students and young professionals for careers in which standards are intertwined, and identify opportunities for increased engagement in education initiatives.

9:00 am – 9:15 am **Welcome Remarks**

Joe Bhatia

President and CEO, ANSI

Introduction to the Symposium **Gordon Gillerman**

Director, Standards Coordination Office (SCO), NIST

9:15 am – 9:25 am **Overview of NIST's Curricula Development Cooperative Agreement Program**

Mary Jo DiBernardo

Program Manager, SCO, NIST

9:25 am – 11:00 am **A Sampling of Standards in Higher Education in the U.S. Today**

NIST awardees will educate participants on how standards have been integrated into curricula at their institutions.

Moderator: Jim Matthews, Director, Technical Standards and Standards Policy; Distinguished Associate with Corning Incorporated

Panelists:

Lisa Greenwood – Rochester Institute of Technology

Assistant Professor, Civil Engineering Technology, Environmental Management and Safety, College of Engineering Technology

Kai Jin – Texas A&M University – Kingsville

Professor and Industrial Engineering Program Coordinator, Department of Mechanical and Industrial Engineering

Bryan Hoskins – Oklahoma State University

Associate Professor, Fire Protection and Safety

Chittaranjan Sahay – University of Hartford

Vernon D. Roosa Distinguished Professor and Director, Center for Manufacturing and Metrology

Margaret Phillips – Purdue University Libraries and School of Information Studies

Assistant Professor, Library Science and Engineering Information Specialist

Sankardas Roy – Bowling Green State University

Assistant Professor, Department of Computer Science

Erik Puskar – for Everett Community College

Economist, SCO, NIST

Claudia Vergara – Michigan State University

Director for Program Evaluation and Assessment Center for Integrative Studies in General Sciences

11:00 am – 11:15 am Break

11:15 am – 12:00 pm Current and Future Roles of Standards Setting Organizations in Higher Education

Several standards organizations in our community have taken notice of the importance of educating students to prepare them to join the future standardization workforce – and they have taken action. Learn about various opportunities and resources available to assist university faculty and staff. Panelists, with input from the audience, will explore ideas for the future.

Moderator: Mary Saunders, Vice President, Government Relations and Public Policy, ANSI

Panelists:

Monte Bogatz – ANSI Committee on Education (ANSI COE)

ANSI COE Vice-Chair and Executive Vice President and General Counsel, The IAPMO Group

Hélène Vaillancourt – CSA Group

Vice President, Standards Research and Planning

Len Morrissey – ASTM International

Director, Global Business Development and Strategy

Jan-Henrik Tiedemann – International Electrotechnical Commission (IEC)

Head, IEC Academy

12:00 pm – 1:30 pm Discussion and Working Lunch

A brainstorming session on how the standards community can collectively support U.S. colleges and universities improve/increase the integration of standards into higher education. We will conclude with next steps and a call to action.

Session Facilitator:

Mary Jo DiBernardo, NIST

Table Facilitators:

Monte Bogatz, The IAPMO Group

Harold Chase, NSF International

Lisa Greenwood, RIT

Stephen Kwan, SJSU

Jennifer Marshall, NIST

Jim Matthews, Corning

Len Morrissey, ASTM

Erik Puskar, NIST

Dan Ryan, UL

Mary Saunders, ANSI

Fran Schrotter, ANSI

Lisa Spellman, DICOM, MITA

Andy Updegrove, Gesmer Updegrove, LLP

Tim West, John Deere

Sara Yerkes, ICC

WORLD STANDARDS WEEK 2019



NOVEMBER 6
WASHINGTON DC

Fostering Partnerships
to Integrate Standards
into College
Curriculum



Speaker and Table Facilitator Biographies

Joe Bhatia, *Welcoming Remarks*

Joe Bhatia has been president and CEO of the American National Standards Institute (ANSI) since January 2006. He previously served as executive vice president and COO of the international group at Underwriters Laboratories (UL).

