ACHIEVEMENT AWARD

Jacqueline Chen, Ph.D.

SANDIA NATIONAL LABORATORIES

For pioneering research in computational combustion modeling; for harnessing the power of computers to advance the discipline; and for service both to science and the scientific community.

Jacqueline Chen, Ph.D., is a distinguished member of the technical staff at Sandia National Laboratories, where she has worked since 1982. A computational engineer, she conducts research in the development and application of massively parallel direct numerical simulations (DNS) to study the fundamental turbulence-chemistry interactions underlying advanced, fuel efficient, clean-burning engines and gas turbines.

Her research at Sandia has led to a deep understanding of the complex interactions of fluid flow and chemistry in flames and has improved models for engine design. Her investigations have involved some of the largest computational simulations ever performed and have impacted many computational programs and methods. A direct numerical simulation (DNS) code she developed is used worldwide by fluid dynamics and computer science researchers.

Dr. Chen received her B.S. from The Ohio State University; her M.S. from the University of California, Berkeley; and her Ph.D. from Stanford University, all in mechanical engineering.

She began her career at Sandia working on thermal analysis, but soon switched to Sandia's world-renowned Combustion Research Facility (CRF). There, she initiated research using DNS — a computationally demanding but extremely accurate simulation technique — to understand the coupled unsteady fluid mixing and chemical reaction processes in turbulent flames. By incorporating advances in numerical techniques and continually modifying the DNS code to run effectively on massively parallel supercomputers, Dr. Chen has performed DNS simulations on the largest supercomputers in the U.S.

These simulations have helped answer fundamental questions related to pollutant production (especially soot and NOx) in flames, flame holding, flame extinction, and optimization of fuel-air mixing for controlled flame propagation in engines. Recently, Dr. Chen and her collaborators discovered a novel ignition mechanism that is important in modern diesel engines with exhaust gas recirculation. They also discovered a new flashback mechanism for backward flame propagation in gas turbines. Their work has exposed weaknesses in sub-grid-scale models for turbulent combustion and led to improved formulations of these models.

Dr. Chen is an active international collaborator, working with research groups in Australia, Norway, South Korea, and England, among others. She was the founding director of the Department of Energy's (DOE) Center for Exascale Simulation of Combustion in Turbulence (ExaCT), a multi-institutional, multidisciplinary center, and is the principal investigator of the DOE Exascale Computing Project focused on developing combustion multiphysics direct numerical simulation software, and is a principal investigator of the DOE Basic Energy Sciences Gas Phase Chemical Physics program, where she applies direct numerical simulation to study fundamental chemistry-turbulence interactions.

She has mentored 25 postdoctoral research associates, many of whom have gone on to successful research careers at labs and in industry and academia. She serves on the editorial board of three major scientific journals and on the board of directors of The Combustion Institute and the advisory committee of the DOE's Advanced Scientific Computing Research program.

A prolific writer, Dr. Chen has 153 publications in peer-reviewed journals. She is also a sought-after speaker and has given 20 plenary or keynote talks at major international conferences. She is a fellow of The Combustion Institute, received the Combustion Institute Bernard Lewis Gold Medal in 2018, and was recently elected to the National Academy of Engineering.

Dr. Chen spends her spare time traveling with her family and encouraging her daughter, an undergraduate at MIT, in her pursuit of a career in STEM.

SUZANNE JENNICHES UPWARD MOBILITY AWARD

ENDOWED BY NORTHROP GRUMMAN CORPORATION

Cindy Wallis-Lage, P.E.

BLACK & VEATCH CORPORATION

For inspirational leadership, passion, and knowledge that champion the world's water resources; and for illuminating a path to success for young women engineers to follow.

Cindy Wallis-Lage, P.E., is president of Black & Veatch's water business and serves as a member of the company's executive committee and board of directors. When named to this position in 2012, she became the first woman president of an operating division in the company's 100-year history.

Wallis-Lage leads a workforce of more than 2,800 professionals in more than 75 offices located in North America, South America, the U.K., Asia Pacific, and India. Her responsibilities encompass Black & Veatch's water-related business strategies, development, and operations. Under her direction, the water business at Black & Veatch has posted strong financial metrics and implemented strategic growth initiatives to position the company to achieve its long-term goals.

A licensed professional engineer, Wallis-Lage has played leadership roles on projects involving more than 100 facilities worldwide, helping public and private entities successfully manage their water, wastewater, and stormwater facilities and infrastructure. She is recognized as a leading expert in the treatment and reuse of water and wastewater resources. Wallis-Lage is extensively published and a sought-after speaker on the challenges and direction of the water industry.

She is vested in the success of her colleagues, taking time to collaborate, teach, and inspire. An executive sponsor of the Black & Veatch Women's Network, Wallis-Lage also speaks openly about the challenges she faces, making her an extremely effective mentor and role model. Throughout her career, she has helped to guide and counsel male and female engineers, and women throughout the company are responding, moving into increasingly influential roles and embracing opportunities as the next generation of leaders. As a result of her influence, more and more young women from Black & Veatch are engaging students at the elementary, middle school, high school, and college levels, showcasing the exciting, difference-making work in which STEM professionals can take part.

Wallis-Lage is also a dynamic leader of industry- and community-based organizations and programs. She is on the board of the US Water Alliance and the Water Research Foundation, serves as president on the board of directors for the Girl Scouts of Northeast Kansas and Northwest Missouri, serves on the Engineering Advisory Council for Kansas State University, and was executive sponsor for Kansas City's Introduce a Girl to Engineering Day. In 2014, she served as the keynote speaker for the SWE Kansas City Section's Introduce a Girl to Engineering Day.

In 2017 and 2018, Wallis-Lage was named among the Top 25 Global Water Leaders by *Water & Wastewater International*. She holds a B.S. in civil engineering from Kansas State University, and an M.S. in environmental health engineering from The University of Kansas.

She and her husband, Kent, have three children — Austin, Madison, and Jackson — all of whom are engineers. Outside of work interests, Wallis-Lage enjoys being with her family as well as traveling and spending time in the mountains.

RODNEY D. CHIPP MEMORIAL AWARD

Thomas A. Kennedy, Ph.D.

RAYTHEON COMPANY

For career-long support of women engineers; and for leveraging top-level executive authority to champion diversity and inclusion in the workplace, and in STEM as a whole.

Thomas A. Kennedy, Ph.D., is chairman and CEO of the Raytheon Company, a global technology and innovation leader specializing in defense, civil government, and cybersecurity solutions.

When Dr. Kennedy became CEO in 2014, workforce diversity and inclusion were major themes in his inaugural employee messages. During initial talent reviews, he concluded that company efforts to attract, retain, and promote women and women engineers were lacking. He ordered a new initiative to reinvigorate personnel practices and increase career opportunities for women and people of color. Results to date include a mandate for open leadership positions to have representative candidate slates (with 45 percent of those positions going to women or persons of color); every senior company leader now mentors at least one woman; and the first Raytheon Women's Forum in more than a decade.

Throughout his 35-year Raytheon career, Dr. Kennedy has championed workplace diversity and inclusion, understanding the important role women and underrepresented minority groups play in solving technical challenges. He has consistently led through example by practicing a philosophy that "the best person for the job is the best person."

Early in his career as a program manager working on radar and tactical airborne systems, Dr. Kennedy always made sure his teams included talented women, and he both mentored and sponsored them for advancement. As vice president in the Space and Airborne Systems (SAS) business unit, Dr. Kennedy was an initial champion when Raytheon began its diversity journey in the early 2000s, serving as executive sponsor for SAS' Asian-Pacific employee resource group. And, as president of Raytheon's Integrated Defense Systems business from 2010-2013, he stressed the importance of being open to diverse skills, experiences, and opinions.

As Raytheon chairman, Dr. Kennedy sets the tone from the top. He is a vocal advocate for women engineers and initiatives that increase their numbers. The first new board member appointed under his tenure was a woman engineer, and the board now has four female directors.

To help develop the next generation of women engineers, Dr. Kennedy directs Raytheon's support of STEM-focused initiatives that drive diversity, including a partnership with the Girl Scouts on its first-ever national computer science program to encourage middle- and high-school girls to pursue careers in cybersecurity, robotics, and artificial intelligence.