Among his numerous leadership positions in domestic and global forums, Mr. Bhatia serves as vice chairman of the Industry Trade Advisory Committee on Standards and Technical Trade Barriers (ITAC 16), a joint program of the U.S. Department of Commerce and U.S. Trade Representative. He is a member of the International Organization for Standardization (ISO) Council and its Council Standing Committee on Finance. In 2017, he concluded his term as president of the Pan American Standards Commission (COPANT), where he also served as vice president for four years.

Mr. Bhatia holds a B.S. in electrical engineering and a M.S. in business management.

Monte Bogatz, *Panelist and Table Facilitator*

Monte Bogatz is executive vice president and general counsel for the International Association of Plumbing and Mechanical Officials (IAPMO) since 2016, prior to that serving as associate general Counsel since 2010. Mr. Bogatz' area of responsibility includes all legal and corporate affairs in the U.S. and for IAPMO's international subsidiaries in Australia, China, Hong Kong, Indonesia, and India and advising IAPMO's CEO, president and board of directors. Mr. Bogatz supports IAPMO's standard development activities for IAPMO's ANSI audited designator standards development procedures, the ANSI-accredited certification activities of IAPMO Research and Testing, Inc., IAPMO Uniform Evaluation Service and ASSE International, as well as the ANAB-accredited laboratory testing activities of IAPMO R&T lab. Through IAPMO, Mr. Bogatz is an active participant in the Society for Standards Professionals (SES) and the ANSI. Mr. Bogatz has served on the ANSI Committee on Education since 2012, serving as chairman 2015-2017 and co vice-chairman 2018-2019; Mr. Bogatz serves on the ANSI International Property Policy Rights Committee (IPRPC) since 2015 and on the ANSI Appeals Board since 2017. Mr. Bogatz earned a B.A. in 2001 from the University of Pennsylvania and a J.D. from the University of Pittsburgh School of Law in 2006.

Harold Chase, *Table Facilitator*

Harold Chase is the Legislative Director for NSF International. In that role, Mr. Chase interacts with Members of the US Congress, federal agencies and other entities based in Washington, DC. Mr. Chase represents NSF International at the Organizational Member Forum of the American National Standards Institute and serves on the Board of Directors for the Partnership for Food Safety Education.

Mr. Chase graduated with honors from the University of Detroit earning a BA in Political Science and recently completed an MPH from the Milken Institute School of Public Health at George Washington University.

Mary Jo DiBernardo, *Speaker and Session Facilitator*

Mary Jo DiBernardo has served as a program manager at the National Institute of Standards and Technology (NIST) since June 2000. She currently manages a standards and conformity assessment training program for federal agencies and the NIST Standards Services Curricula Development Cooperative Agreement Program (SSCD CAP). The SSCD CAP provides support to U.S. colleges and universities to integrate standards and standardization content into courses, modules, seminars, and learning resources. Ms. DiBernardo has a M.P.A. and B.A. from the State University of New York at Albany. She was the first recipient of ANSI's Next Generation Award in 2004.

Gordon Gillerman, *Opening Remarks*

Gordon Gillerman, Director, Standards Coordination Office at the National Institute of Standards and Technology (NIST) and Department of Commerce Standards Executive, leads NIST's work in standards coordination and the National Voluntary Laboratory Accreditation Program. Mr. Gillerman supports extensive standards development and advises federal agencies and other stakeholders on standards and conformity assessment policy. Mr. Gillerman has extensive standards experience across a wide range of critical issues including homeland security, safety, health, and protection of the environment. He is an expert on conformity assessment systems design, an advisor to the U.S. Trade Representative on technical barriers to trade and related trade agreements, and has collaborated across the standards community to develop standards based solutions for national priorities throughout his career. Mr. Gillerman also provided direct support in the drafting and negotiation of the Technical Barriers to Trade (TBT) chapter of the USMCA. His prior experience includes leading government affairs for the largest U.S. product safety certification and standards development organization, Underwriters Laboratories (UL) in Washington, DC, and staff engineer for the medical device and information technology sectors at UL's Northbrook, IL headquarters.

The Standards Coordination Office is the NIST standardization focal point for federal government, administers the NIST Standards Curricula Development Cooperative Agreement Program, operates the U.S. Inquiry Point for the World Trade Organization's Technical Barriers to Trade Agreement, is the U.S. Designating Authority for Telecom Mutual Recognition Agreements, and is a key information source for US industry on standards related market access issues.