Dr. Kennedy received a B.S. and M.S. in electrical engineering from Rutgers University and the Air Force Institute of Technology, respectively. After leaving the Air Force with the rank of captain, he earned a Ph.D. in engineering from the University of California, Los Angeles. Dr. Kennedy is married with three daughters, one of whom is an engineer and past-president of her college SWE section.

Dianne Costlow, Technical Director

RODNEY D. CHIPP MEMORIAL AWARD

Naval Surface Warfare Center Corona Division

For outstanding commitment to recruiting and advancing women engineers; for ensuring the upward mobility of women across its ranks; and for consistent outreach and recruitment aimed at building a vibrant STEM workforce.

For more than 50 years, the Naval Surface Warfare Center Corona Division (Corona) has been a leader in the U.S. Navy's research, development, test, and evaluation process. It is the U.S. Navy's premier independent assessment agent, responsible for gauging the war-fighting capability of ships and aircraft for performance, readiness, quality, and supportability throughout the entire life cycle.

The division also serves as the Navy's and Marine Corps' metrology and calibration engineering agent to ensure accuracy of today's precision combat weapon systems, using the state-of-the-art Measurement Science and Technology Laboratory. Corona engineers and operates the Navy's live, virtual, and constructive training architecture environment around the world and conducts performance and readiness assessment of ship systems leveraging the 48,000-square-foot Joint Warfare Assessment Laboratory. Corona is a leader in data analytics focusing on turning data into information and making it transparent to decision-makers and the warfighter.

Corona is committed to the advancement of women engineers. Among the government workforce, 66 percent are scientists and engineers, and 16 percent are women. The percentage of women in supervisory positions in technical science and engineering departments is 18 percent. In 2017, Corona achieved a major milestone when the first female technical director in the command's history, Dianne Costlow, entered into the federal senior executive service position. The private sector and Department of the Navy civilian science and engineering workforce have historically been predominately male. However, Corona's recruitment and promotions strategies have resulted in a growing trend toward closing the gender gap.

Embracing diversity as a business imperative, Corona provides career development and leadership mentoring for all employees. Women's contributions are widespread from all levels of leadership and management. Corona's commitment to recruiting, hiring, and promoting women also benefits its larger parent organization. For example, Corona's technical director was a keynote speaker at the Women's Observance at its sister warfare center, NSWC Crane Division, and discussed her perspectives for successful women in engineering. Navy leadership tapped Corona to be a key contributor at its Leadership in a Diverse Environment training conference, which focused on the challenges and opportunities facing women in leadership and encouraged and empowered women to pursue leadership ambitions. This successful training helped attendees establish its Lean In Circle at Corona.

One of the most diverse divisions in the Navy, Corona engages in robust community outreach aimed at increasing enrollment in STEM fields. Corona is an active participant on the Naval Sea Systems Command recruiting team, and leads national and regional recruiting events on the West Coast. This partnership provides Corona access to a diverse pool of candidates from across the country, and helps support its vibrant internship programs.

RODNEY D. CHIPP MEMORIAL AWARD

Paul Sowerby

CUMMINS INC.

For encouragement, support, and advocacy of women engineers; and for groundbreaking achievements in gender balance, driven by a core belief in diversity and inclusion.

Paul Sowerby is executive director of Cummins Global Technical Operations, based in Columbus, Indiana, where he is responsible for all Cummins technical facilities around the globe, along with customer engineering and product line management.

Previously, Sowerby was chief technical officer for Cummins India Operations and managing director for Cummins Research and Technology India Pvt. Ltd., where he worked across all business units and was responsible for a wide diversity of products, programs, and processes, including the conception, construction, and commissioning of Cummins' newest global Technical Centre in Pune, India.

Sowerby is recognized for creating diverse, high-performing teams through a persistent drive for gender equality, delivering new technical facilities, facilitating joint venture start-ups, and introducing new products, while leading organizations toward improved effectiveness through the use of Six Sigma and lean approaches.

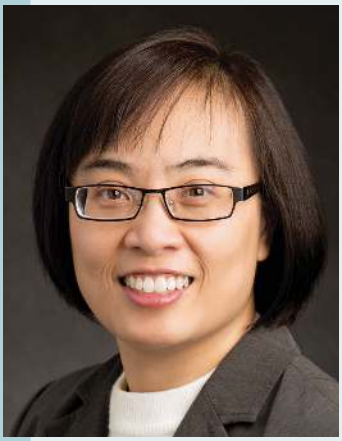
When Sowerby began a six-year assignment in China, women were represented in only the early career stages of the engineering organization. Although the average representation remained relatively flat over six years, Sowerby increased representation of women throughout all levels of the engineering organization. He was a key leader for creating the women's engineering education sponsorship program, and women mentored by Sowerby have become technical leaders across the China engineering organization.

His results in India are even more impactful. While tripling the size of the organization, he improved gender diversity from 22 percent to 36 percent, the best level of female representation in the entire company. Today, the gender balance is 50:50 at entry levels and 25 percent at the higher levels of the organization, with an attrition rate of 8 percent. The majority of the women who enter the higher levels of the organization have advanced from within the company.

Sowerby has used his executive visibility to champion women engineers outside his "home" organization on a global scale, regardless of level or region. As development reviews are held, he ensures that diverse candidate pools are considered. He extends the same effort to recruitment, ensuring candidates are not overlooked due to unconscious bias.

A certified Six Sigma green belt, Sowerby recently received the J. Irwin Miller Award of Excellence for championing gender equality in Cummins India. He earned a B.S. in engineering and an MBA in strategy from the University of Sunderland, is a registered chartered engineer and fellow of the Institution of Mechanical Engineers in the UK, and holds several international patents.

Sowerby and his wife, Linda, have been married for 34 years and have three daughters, Emma, 32; Rachel, 31; and Ruth, 27, who all live around London in the UK. His hobbies include cycling (whenever and wherever possible), driving anything and everything, and exploring the world through travel.



DISTINGUISHED ENGINEERING EDUCATOR

Elizabeth Hsiao-Wecksler, Ph.D.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

For steadfast commitment to student success and project-based and team-based learning; for leadership in revamping engineering curricula; and for serving as an encouraging role model and mentor.

Elizabeth Hsiao-Wecksler, Ph.D., has been a practicing mechanical engineer for more than 30 years in both industry and academia. She is a professor, Willett Faculty Scholar, and associate head of undergraduate programs in the department of mechanical science and engineering (MechSE) at the University of Illinois at Urbana-Champaign. She holds a B.S. from Cornell University, a M.S. from Rochester Institute of Technology, and a Ph.D. from the University of California, Berkeley, all in mechanical engineering. Dr. Hsiao-Wecksler was actively involved in SWE as an undergraduate and graduate student.

Prior to earning her Ph.D., she worked for seven years in various mechanical engineering positions at Xerox Corporation in Rochester, New York. She was a postdoctoral fellow in the integrated rehabilitation engineering program at Harvard Medical School and Boston University before joining the University of Illinois at Urbana-Champaign faculty.

Dr. Hsiao-Wecksler holds affiliate appointments in the neuroscience program; the Center on Health, Aging, and Disability; the Beckman Institute; and the departments of bioengineering and industrial and enterprise systems engineering, as well as the national Center for Compact and Efficient Fluid Power. Her work has been supported by the National Science Foundation, the National Institutes of Health, and the U.S. Department of Homeland Security.

In keeping with her personal goals — to keep learning herself and to set students up for success by teaching them material skills that they will take away for a lifetime — for the past five years, Dr. Hsiao-Wecksler has focused on improving the design curricula within the MechSE department. The department offers B.S. degrees in mechanical engineering and engineering mechanics to more than 1,000 undergraduate students. There, she leads a group of faculty involved in revamping the curricula of five design courses from first year through senior year to provide project-based and team-based learning. The effort has also resulted in the creation of MechSE's Innovation Studio, a 3,000-square-foot student makerspace.