Lisa Greenwood, Ph.D., *Panelist and Table Facilitator*

Lisa Greenwood, Ph.D., is an assistant professor in environmental, health and safety (EHS) Management at Rochester Institute of Technology (RIT), with over 20 years of experience in environmental and occupational health and safety management. Her teaching and research interests include EHS management system design, implementation, and integration; EHS standards in the curriculum; environmental sustainability; corporate social responsibility; and related private governance mechanisms.

Prior to joining the faculty at RIT, Dr. Greenwood worked as an environmental engineer, audit program manager, and international EHS standards specialist in the aerospace sector. She holds a B.S. in Environmental Management from RIT, a M.S. in Environmental Engineering from the University of New Haven, and a Ph.D. in environmental and natural resource policy from SUNY, College of Environmental Science and Forestry.

Dr. Greenwood is active in standards development as vice chair of the U.S. Technical Advisory Group (TAG) to ISO Technical Committee (TC) 207 *Environmental Management*, and is a U.S. expert on environmental management systems in ISO TC 207, representing ANSI.

Bryan Hoskins, Ph.D., *Panelist*

Bryan Hoskins, Ph.D., is an associate professor of fire protection and safety at Oklahoma State University. He earned his B.S. and M.S. degrees in fire protection engineering from the University of Maryland. He also received his Ph.D. degree in mechanical engineering from the University of Maryland in 2011 with an emphasis on building egress.

Dr. Hoskins is primarily interested in understanding human behavior during fire and other emergencies. His research focuses on evacuation, tenability, emergency messaging, and improving codes and standards to provide increased safety. He is very active in the profession, serving on seven different technical committees for the development of codes and standards.

Kai Jin, Ph.D., *Panelist*

Kai Jin is a professor and program coordinator of industrial engineering at Texas A&M University Kingsville. Her research interests include sustainable energy, economic impact analysis, system safety, green manufacturing, quality control, and multi objective decision making and optimization. She has served as the principal investigator or co-principal investigator in several research and engineering education projects worth more than \$6.7 million. Her recent research work is focusing on the sustainable energy topics and engineering education research.

Stephen K. Kwan, Ph.D., *Table Facilitator*

Stephen K. Kwan, Ph.D., is professor emeritus at the Lucas College and Graduate School of Business at San José State University, and a fellow of the International Society of Service Innovation Professionals (ISSIP). He retired as the associate dean of graduate business programs and Lucas professor of service science. He was the founding chair of the MIS department, and has served as the director of online programs development and senior associate dean of the college. He is still actively involved in research and community activities in Service Science, Management, Engineering, and Design (SSMED), global e-commerce, service standards and standardization.

He was a recipient of multiple IBM Faculty Awards, grants from the National Science Foundation (NSF), and National Institute of Standards and Technology (NIST). He was a contributor to the IEEE online course

on *Innovation and Competition – Success Through Global Standards*. He currently serves on the ISO/IEC JTC1 Subcommittee 42 *Artificial Intelligence*; ISO Committee on Consumer Policy (COPOLCO) working groups on shared economy, privacy, and consumer issues in services; ANSI Committee on Education; ANSI Consumer Interest Forum; and the International Cooperation for Education about Standardization (ICES). He has published in the areas of service science, queueing systems, database management, e-commerce, service standards, standards education and standards policy. He received a B.S. and M.S. in computer science from the University of Oregon, and a Ph.D. in management from UCLA.

Jennifer Marshall, *Table Facilitator*

Jennifer Marshall has 15 years of experience in technology and standards development for public safety and the larger homeland security community. Currently, she is the Program Manager for Public Safety Standards Coordination within the Standards Coordination Office (SCO) at the National Institute of Standards and Technology (NIST). She is tasked with coordinating standards development efforts within and outside NIST that impact the EMS, fire and law enforcement communities. In addition, she has taken on international standards development efforts within International Organization for Standardization (ISO) TC 229 Nanotechnologies and is the secretariat for the US Technical Advisory Group (TAG) to International Electrotechnical Commission (IEC) TC 45 Nuclear Instrumentation.