Dr. Hsiao-Wecksler is co-founder of IntelliWheels Inc., a start-up developing novel, multigeared wheels for manual wheelchairs to improve propulsion biomechanics and reduce shoulder loading. Her research group uses methods from design, control theory, mechatronics, fluid power, soft robotics, and musculoskeletal biomechanics to investigate and improve movement control and function. She has graduated 11 Ph.D. students (two female) and 27 M.S. students (four female), of which at least nine have gone into academia and two have formed start-up engineering companies. More than 100 undergraduate researchers have participated in her group: 40 percent were female and/or underrepresented minorities, and at least 30 percent have continued to graduate school.

A fellow of the American Society of Mechanical Engineers and the American Society of Biomechanics, Dr. Hsiao-Wecksler is also associate editor for the *ASME Journal of Medical Devices*. Recently, she was selected to "150 for 150," a list of the top 150 accomplished women at the University of Illinois across its 150 years, in celebration of its sesquicentennial. With this honor, she was acknowledged for her work as associate head for undergraduate programs in MechSE to find ways to increase enrollment while also helping to provide undergraduate students with a research experience, and for being well-known as an encouraging and supportive mentor to other faculty, especially women, to help ensure their success.

ADVOCATING WOMEN IN ENGINEERING AWARD

Stacey DelVecchio, F.SWE

CATERPILLAR INC.

For a stellar career of technical and managerial accomplishments; and for tireless and ingenious use of media to speak out for SWE and for gender diversity in engineering.

Stacey DelVecchio, F.SWE, is the additive manufacturing product manager in the innovation and technology development division at Caterpillar Inc. in Peoria, Illinois. The first person to hold this position, she is responsible for developing a strategy to maximize the use of additive manufacturing in the components area and for implementing that strategy. She manages the Additive Manufacturing Factory, which has a wide range of 3D printing capabilities and is a source for Cat® production parts.

After accepting this assignment in 2014, DelVecchio assembled a team and built the Additive Manufacturing Factory. Her team now leverages the technology in all spaces, including prototyping, new product introduction, supply chain, and operations. Thanks to DelVecchio's leadership, Caterpillar now has parts in production created with additive manufacturing processes. These parts are produced at her manufacturing facility, and many more design projects that leverage additive manufacturing technology are under development.

In her 29 years with Caterpillar, DelVecchio has held numerous positions in engineering and manufacturing, including the build and start-up for a green field facility in China. She also served as the hose and coupling engineering manager and as the new product introduction manager for Cat Fuel Systems, and she oversaw the project management office for Cat engines.

A longtime supporter of SWE's mission, DelVecchio has held many leadership positions at the section, region, and Society levels. She served as SWE FY14 president and was named a Fellow in 2015. As a top-level manager and a role model at Caterpillar, DelVecchio had the support of her employer to speak on behalf of SWE and women engineers at every opportunity. She accepted more than 50 speaking engagements while she was SWE president. A voice for diversity in the Manufacturers Alliance for Productivity and Innovation (made up of manufacturing CEOs), DelVecchio addressed the board of trustees on the need for gender diversity, a topic they had not yet explored. She also spoke recently at the Big M Conference about women in engineering and was a 2015 recipient of the STEP Ahead Award by the Manufacturing Institute. In addition, she has harnessed the power of electronic media, such as Google Hangouts, podcasts, and StoryCorps, to discuss the valuable contributions made by women engineers.

A champion of SWE's global expansion, DelVecchio works globally to advocate a workplace culture that welcomes women. Active on the Women in Engineering committee for the World Federation of Engineering Organizations, she conducted an interactive workshop on gender diversity in Lima, Peru, for an international group of engineering leaders. Additionally, DelVecchio attended the 60th and 61st sessions of the United Nations Commission on the Status of Women.

She holds a B.S. in chemical engineering from the University of Cincinnati. She enjoys scrapbooking, reading, napping, and visiting national parks. DelVecchio lives in Peoria with her husband, Kerry, and their two cats.

ADVOCATING WOMEN IN ENGINEERING AWARD

Rose-Margaret Ekeng-Itua, Ph.D.

OHLONE COLLEGE

For championing the technical abilities of community college students; and for launching a dazzling array of imaginative and practical engineering education programs for women and minorities.

Rose-Margaret Ekeng-Itua, Ph.D., is a Professor of Engineering at Ohlone College in Fremont, California. She is the faculty advisor for the Ohlone College SWE Collegiate Interest Group, the first community college to establish such a group. She spearheads and fosters Industry – Academia Engagements with several Silicon Valley organizations, including NASA, Intel, IBM, Google, Lam Research, the Lawrence Livermore National Laboratory, and Tesla Inc.

Since Dr. Ekeng-Itua joined the college in 2014, engineering enrollment has increased by about 68 percent. To ensure that her students have skills that will make them employable, she revamped the engineering curriculum and lab with the latest tools and equipment. In her introduction to engineering class, she exposes students to the complexities of engineering design and challenges them to use 3D printers and other prototyping equipment to tackle social problems, such as affordable renewable energy, clean water, and internet access in remote areas.

Tireless in her advocacy of women and minorities in STEM, Dr. Ekeng-Itua has led several initiatives to create equity in STEM for African-American, Pacific Islanders, Hispanic, and female students, including the A2Pi program and student association. She is the first and current lead for the SWE African-American affinity group. She is a member of IEEE's Special Interest Group on Humanitarian Technology and a thought leader on embedding humanitarian engineering in college-level engineering curricula to engage underrepresented students in California. She also organized the first Silicon Valley Inter-Community College Women in Engineering Speed Mentoring Dinner, at which female engineering students met with industrial professionals. In 2016, she was nominated by TED-Ed to create TED-Ed lesson videos, published on the TED-Ed platform and available to STEM educators all over the world. Her series highlights the accomplishments of African-Americans in STEM. The debut video garnered more than 300,000 online views.

Dr. Ekeng-Itua received the 2017 Outstanding Teaching Award from the American Society for Engineering Education Pacific Southwest Section and the 2017 Faculty of the Year award from Ohlone College. In 2015, she received the UNESCO Global Education Special Recognition Award at the Youth Skills Day in Nigeria for her contributions to youth technical skill development and global education.

A two-time visiting scholar at the University of California, Berkeley, Dr. Ekeng-Itua has conducted research on appropriate and efficient energy pathways and on improving manufacturing productivity in emerging economies. She taught engineering for eight years at the University of West London and was the program lead for the engineering department there. Prior to that, she held two positions in Lagos, Nigeria: as an operations engineer (intern) for Shell Petroleum and as a systems engineer and instructor at Tranter International.

Dr. Ekeng-Itua holds a Ph.D. in cybernetics from the University of Reading, U.K.; a master's in mobile and satellite communications engineering from the University of Surrey, Guildford, U.K.; and a bachelor's, with honors, in electrical/electronic engineering from the Federal University of Technology Owerri, in Nigeria.

She credits her passion for education and advocacy to her late mother, Cecilia Eyo Ekpenyong. Dr. Ekeng-Itua enjoys reading, listening to music, traveling, and spending time with family and friends.

ADVOCATING WOMEN IN ENGINEERING AWARD

Mary Isaac, Ph.D., F.SWE

HEDGE CO

For a long and successful career in power engineering; and for advocacy of women and girls in STEM that is deep, consistent, and authentic.

Mary Isaac, Ph.D., F.SWE, is a longtime crusader for women in the engineering workforce. She is the founder of HEDGE (Helping Educators Direct Girls towards Engineering) Co, in Lakeside, California. HEDGE provides teachers and other adults training and tools that encourage girls to enter engineering and technology fields.

Dr. Isaac blazed many trails on her journey from upstate New York, where she grew up, to the Golden State, where she now lives. In high school in the early 1970s, she was one of the first young women to take mechanical drawing, a skill that helped her land a job with General Electric (GE) as a machinist's apprentice. In 1978, she was the first employee in GE Schenectady to receive paid disability for having a "complication of pregnancy."

After earning a B.S. in mechanical engineering, Dr. Isaac returned to GE. Over the course of a 30-year career, beginning in the machine shop and ending as Constellation Energy's customer quality manager, she led efforts at GE to develop and deliver technical expertise and commercial energy in nine countries. A constant in her work life was involvement in engineering outreach activities for girls through schools and SWE. No matter where she lived — New York, Texas, North Carolina, or Minneapolis — she participated in Odyssey of the Mind, Science Olympiad, mentoring, and career fairs. In the 1990s, she was an advocate for women in STEM through the GE Women's Network, serving as a chapter leader for several years.

Retiring from GE in 2007, Dr. Isaac began a second career as owner of HEDGE and full-time advocate for women and girls in STEM. She collaborated with GE to design and deliver an Engineers Week hands-on event roadshow in 2007 that involved nearly 1,000 middle school students (50 percent female) and 40 volunteers, followed by a TechGirls Summit in early 2008 for 150 middle school girls.

A SWE member at large since 1986, Dr. Isaac served on the Society-level program development grant and outreach committees, both of which she chaired. She also was a member of the SWE advocacy advisory board and co-led the formation of the New York State Capital District Section. In 2011, she was named a SWE Fellow.

In her community, Dr. Isaac mentors middle and high school girls through *FIRST*® (For Inspiration and Recognition of Science and Technology). She is a referee for the *FIRST* Tech Challenge, was an inspector for the Robotics Competition, and worked with the organization's leadership on engaging young women in engineering and technology. She is a member of the CS Impact Network, a National Center for Women and Information Technology initiative that evaluates precollege computer science and engineering programs.

Dr. Isaac earned a B.S. in mechanical engineering from Union College, an M.A. in technology education from North Carolina Agricultural and Technical State University, and a Ph.D. in occupational and technical studies from Old Dominion University.

She lives with her husband, Nick, in San Diego, where she enjoys music and the company of a small pack of rescue dogs.

ADVOCATING WOMEN IN ENGINEERING AWARD

QuynhGiao N. Nguyen, Ph.D.

NASA

For valuable fundamental and applied research in chemistry and aeronautics; for outstanding technical leadership; and for advocacy of women in the STEM careers of the future.

QuynhGiao N. Nguyen, Ph.D., is the high-temperature and durable materials lead for NASA's Hypersonic Technology Project (HTP), tasked with conducting research that will make hypersonic flight possible. Dr. Nguyen oversees multiple technology development projects relating to high-temperature materials and processes, across three NASA centers and various vendors and Department of Defense contracts. Dr. Nguyen discovered a titania hydroxy molecule found at high temperatures — a significant advance that helps designers select materials for use in combustion environments for aerospace applications. She has authored or co-authored 29 publications.

In 2017, Dr. Nguyen received the Steven V. Szabo Engineering Excellence Team Award, one of NASA's most prestigious, for her contributions to the "boundary layer ingestion inlet distortion tolerant fan inlet rakes engineering design development team." As the instrumentation lead and materials research engineer, she led the focus team to find a damping solution to enable the instrumented rakes to survive Mach 0.78 operating conditions. The expanded team also received NASA's Aeronautics Research Mission Directorate's Technology and Group Innovation Award.

Embracing NASA's HTP's mission to engage, energize, and train a new and diverse generation of hypersonic engineers, Dr. Nguyen was instrumental in providing funding for 17 students to receive mentoring and experiential learning in high-temperature durable materials. She is involved in a variety of other STEM outreach efforts, making herself available to new NASA employees, mentoring students, and volunteering to judge at science fairs. In 2010, Dr. Nguyen was recognized as a "Women@NASA" representative, and in 2017 NASA selected her as one of its "Modern Figures" for the campaign in support of the movie "Hidden Figures." In this capacity, she spoke frequently about women in STEM fields and was interviewed on Cleveland's NPR station about women trailblazers in science and engineering.

In February 2017, NASA selected Dr. Nguyen to represent NASA for the Google Expedition 3D application, a virtual career exploration educational program. CNN captured a segment of the first Google Career Expedition, a virtual reality exploration of Dr. Nguyen's materials engineering laboratory that allowed the public to learn about NASA careers featured in the "Modern Figures" project. Then, in May 2017, she was included in NASA Acting Administrator Robert Lightfoot's published recognition of Asian American and Pacific Islander Heritage Month.

A Vietnamese refugee, Dr. Nguyen attended public schools in the United States and went to an all-women's college, where she came to understand the importance of STEM education and how women learn differently than men. At the end of her sophomore year of college, she was nominated and accepted into Iota Sigma Pi, the national honor society for women in chemistry. Twenty-one years later, Dr. Nguyen became Iota Sigma Pi's national president. During those 21 years, Dr. Nguyen grew from a mentee to a role model for women in her field.

Dr. Nguyen holds a B.S. in chemistry from Notre Dame College and an M.S. in chemistry and a Ph.D. in clinical-bioanalytical chemistry, both from Cleveland State University.

She is an active member in her church and community. Dr. Nguyen enjoys cooking, live theater, fishing, sewing, gardening, and most of all, spending time with friends and family while sharing in all these activities.

ADVOCATING WOMEN IN ENGINEERING AWARD

Kristin Robertson

THE BOEING COMPANY

For accomplishments as a technical expert, business leader, and strategic partner; and for helping others succeed by promoting the engineering profession and advocating for women and minorities in STEM.

Kristin Robertson is vice president and general manager of Boeing Defense, Space & Security's Autonomous Systems division that focuses on autonomous technologies, intelligence capabilities, and networking solutions from seabed to space. She began her career in 1992 as an electrical engineer in the U.S. Navy Fleet Readiness Center in San Diego before joining Boeing in 1994.

While at Boeing, Robertson's technical expertise and ability to bring out the best in others were recognized by leadership, and she was nominated for several development opportunities, including roles as a corporate auditor and chief of staff.

She later became chief engineer for Strike, Surveillance and Mobility, where she had overall engineering execution responsibility for all of Boeing's fixed-wing military aircraft programs. She also led the engineering team responsible for the modernization and modification of several U.S. Department of Defense and international aircraft programs, and served as vice president of Tiltrotor programs and program manager of the T-X program, a comprehensive training system designed to replace the U.S. Air Force fleet of T-38 Talon training jets.

In 2013, as the first woman to lead the V-22 Osprey program, Robertson built a diverse leadership team and talent pipeline, moving quickly to increase women and minority representation. She hired several high-potential women into key positions, who became known as the "Ladies of the Osprey" and were recognized for their technical expertise, business acumen, and commitment to delivering results.

While leading the V-22 program, Robertson served as executive sponsor for the SWE Boeing group in Philadelphia and as the executive champion for Boeing Women in Leadership. In 2017, after relocating to St. Louis, she was named SWE executive sponsor for Boeing's defense business. An active SWE member, Robertson is a frequent guest speaker at local SWE events and panels.

Robertson established the Boeing St. Louis Makerspace, an unrestricted learning environment where K-12 students can participate in hands-on, problem-solving challenges using computer numerical control routers, 3D printers, and virtual reality and flight simulators. Boeing engineers staff the space and host hundreds of students each year. Robertson also provides funding and serves as the keynote speaker for "Introduce a Girl to Engineering Day," when 50 young women from local high schools visit Boeing and participate in a variety of hands-on engineering activities.

An active mentor, sponsor, and advocate, Robertson makes a point of sharing her experiences with other women, and mentors and develops women leaders to fill the management and leadership pipeline.

Robertson received her bachelor's degree in electrical engineering from the University of California, San Diego and her master's degree in international business from Saint Louis University. She serves on the board of trustees for St. Louis University and is a member of the Beta Gamma Sigma International honor society.

She has two grown sons who also share a passion for aerospace and aviation like their mom. In her free time, Robertson enjoys dirt bike riding and hiking with her family.

GLOBAL LEADERSHIP AWARD

Gail Heck–Sweeney

KEYSIGHT TECHNOLOGIES

For demonstrating immense skill at managing diverse organizations; for transforming multinational teams into a cohesive whole that delivers results; and for consistently fostering innovation through diversity.

Gail Heck-Sweeney is director of worldwide solution partner and rental partner channels for Keysight Technologies, based in Santa Rosa, California. In this role, she is responsible for the design and management of the Keysight worldwide partner channel, driving growth opportunities.