Prior to this position, she was the Homeland Security Program Manager at NIST where she managed a \$15M standards development program, in support of the Department of Homeland Security (DHS), focusing on chemical, biological, chemical, radiological, and nuclear detection equipment; personal protective and operational equipment; urban search and rescue robots; and various security technologies.

Prior to arriving at NIST, Ms. Marshall worked for the Department of Homeland Security's (DHS) Science and Technology (S&T) Directorate where she developed multi-year research, development, test and evaluation plans that supported the Federal, state and local public safety community.

James Matthews, *Moderator and Table Facilitator*

Jim Matthews is a graduate of Georgia Institute of Technology (B.E.E./M.S.E.E.) and was a member of Eta Kappa Nu and Tau Beta Pi. Mr. Matthews worked as a research engineer for GTRI (radar systems) then joined Corning at the debut of fiber optics. His roles included product & customer engineering, metrology, and network architecture for fiber optics, then optical amplifiers, and optical components, including optical couplers at Corning's European Research Center (France).

As director, external standards for Corning's global products and markets, he has represented Corning in participant and leadership roles for national, regional & global standards groups. Mr. Matthews has been a member of the ANSI Board since 2001, IEC vice-president and SMB chair, and was an ITU-T Rapporteur for over 10 years. Mr. Matthews has received numerous industry awards for standardization leadership. He brings deep industry experience, ability to manage change, an inclusive style and broad standardization perspective to the IEEE.

Len Morrissey, *Panelist*

Len Morrissey is the director of global business development and strategy at ASTM International, one of the largest voluntary standards development organizations in the world.

He is responsible for the identification and development of new business opportunities and ventures across ASTM's full spectrum of products and services. He leads a team that creates and executes innovative, strategic organizational initiatives based on market trends, national/international priorities,

emerging technologies, marketplace challenges, and innovation.

Since joining ASTM in 1995, Mr. Morrissey has served in a number of leadership roles in the standards development division, ultimately directing a team that managed the standards activities for diverse portfolio of over 50 global industry sectors. From 2007-2018, he oversaw all operational, strategic, and regulatory initiatives related to the safety of consumers for a wide range of product categories. In this capacity, he worked closely with lawmakers, industry, regulators, and consumer stakeholders to develop needed solutions to complex international trade and regulatory challenges.

He currently serves as a member of the board of directors for the International Consumer Product Health and Safety Organization (ICPHSO) and sits on the standards development organization advisory committee under the auspices of the Standards Council of Canada (SCC).

A graduate of the Pennsylvania State University, Mr. Morrissey holds a B.A. in letters, arts and sciences with additional concentrations in business and history and a master's degree in public administration (MPA) from Villanova University.

Margaret Phillips, *Panelist*

Margaret Phillips is an assistant professor of library science in the physical science, engineering, and technology division of the Purdue University Libraries & School of Information Studies. In this role, she is the libraries liaison to the Schools of Engineering Technology, Industrial Engineering, and Nuclear Engineering. Before starting at Purdue in 2015, Ms. Phillips worked as a research & assessment librarian at Saginaw Valley State University and as the associate director of the J. Robert Van Pelt & John and Ruanne Opie Library at Michigan Technological University. During her career, she has provided instruction in standards and technical information as a librarian for nine years. Her current research interests include standards education, standards collections in academic libraries, and preparing engineering and technology students for the college to workplace transition.

Erik Puskar, *Panelist and Table Facilitator*

Erik Puskar is a senior standards specialist within the Standards Coordination Office (SCO) at the National Institute of Standards & Technology. Mr. Puskar supports Federal agencies by monitoring developments in standards and conformity assessment internationally and helps equip U.S. industry with the standards-related tools and information necessary to effectively compete in the global marketplace. He has supported several trade related negotiations and dialogues, led the Office's impact assessment efforts, and helped launch NIST's initiative on standards education. Mr. Puskar serves on the International Policy Committee of ANSI and was a vice-chair of the Committee on Education (COE) and board member of the International Committee for Education about Standardization (ICES). Prior to his current position, Mr. Puskar was a program manager with the NIST Advanced Technology Program where he was responsible for managing a \$25 million project portfolio. He also previously held other positions with the U.S. government, international development organizations and private sector. Mr. Puskar holds a bachelor's degree in economics from Rutgers University and a master's in public management and policy from Carnegie Mellon University.