Prior to her current position, Heck-Sweeney was general manager of Keysight's mobile broadband operation in Málaga, Spain, where she was responsible for the research and development, marketing, and support for test and measurement systems and applications selling into the wireless communications industry. From 2004 to 2013, Heck-Sweeney was the general manager for Agilent's China Communications Operation, based in Beijing, and was responsible for the research and development, marketing, and support for software and test and measurement applications selling into the wireless, aerospace/defense, and general purpose electronic test markets.

Heck-Sweeney joined Hewlett-Packard in Palo Alto, California, and transitioned to Agilent when Hewlett-Packard split into separate companies. She has divided her career between Europe, the U.S., and Asia, working in marketing, manufacturing, services, and R&D in Edinburgh, Scotland; Amsterdam; Hong Kong; and in California and Washington.

As she has taken on more and different managerial responsibilities, Heck-Sweeney has retained her enthusiasm for developing others. She shares her technical expertise and diverse experiences to benefit her teams, their customers, and her company. Her international leadership and contributions to the success of organizations and people as a mentor and role model are immeasurable.

Heck-Sweeney champions women to take leadership roles at Keysight, and recruits women to assume management positions on her teams. By the time she left her roles in China and Spain, 30 percent or greater of the total managerial and supervisory positions were held by women engineers. Through her creation of genuine connections, and her passion for diversity and commitment to developing others, Heck-Sweeney has had immense, positive impact on Keysight's global business.

She also promotes the advancement of women in STEM. An active member of SWE, her extensive portfolio of extracurricular leadership activities as a role model embodies a hearty commitment to inspire women to achieve high levels of success, and to create a nurturing environment for all men and women in the workplace.

Heck-Sweeney is a founding member of the Beijing Women-in-Business Association, a co-chair and board member of the International Conference on Electronic Measurement and Instruments, and a certified personal coach. She holds a B.S. in engineering from Gonzaga University, an MBA from Santa Clara University, and an executive MBA from the Cheung Kong Graduate School of Business and Strategic Planning Certification from Harvard Business School.

Heck-Sweeney is married and has two children who continue to enjoy living in different parts of the world. She enjoys golf, lake-time water skiing, roasting marshmallows with friends and family, and gardening in her spare time.

GLOBAL LEADERSHIP AWARD

Mariana Karam

JOHN DEERE

For an exceptionally diverse career; for sharing an extraordinary scope of knowledge and experience with others; and for embodying service to both country and community.

Mariana Karam is global manager, manufacturing engineering for the Combine and Front End Equipment (FEE) product line in John Deere's Global Crop Harvesting platform. She leads a worldwide team of more than 240 manufacturing engineering professionals serving Combine/FEE product line operations in the U.S., Brazil, Germany, Israel, and Russia. Karam also supports manufacturing and quality teams at John Deere Sirhind Works factory in India and the John Deere Rosario combine assembly operations in Argentina. Her teams standardize manufacturing processes, methods, and tools necessary for product quality, safety, productivity, and new product development across the global business.

In 27 years with the company, Karam has led teams in quality, supply management, manufacturing engineering, operations, and product development. She has held leadership roles at John Deere's Harvester Works, Cylinder Operations, Waterloo Works, Thibodaux in Louisiana, and at its world headquarters. Karam has served in two expatriate assignments: as manager, supply management at John Deere Brasil, and as factory manager at John Deere Fabriek Horst in the Netherlands.

Returning to the U.S. in 2011, Karam became director, enterprise quality services and led the transformation of John Deere's quality and production system, subsequently deployed worldwide. Recently, as front-end equipment business manager, Karam and her team developed a product portfolio and growth strategy that is now the foundation for a $1 billion harvesting cutting platform business.

A SWE member since 1984, Karam was among the first John Deere employees to attend a Deere-sponsored delegation to WE10. The company's membership has since increased tenfold and, in 2014, she represented John Deere in SWE's e-book *Be That Engineer: Inspiration and Insight from Accomplished Women Engineers*.

As a Tocqueville Leadership Giver to the United Way for more than 10 years, Karam has served on the Cedar Valley United Way board, and as co-chair for local Deere campaigns. Karam has been a mentor for American Corporate Partners since 2015, supporting veterans returning to civilian life and careers.

Karam's message as mentor and by example is consistent: "Do the difficult. Be generous in sharing your experiences and lessons in life and career. Seek out advocates, and learn from critics. Remember your relationships and trust in others — family, friends, colleagues, teachers, and faith — will ultimately give you strength and support to dream and achieve your goals."

She holds a B.S. and an M.S. in mechanical engineering from the University of Notre Dame and Bradley University, respectively, and an MBA from Arizona State University. She was a captain in the U.S. Marine Corps, and served during the Gulf War.

Karam is originally from Washington, D.C., and is married to fellow John Deere engineer, Jeff Hawkinson.

GLOBAL LEADERSHIP AWARD

Kimberly Pittel

FORD MOTOR COMPANY

For exemplary stewardship of quality, safety, and sustainability standards in the automotive industry; for promoting diversity and inclusion; and for unfailing generosity of spirit in mentoring others.

Kimberly Pittel is group vice president, sustainability, environment and safety engineering for Ford Motor Company. As Ford's top environmental and safety officer, Pittel is responsible for the company's global environment and safety strategy, policy, and performance, and ensuring that Ford meets or exceeds all safety and environmental regulations worldwide.

Previously, Pittel served as executive director, global supplier technical assistance, responsible for establishing product launch and supplier quality processes to improve vehicle quality. Since joining Ford in 1985, Pittel has held a number of leadership positions within manufacturing, product development, quality, and purchasing, including serving as director of quality in the Americas.

She is the executive champion of the Ford employees with disabilities employee resource group. She is a member of the Professional Women's Network (PWN) and a strong supporter of the Ford Hispanic Network. She has been named twice by Automotive News as one of the 100 Leading Women in the North American Auto Industry.

Pittel actively mentors women across all skill teams in Ford, and advocates diversity in the company as a foundation for its strong business. She was also the keynote speaker and member of the Ford team that hosted the 2017 Coalition of Minority Professional Engineers professional development conference.

As one of the few women in an executive technical position at Ford, Pittel is frequently asked to speak to various groups and organizations throughout the company. Some of these engagements include new employee orientations, management training programs, global town halls, and PWN events. She has personally led PWN networking and leadership learning events around the world. Whenever Pittel makes a personal visit to one of the regions of her organization, she takes the time to speak to local PWN employees and share both her personal and professional experiences and learning. While the focus of PWN is on women, she encourages all Ford employees, male or female, to join in an effort to positively impact the culture of Ford Motor Company to better attract, develop, and retain all employees.

With the companywide exposure, she is frequently approached by women both within and outside of her organization and asked to coach, counsel, and mentor them. Throughout her career, Pittel has consistently invested time in these individuals, many of whom now hold senior-level positions within Ford.

Pittel earned a B.S. in chemistry from the University of Michigan and an M.S. in business administration from Wayne State University. She is married and has one daughter.

GLOBAL TEAM LEADERSHIP AWARD

John Deere Tractor Embedded Architecture, System Engineering, and Quality Team, led by Rekha Gore

JOHN DEERE

For development collaboration on a global scale; for pioneering a foundation for next generation electronic systems; and for standout results achieved in an atmosphere of mutual trust, respect, and accountability.

At John Deere, electronics content continues to grow exponentially in the products enabling deployment of innovative solutions for customers. To meet the growing demand in electronic solutions, and to manage the increasing complexity, a specific focus was required to lead a step change in future electronic controller design and software architecture.

Rekha Gore has more than 18 years of industry experience in automotive and off-highway vehicles with expertise in embedded domain. Due to her leadership skills and ability to demonstrate global perspective, she was appointed to lead this strategic initiative for the John Deere Tractor product line globally. In 2015, Gore relocated to Waterloo, Iowa, from Pune, India, as an expatriate along with her family.

A major organization restructure was done with the intent to strengthen system engineering and architecture design capabilities. Under Gore's leadership, these capabilities were brought together for the first time as a global team to drive scalability and modularity throughout the Tractors products. Gore's team comprised key individuals with multidisciplinary competencies, including technical managers for electrohydraulic and drivetrain systems, electronic hardware architects, subsystem engineers, software architects, and a quality engineer.

The electronic hardware architects were tasked with developing a standardized next-generation, 32-bit electrical architecture across globally designed tractor products. The team introduced a new concept of 32-bit domain controllers and enabled creation of electronic infrastructure inside the vehicle, which can be scaled up to adopt future technologies. The team collaborated with other product lines within John Deere, achieving a significant cost avoidance for the development of electronic controllers.

The power take-off (PTO) subsystem was the first project following the new workflow with significant focus on software architecture design to develop common software components. The team accomplished approximately 65 percent software components reuse, leading to substantial R&D reduction for software development and maintenance efforts on the PTO subsystem. Following the success of the first project, the approach with focus on software architecture design was then applied to multiple subsystems. With this major initiative, it was important to ensure high-quality designs; therefore, a dedicated software quality engineer was assigned to lead the efforts to define the software quality process steps.

Embracing cultural differences, creating an environment of mutual respect, trust, and accountability, this team stepped up to the challenge and pioneered a major change in the organization globally. The work done by this multidisciplinary team in hardware and software architecture will be foundational to create competitive advantage through smart electronic features in John Deere products for years to come.

Rekha Gore, Module Manager, Architecture, Systems and Quality, United States
Thomas Alferink, Manager, Electro-Hydraulics, United States
John Regenauer, Manager, Drive Train and Drive Strategy, United States
Brian Thola, Lead Electrical Architect, United States
Michael Martin, Lead Software Architect, United States
Jacob Kongs, Sub System Engineer, United States
Ashley Chardoulias, Quality Engineer, United States
Dr. Bruno Hoess, Supervisor, Electrical System Engineering, Germany
Tobias Ebel, Supervisor, Electro-Hydraulics, Germany
Daniel Woelk, Electrical Architect, Germany
Hadeel Taha, Sub System Engineer, Drive Train and Drive Strategy, Germany
Daniel Wolkow, Software Architect, Germany
Dr. Veit Scharf, Software Engineer, Germany
Rohini Mahajan, Manager, India
Dilip Jayavant, System Engineer, India
Amarnath Gupta, Software Engineer, India

PRISM AWARD

Kris Acosta

NORTHROP GRUMMAN CORPORATION

For sustained and inspiring mentoring of the next generation of women engineers; for lasting contributions to her professional community; and for leadership in aerospace programs.

Kris Acosta is a global supply chain program manager at Northrop Grumman Aerospace Systems in Redondo Beach, California, where she has contributed to more than 20 programs pursuing advances for both air and space applications. Acosta launched her career at Rockwell (now Boeing), where she was a materials engineer for eight years, the last two as program management specialist in Phantom Works. She developed advanced thermal protection systems (TPS) for reusable launch vehicles. Research areas included the modification of woven ceramic architectures, development and testing of high-temperature leading edges, and development of ceramic insulation systems, resulting in two patents. Her work on TPS and her involvement with her research colleagues resulted in successful flight demonstrations of advanced ceramic tiles on the base heat shield of NASA's space shuttle orbiter.

Interested in expanding her skills in system development, Acosta joined Northrop Grumman in 2003. Within two years, she proposed and executed two NASA contracts, applying her expertise in re-entry systems for space applications and operations. She worked on two Defense Advanced Research Projects Agency (DARPA) projects as systems engineering lead on the DARPA oblique flying wing, and as program manager for the DARPA rapid eye concept development project. Before her current position, Acosta was a proposal manager on the F-35 program.

Bringing all of her professional expertise to her work with SWE, Acosta incorporates business acumen and knowledge of team dynamics into her SWE leadership. She co-chaired professional development conferences for the Los Angeles Section and supported the strategic planning group, focusing on training materials as a member of the SWE curriculum committee. As co-chair for the section's professional development conferences for four years, Acosta has focused on messages of empowering women to "Engineer Your Life." As a member of the curriculum committee, Acosta has recommended changes to the professional development training materials available for SWE members to improve professional excellence. She is a tireless mentor and has spent countless hours encouraging women through SWE and sharing her knowledge to help them succeed in engineering.

A champion for women in STEM in her workplace, Acosta is the SWENext chair for Northrop Grumman Women's International Network (NGWIN) employee resource group. She collaborated with SWE to establish the SWENext Northrop Grumman Community Award in 2016, which encourages high school students to apply STEM principles to improve their communities. Through NGWIN, she created a cancer awareness committee to provide webinars, resources, and support to cancer survivors and family members.

As vice president of Women in Defense, Greater Los Angeles Chapter, Acosta initiated a "Call to Care" campaign to raise money for women veterans in the ADVANCE Women's transitional housing program at the U.S. Veterans Initiative in Long Beach.

She graduated from the University of California, Los Angeles with a B.S. in materials science and engineering. She earned a Masters in Advanced Studies in architecture-based enterprise systems engineering from the University of California, San Diego in 2012.

Acosta and her husband, Ernie, live in Los Alamitos, California, and enjoy spending time together working on home remodeling projects, traveling, and spending time with friends and family.

PRISM AWARD

Vicki Dawkins

EMERSON HERMETIC MOTOR

For meeting challenges with openness to diverse cultures and ideas; for business and technical expertise that drives improvements in the community; and for inspiring women and girls in STEM.

Vicki Dawkins is president of Emerson Hermetic Motor. She is responsible for general management of the business unit, including engineering, operations, supply chain, marketing and product planning, and human resources and finance. She has a depth of business and technical experience gained in a variety of positions in industry at Emerson and elsewhere. As an Emerson executive, Dawkins has lived and worked in the United States, as well as in Budapest and Hong Kong.

Dawkins' first job after college graduation was as a Level IV electrical engineer at NASA Kennedy Space Center. She contributed to several launches, working with modified data-reduction software and conducting payload checkout unit tests. Next, she worked for the National Steel Corporation as a systems engineer before moving on to Emerson, Lennox International, and Jakel. Dawkins returned to Emerson in 2007 as worldwide sourcing leader. By 2016, she was president of Emerson Asia Pacific, responsible for all business functions for the region, including finance, international trade compliance, human resources, security, and government relations.

Currently a member of the Emerson Women in STEM board, Dawkins has been a dedicated and active advocate for STEM awareness her entire career. Since 2013, she has served on the Girl Scouts of Eastern Missouri STEM Advisory Council, which reaches more than 40,000 girls. Determined to involve girls in more than cooking and crafts, Dawkins provided guidance for troop leaders to engage girls in STEM activities, which became a key objective for the organization and resulted in a successful, nationwide program with tools and kits for leaders. When she moved to Hong Kong in 2016, Dawkins shared her experiences with Girl Scout programs there.

She is also a regional leader for the Emerson Women in STEM for the St. Louis region, and as president of Emerson Asia Pacific, sparked growth of the group in Asia. Dawkins saw, in just one year, the Asia Pacific group define regions, identify leaders, and add several hundred participants. She worked to unify groups in China and India and hosted the first SWE event in China, held in Shanghai in 2016.

In addition to her STEM advocacy, Dawkins is active in her community. She is a board member for Ranken Technical College and the Girl Scouts of Eastern Missouri. In addition, she is the Emerson lead for the American Lung Association Fight For Air Climb campaign. She supports many other organizations, such as United Way, Make-A-Wish®, St. Joseph's School for the Deaf, the National Alliance on Mental Illness, Boys Hope Girls Hope, Junior Achievement, and the Miriam School for Girls.

Dawkins earned a B.S. in electrical engineering from Southern Illinois University in Carbondale, and a few years later, an MBA from Southern Illinois University at Edwardsville. The proud mother and stepmother of three sons, she and her husband, Mark, live in the St. Louis area.

PRISM AWARD

Deena Disraelly, Ph.D.

INSTITUTE FOR DEFENSE ANALYSES

For remarkable accomplishments in strategic defense and national security; and for developing creative ways to teach and encourage minorities and young women to pursue careers in STEMM.

A self-described emergency management specialist and nuclear engineer who likes to spend her free time mentoring young women and men, Deena Disraelly, Ph.D., is a project leader and research staff member at the Institute for Defense Analyses (IDA), Strategy, Forces and Resources Division, in Alexandria, Virginia. She performs quantitative and qualitative data analysis with a primary focus on preparedness and response. Her research projects at IDA include weapons of mass destruction modeling and simulation, preparedness and emergency response, risk prioritization, and education and training for the Department of Homeland Security, the Department of Defense, and NATO.