Sankar Roy, Ph.D., *Panelist*

Sankar Roy received his Ph.D. from George Mason University in 2009. Since 2015, he has been working as an assistant professor in computer science department at Bowling Green State University (BGSU). His main research interests are in computer security, including Android app security vetting. He recently took a key role in developing a digital forensics specialization program for BS-CS students at BGSU.

Daniel Ryan, *Table Facilitator*

Dan Ryan is the director of standards programs with Underwriters Laboratories and is responsible for the technical management of UL's global standards development and maintenance activities. Mr. Ryan has nearly 35 years of standards related experience. Prior to assuming his current role, Mr. Ryan's management roles included managing UL's relationships with national and regional standards bodies around the world and managing safety and sustainability standards development activities across a number of diverse categories, including indoor air quality, sustainability, security, signaling, building materials, hazardous locations, lighting, and flammable liquids. His management responsibilities included serving as the chair and program manager of the consensus bodies responsible for developing and maintaining the assigned UL standards, and ensuring that the associated standards development activities were in compliance with UL's various accreditations, as well as with World Trade Organization (WTO) principles for international standards. Prior to joining the UL standards division in 2003, Mr. Ryan acquired nearly 20 years of experience in the application of standards through conformity assessment work, and as a technical participant in the standards development work of UL and other national and international standards development organizations. Mr. Ryan currently serves as the vice chair of the ANSI Executive Standards Council.

Chittaranjan Sahay, Ph.D., *Panelist*

Chittaranjan Sahay, Ph.D., P.E., C.Mfg.E., is the Vernon D. Roosa distinguished professor of manufacturing engineering at the University of Hartford. He is also the director of the Center for Manufacturing and Metrology at University of Hartford. He has authored close to 100 technical papers. Over the last three years, the Center has been recognized as a Center of excellence in metrology and manufacturing education. He is the primary instructor for training engineers for advances in metrology applications for U.S.'s global competitiveness. He has been responsible for incorporating GD&T, surface roughness, limits and fits and other codes in the graduate and undergraduate courses.

Dr. Sahay has served ASME as a member of the board of governors from 2006-2009, and as chair of the Electronics Manufacturing Division from 1997-2001. He also served as vice chair of the Manufacturing Engineering Division, vice chair of Technology and Management, and vice president of ASME's Mid-Atlantic region.

Dr. Sahay has received the ASME Dedicated Service Award, the Ben C. Sparks Medal for education, and the ASME Faculty Advisor award. He is an elected member of the Connecticut Academy for Science and Engineering.

Mary Saunders, *Moderator and Table Facilitator*

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 Committee and the ANSI Government Member Forum, working with the members of these committees 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 is 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, 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.

Frances E. Schrotter, *Table Facilitator*

Frances E. Schrotter is senior vice president and chief operating officer at the American National Standards Institute (ANSI). In this position, she has primary responsibility for the Institute's activities supporting and facilitating the participation of U.S. interests in domestic, regional, and international standardization activities. Ms. Schrotter works closely with government agencies and public-sector stakeholders to explore how the private sector can assist in addressing their standardization needs. In addition, she collaborates with the ANSI constituency and other affected interests to identify the need for new standards and conformance programs and works with these groups to facilitate their timely implementation. Her role encompasses management of the ANSI administrative operations, including communications, education and training services, and human resources, as well as overseeing the Institute's cross-stakeholder forums for additive manufacturing, unmanned aircraft systems, homeland defense and security, nanotechnology, and electric vehicles.

Since joining ANSI in 1976, Ms. Schrotter has worked with numerous domestic and international committees developing standards in dozens of industries, including the information technology standards arena, where she served as the first international secretariat of the ISO/IEC Joint Technical Committee 1 on Information Technology.