Dr. Disraelly has nearly 20 years of experience conducting analyses and developing training in engineering, disaster preparedness, and emergency response to chemical, biological, radiological, and nuclear attacks and disasters. She is an adjunct professor at The George Washington University, teaching a business continuity and disaster recovery course that covers theory and practical skills in argument formulation, case writing, and plan development.

She served eight years in the U.S. Navy as a surface warfare (nuclear) officer. Building on the leadership and mentoring skills she learned in the Service, she created programs that educate young people — especially minorities — about STEM and encourage them to pursue technical educations and careers via three organizations. First, through Latinas (and Other Ladies) Empowered to Achieve their Potential (LEAP), students are encouraged to pursue science, technology, engineering, math, and medical studies (STEMM). Dr. Disraelly created LEAP, a monthly program for underclass girls at T.C. Williams High School in Alexandria, and funded it with a Washington Area Women's Foundation Rainmakers Grant.

Second, the Building Better Futures' College Leadership Program facilitates the college and scholarship application processes for first-in-their-family and first-generation students. Finally, Casa Chirilagua's Casa to College excites children of color about the prospect of college, while they learn how to plan for college success.

Active in her profession internationally, Dr. Disraelly is the chair of ASIS International's Global Terrorism, Political Instability and International Crime Council. She has served as an adjunct faculty member in the Massachusetts Institute of Technology departments of naval science and ocean engineering and as a researcher at MIT's Center for Transportation and Logistics, among other mentoring, training, and research roles related to engineering and emergency management.

In her Alexandria community, Dr. Disraelly works with Casa Chirilagua, as the inaugural coach for the Case LEGO® League team and as a Casa to College volunteer, teaching in a college introduction program for middle school and high school students, mentoring Casa leadership, and modifying the program to meet student needs. She is also a public health volunteer and exercise evaluator with the Alexandria Medical Research Corps.

In addition to her Ph.D. in engineering management/systems engineering from The George Washington University, Dr. Disraelly holds an M.S. in technology and public policy, an M.Eng. in logistics, and a B.S. in aeronautical/astronautical engineering, all from MIT.

Dr. Disraelly celebrates this award with her father, Hillel Disraelly; and her brother, sister-in-law, and niece — Ari, Elaine, and Rebecca Disraelly — and in memory of two of her mentors, Barbi Striar Disraelly, her mother, and Capt. Teresa Elders McCue, USN.

PRISM AWARD

Anca Eisele

JOHN DEERE

For top-level organizational and technical abilities; for mastering new languages and cultures and thriving in an international business environment; and for tireless advocacy of SWE's global presence.

Anca Eisele was recently appointed as the European Union compliance manager for John Deere. In this role, Eisele guides the organization's compliance efforts to sustain the "HOW" culture through trainings, communication, and is the contact for most compliance questions.

She was the global commodity quality manager for John Deere at the Mannheim regional center in Mannheim, Germany. She oversees the performance of 1,800 suppliers and led a supplier quality team of engineers on four continents, coaching her colleagues; creating innovative integration pathways for business developments and start-ups; and supporting the company's localization efforts in Argentina, Brazil, the Russian Commonwealth, India, and Israel.

Born in Arad, Romania, Eisele immigrated to Germany shortly after graduating from college to explore different opportunities. In 2000, she earned a diploma in mechanical engineering from the University of Applied Sciences in Heilbronn, Germany. She is certified by the American Society of Quality as a manager of quality/organizational excellence and earned an executive MBA in international lean manufacturing consulting from the International School of Management, in Ludwigshafen, Germany.

In 2001, Eisele joined John Deere in Germany as a design engineer, working in drivetrain engineering, creating and improving parts and systems, which are still in production today. Working virtually with colleagues from other countries for the first time, Eisele thrived on the personal connection, alignment of purpose, and inclusion.

She moved on to positions of increasing responsibility in operations, quality, and product and customer support in other John Deere facilities in Germany and the United States. She received the John Deere Enterprise Engineering Council Innovation and Collaboration Award for her contribution to the development of the consumer robotic mower. As a project engineer, Eisele distinguished herself by leading a major project that restructured an assembly line to build two different models simultaneously.

Eisele is a longtime champion of SWE's international expansion. During her work assignment in Waterloo, Iowa, she was a founding member of the SWE Cedar Valley Section, remaining active at the Society level as a professional development awards judge and active on the professional development committee. Returning to Germany, for two years she was the international member representative for members-at-large on SWE's Council of Representatives, followed by international senator responsibilities. In FY15, she was appointed SWE special board director to support SWE's international expansion and to help develop what became the SWE affiliates and SWE ambassadors programs.

She has also helped international SWE members in Brazil, Germany, India, and Mexico form affiliates. In 2011, she became the vice chair for the John Deere SWE employee resource group. As a SWE Corporate Partnership Council representative and international senator, Eisele campaigned for employer-sponsored membership, which has increased SWE membership in several companies. Eisele co-founded John Deere's WomenREACH in Germany and sponsors the Metropolregion Rhein-Neckar SWE affiliates.

She is also very engaged locally, serving in Verein Deutscher Ingenieure (a German engineering association) and the Global Business Women Leaders Council. As part of Mannheim's celebration of *100 Jahre Frauenwahlrecht* (100 years of women's suffrage), Eisele was featured as one of the city's well-known and accomplished female citizens.

Outside of her professional life, Eisele loves to be outdoors. She spends her free time with her dog, either in the garden or in the Rhineland-Palatine area, using her ethnobotanics guide license to engage her friends in exploring nature.

PRISM AWARD

Katie Thorp, Ph.D.

AIR FORCE RESEARCH LABORATORY

For significant advances in research and engineering of novel aerospace materials; and for a career-long commitment to empowering women and minorities in technical fields through mentoring and advocacy.

Katie Thorp, Ph.D., was a principal materials engineer in the Air Force Research Laboratory (AFRL) materials and manufacturing directorate at Wright-Patterson Air Force Base in Ohio. Most recently, she was the research leader for the polymer matrix composites team in the structural materials division and drove the overall technical and business strategy and execution for research on novel composite materials. Dr. Thorp passed away in early July, shortly after receiving news of her award.

Dr. Thorp made mentoring and professional development a priority for her research team and for other teams inside and outside the AFRL. She was heavily involved in the Minority Leaders Program, a partnership with historically black colleges and universities. The Air Force recognized her contributions to the success of others in aviation and spaceflight by nominating her for the National Aeronautic Association's prestigious Katharine Wright Memorial Trophy in 2017. Dr. Thorp continued to be a vocal advocate for diversity in the workplace.

From the time Dr. Thorp entered the U.S. Air Force in June of 1998, she made significant advances in high-temperature materials, including the development of a new material known as AFR-PE-4, which offers better performance and reduced weight for propulsion and structural applications in the B-2 stealth bomber and the F-35 joint strike fighter. This advance led to a government patent and remains a vital research area in the composites industry. Dr. Thorp also served as program manager for the Applied Metamaterials Program, where she defined a conformable antenna demonstration for the Predator unmanned aerial vehicle. Technical improvements she spearheaded cut size, weight, and drag of alternating current mounted antennas by 94 percent. Previously, Dr. Thorp served as supervisory materials engineer in the AFRL materials and manufacturing directorate and branch chief of the soft matter materials branch in the functional materials division, where she supervised both civilian and military personnel.

Active in many professional science and engineering societies, Dr. Thorp embodied SWE's mission, devoting much of her time and energy to promoting the advancement and achievements of women and minorities in STEM. She was a fellow of the Society for the Advancement of Material and Process Engineering (SAMPE) and served as president of SAMPE Global. She championed the Women in SAMPE forum, which includes panels, roundtables, networking, and mentoring to encourage recruitment and retention of women in engineering. She was past chair of the Engineering and Science Foundation of Dayton and a member of the Engineers Club of Dayton. As a member of the Wright-Patterson Air Force Base educational outreach executive board, Dr. Thorp co-created Scanning Electron Microscope EDucatorS, an after-school program that teaches middle-school students how to operate scanning electron microscopes in a laboratory setting.