Lisa Spellman, *Table Facilitator*

Lisa Spellman, MBA, Astd. is the General-Secretary for the Digital Communications in Medicine (DICOM) for the Medical Imaging Technology Association (MITA) providing strategic leadership and managing global operational affairs for DICOM stakeholder. Lisa has worked in international standards development for over 15 years collaborating with multiple SDOs and hundreds of subject matter experts, vendors, governments, health ministries, and NGOs in the development of consensus-based standards. She is on the Board of Directors for the Society for Standards Professionals (SES) where she serves as Education Council Chair and serves on United States National Committee (USNC/ANSI) for Rules & Procedures and Finance Committees.

Jan-Henrik Tiedemann, *Panelist*

Jan-Henrik Tiedemann is an executive with more than 19 years of experience working at an international level. He is an experienced keynote speaker, facilitator and workshop leader having worked in over 40 countries on all seven continents.

Mr. Tiedemann is a results-driven communicator, precise at identifying wants and needs, effective at defining and implementing strategies. He has a proven success record in the management of IEC and ISO groups at the international level. He has a broad-spectrum and specific understanding of products, services, networks, channels and media, with the capacity to interact and liaise with diplomacy at all levels.

Andy Updegrave, *Table Facilitator*

Andrew Updegrave is a co-founder and partner of the Boston law firm of Gesmer Updegrave LLP. Since 1988 he has worked with over 180 consortia, accredited standards development organizations and open source foundations, most of which he helped form, assisting the largest technology companies in the world. He has testified before the United States Department of Justice, Federal Trade Commission and Congressional and state committees regarding consortia and standard setting, and has filed pro bono “friend of the court” briefs with the Federal Circuit Court, Supreme Court, and Federal Trade Commission on leading standards litigation. In 2002, he launched ConsortiumInfo.org, the most extensive resource on the Internet dedicated to consortia and standard setting, and Standards Today, a monthly e-Journal of news, ideas and analysis on standard setting that now has thousands of subscribers. The Standards Blog was added to ConsortiumInfo.org in 2005. In 2004 he was asked to join the United States Standards Strategy revision committee, received the President’s Award for Journalism from the American National Standards Institute (ANSI) in 2005, and has served as a member of the Boards of Directors of ANSI, the Free Standards Group, the Linux Foundation and WorkCred; on the Advisory Board of HL7, an ANSI accredited health standards developer and Open Source for America; and as a Charter Fellow of OpenForum Europe, a think tank advising the EU and member states on open technology policy matters. He is a graduate of Yale University and the Cornell University Law School.

Hélène Vaillancourt, Ph.D., *Panelist*

Hélène Vaillancourt was appointed vice president, Standards Research and Planning, CSA Group in April 2016 to develop a research program within CSA Group’s Standards Organization and to position CSA Group as a thought leader in selected areas and enhance the education of stakeholders.

She acted as executive vice president, science and engineering, CSA Group, from April 2010 to April 2016. In this role, she is responsible for overseeing CSA laboratories worldwide to ensure they are brought to the latest technologies. She also lead the CSA core technical team that supports certification & testing capabilities, inspection services and training, and developed new capabilities in emerging areas. She championed cross-functional teams that are working on improving operational efficiencies. She relocated to China in September 2014 to further support the development of CSA’s Asia technical capabilities and, in addition, assumed the role of interim executive vice-president, Asia from October 2015 to April 2016.

Ms. Vaillancourt joined CSA in October 1999 as the Team Leader, Certification Services for the Montreal office. She has been involved in numerous internal projects that aimed at improving consistency and service offerings in certification.

Prior to joining CSA, she was with CRIQ (Centre de recherche industrielle du Québec) as the team coordinator for the mechanical laboratory, where custom testing services were offered to evaluate the static and dynamic resistance of new product designs in a variety of sizes, starting from metallic storage boxes to subway truck frames.

Ms. Vaillancourt started her career with the Industrial Material Institute of the National Research Council of Canada. As a research officer, she led many experimental projects in material processing, residual stresses and finite element analysis.

Ms. Vaillancourt graduated in mechanical engineering from Laval University. She obtained her Master of Applied Science in mechanical engineering from École Polytechnique in Montreal by completing research in the field of biomechanics. She earned her doctorate in mechanical engineering from the University of Toronto. Her research in the field of dentistry had both numerical and experimental aspects.

Claudia E. Vergara, Ph.D., *Panelist*

Claudia E. Vergara, Ph.D. directs program evaluation and assessment of student learning efforts in the Center for Integrative Studies in General Science (CISGS). She has extensive experience in educational research design and instructional development. She is also part of the CISGS teaching faculty team. Dr. Vergara received her M.S. in Higher Adult and Lifelong Education from Michigan State University and Ph.D. in Plant Biology from Purdue University. Her professional interests are in the implementation of improved teaching and learning processes that incorporate effective assessment of student learning as well as sustainable institutional change strategies.

Timothy West, *Table Facilitator*

Tim West has been leading standards work at Deere & Co. since 2012. Prior to this, he was responsible for leading the product safety and standards efforts for John Deere's construction and forestry division. He also has several years of experience developing the Deere construction crawler product line.

In 2014, Mr. West was elected to the ANSI Board of Directors serving as an "at-large" member and has served on the nominating committee and executive committee. He is an active member of ANSI's International Policy Committee (IPC) since 2015 and a vice chair of ANSI's Company Member Forum (CMF). Mr. West has been active in ISO TC 127, *Earthmoving Machinery*, ISO TC 23, *Agricultural Equipment*, is a member of the U.S. TAG and member of American Society of Agricultural and Biological Engineers (ASABE). He promotes the industry's role in product safety and standards as a member of the Association of Equipment Manufacturers (AEM).

Mr. West began his career with John Deere in 2000, after several years of manufacturing and construction experience at Butler Manufacturing, Case Corporation and United Technologies-Carrier Corporation. He has a B.S. and M.S. in industrial engineering from the University of Missouri.

Mr. West and his wife, Darla, have four sons. They live in Dubuque, IA and devote much of their free time to working their farm in Southwest Wisconsin.

Sara Yerkes, *Table Facilitator*

Sara Yerkes is serving the International Code Council (ICC) as Senior Vice President of Government Relations. Her duties include overseeing public policy and government relations functions of the organization; developing and implementing a pro-active program of effective lobbying and persuasive advocacy; representing and speaking for ICC on policy matters and program activities; coordinating the strategies to implement policies at the Federal, State and local levels; supervising the accomplishment of the developed action plans; working closely with Members of Congress, State legislators and their staff to draft and endorse legislation that will support and benefit the ICC's mission and related goals; seek opportunities to showcase ICC and to expand ICC's circle of influence. Sara oversees the State and Local

activities that have successfully gained the adoption and use of the International Codes in all fifty states, US territories and by Federal Agencies, as well as overseeing programs like the Plumbing, Mechanical and Fuel Gas Program (PMG) Resources for code adoptions, and Fire Service Activities.

Sara managed the ICC's annual national campaign supporting Building Safety Month; and created the ICC High School Technical and the Community Colleges/Universities Programs to teach students how to navigate and use the building codes. In 2018 the Military Families Career Path was added to Safety 2.0, an ICC initiative to welcome a new generation of members and leaders to the building safety profession.

As the primary contact with other national organizations based in Washington, D.C., Sara also works to strengthen existing alliances; and seek opportunities to create new ones.

She has been involved in several professional organizations, including serving as a board member of the Sleep Products Safety Council, as a charter member of the Safe Children's Sleepwear Coalition, and is a charter member of the US World Standards Day Planning Committee, a charter member of the Congressional Fire Services Institute, For A Safer America Coalition, the NASFM Residential Fire Sprinkler Advisory Committee, the National Advisory Committee of the Congressional Fire Services Institute, National Safe and Healthy Housing Steering Committee, Vision 20/20, past chair and current member of the National Institute of Building Sciences Consultative Council, Board Member of the Multi Mitigation Council, High Performance Building Coalition Education & Outreach Committee, ASAE member, ANSI Committee on Education, and has served as a subject matter expert on federal initiatives to develop strategies to encourage and support state and local adoption of current safety codes, co-chairs the national Coalition for Current Safety Codes, and is a member of the FLASH Resilience Policy Council.

Sara is a Dame of the Royal Equestrian and Military Order of Saint Michael of the Wing, a dynastic order of the Royal House of Portugal, founded in 1147.