She was chair of the Noble Circle Project, a nonprofit that helps women thrive after a cancer diagnosis. Dr. Thorp inspired other women to thrive beyond cancer through leading this organization, modeling in the annual fundraiser fashion show, and creating programs on nutrition education, the power of positivity, and sisterhood. These aspects of her spirit were embodied within her professional life with teaching classes on resiliency and mentoring many other scientists and engineers.

Dr. Thorp earned a Ph.D. in materials engineering from the University of Dayton, and an M.S. in materials science and engineering and a B.S. in ceramic engineering, both from the University of Washington, in Seattle. She also enjoyed traveling with her husband, John, and volunteering at her church. Dr. Thorp was a friend to many in her technical and personal community and is greatly missed.

SPARK AWARD

Vikki Mueller Espinosa

INTEL CORPORATION

For using her unique and unrepeatable voice to promote diversity and mentorship; and for providing the tools, infrastructure, and inspiration for women to achieve their goals.

Vikki Mueller Espinosa leads the Delta Force team for Intel's Data Center Connectivity Group and is responsible for employee, manager, and technical leadership career development initiatives.

She began her 27-year career with Intel in finance, and after 20 years, transitioned to business operations. Following a three-year stint in human resources — driving a revolutionary program that provided employees as internal consultants to business groups — she returned to business operations as a career strategist and program director. While working in business roles, she has been a leader of Intel's effort to increase diversity and retention of technical women through targeted integration programs, brought mobility to employees' careers through the design and execution of an innovative employee freelancing program, and has built infrastructure that connects employees with their next great opportunity.

Recognized throughout Intel as an outstanding mentor, teacher, and coach, Mueller Espinosa enabled the growth of Intel's Career Connections program, which provides mentors, advisors, and coaches to more than 5,000 employees via 900 volunteer Connectors. She has individually mentored more than 1,250 women in the last decade. She believes that each of us is "unique and unrepeatable," and through her mentorship, blogging, inspirational talks, webinars, and classroom instruction, she provides employees emotional support and practical tools they need to thrive in their careers.

To extend her reach, she blogs regularly — crafting her message to reach anyone (both inside Intel and on LinkedIn) searching for career advice, support, and encouragement. She works with clients from other high-tech firms and guest teaches career development in a local, all-girls high school in Portland, Oregon. Her passion for advancing women in technology and the local community is rooted in her belief that women bring a unique voice and experience to the development of new products and services. She has established new programs and curricula that provide tactical and practical steps that women can take to further their careers and increase their mobility within the company, while supporting the flexibility women need to achieve work/life balance.

In 2009, Mueller Espinosa struggled to return to work after a catastrophic knee injury left her permanently disabled. She blogged openly about her accident and her steps toward recovery, inspiring confidence and creative ideas in others returning to work after setbacks. She created a new program called "Stab Your Co-Worker" that brings the sport of fencing to both able-bodied and disabled employees while raising money for local fencers.

She holds a degree in business administration, international business and marketing, from Northeastern University. Married to an electrical engineer, Mueller Espinosa lives in Portland and has two teenage daughters. To stay focused and healthy, she practices Pilates five days a week and walks her senior rescue dog, Dakota, rain or shine.

SPARK AWARD

Kerrie Greenfelder, P.E.

BURNS & MCDONNELL

For leading across all levels of SWE as a champion for change; and for pushing herself and others to new heights through thoughtful teaching and guidance.

Kerrie Greenfelder, P.E., is a department manager for Burns & McDonnell in Kansas City, Missouri. A registered professional chemical engineer with nearly 20 years of experience in water/wastewater treatment processing, design, and construction, she has been involved in the design and management of both small and large water/wastewater treatment processing projects for a variety of municipal, public, industrial, federal, and design-build clients.

Greenfelder has dedicated her career to technical excellence, resulting in tremendous successes as a professional leader and mentor. Throughout her career in the water industry, she has continued to display exceptional dedication to the empowerment and betterment of others, particularly young women.

From her university days in Lawrence, Kansas, to her current home in Olathe, Kansas — by way of a fulfilling 15-year stint in Albuquerque, New Mexico — SWE has been a constant for Greenfelder. A life member, she has held myriad leadership positions at every level of the Society. She served most recently as the FY18 chair of the Society nominating committee. In 2015, she received SWE's Emerging Leader award.

Greenfelder is also an energetic member of the Kansas Society of Professional Engineers (KSPE) and the Water Environment Federation (WEF). She has received numerous honors from the New Mexico Society of Professional Engineers (NMSPE), including the 2008 Chapter and 2009 State Young Engineer of the Year, the 2015 Outstanding Chapter Service, and the 2015 State Engineer of the Year awards. Today, Greenfelder continues her contributions to KSPE as secretary, as a member of the government relations committee, and a member of the bylaws committee.

Beyond professional organizations, Greenfelder personally mentors and tutors collegiates and new engineers. Every year for a decade of her Albuquerque residency, she hosted a "real engineering life" presentation for the University of New Mexico's (UNM) first-year chemical engineering class, in which she emphasized volunteering and STEM outreach throughout an engineering career. From 2014-2016, she served as an advisor for the UNM chemical and biological engineering department and shared industry insights.

Greenfelder discovered a passion for teaching and mentoring at a young age. Now, when talking with K-12 students and new graduates entering the workforce, she often shares the wisdom of her father, Gary: "Most individuals will work 60 percent of their life; you'd better enjoy what you do!" Greenfelder places a keen emphasis on mentoring and advancing the capabilities of the next generation of engineers.

Greenfelder earned a B.S. in chemical engineering with an environmental emphasis from the University of Kansas. She currently lives in the Kansas City metro area with her husband, Matt, and 9-year-old son. Greenfelder enjoys reading management books, sewing, and long-distance running.

SPARK AWARD

Anne McLaren, Ph.D.

CUMMINS INC.

For technical excellence in reliability engineering; and for nuanced mentorship that provides steady guidance, helping women engineers gain skill, perspective, and a sense of community.

Anne McLaren, Ph.D., is the worldwide reliability engineering functional excellence associate leader for Cummins Inc. In this role, she directs the tools, methods, and processes that reliability engineers in all business units use to design, develop, and validate products. These tools and methods enable teams to prevent failure modes before designs are frozen, detect failure modes through testing and analysis, and fix them before product launch, all while measuring reliability and identifying risks. Dr. McLaren owns three of the technical deliverables in Cummins' new product development process.

Dr. McLaren also leads recruiting, hosts global conferences, develops global position profiles for professional and hourly employees, and conducts functional excellence and skills assessments. She has some 150 dotted-line reports and formally directs three others. With her evident passion for coaching and mentoring, Dr. McLaren leads several formal and many informal mentoring programs within Cummins.

She has spent her career in research and development/functional excellence roles. Her first position was in combustion/performance/emissions modeling, after which she transitioned into reliability. While working full time, Dr. McLaren completed a Ph.D. in reliability engineering from Purdue University, focusing on reliability growth. Prior to working at Cummins, she completed dual bachelor's degrees in industrial engineering and mathematics and a master's degree in industrial engineering, all from Purdue. She is a Cummins-certified Six Sigma green belt and sponsor.

Dr. McLaren also leads activities to change the culture within Cummins. In 2011, she started the Technical Women's Initiative aimed at recruiting, development, and retention. She leads the Technical Women's Leadership Team and co-leads the global retention committee, which mentors 250 participants globally. She has served as part of Cummins' women's employee resource group leadership team since 2013, formerly led the mentoring/networking/coaching committee, currently advises its mentoring circles program, and serves in its speed mentoring program.

Formerly a SWE collegiate member, Dr. McLaren reconnected with the Society after participating in Specialist to Strategist, SWE's partnership with Smith College, in 2014. She has participated in SWE global conferences, recruiting new employees, attending SWE Corporate Partnership Council events, and participating in sessions. She is a member of Cummins' SWE Council, helping to strengthen the Society's partnership with Cummins.

In her spare time, Dr. McLaren mentors elementary and middle-school girls through Big Brothers Big Sisters. She participates in precollegiate and collegiate outreach activities through Purdue's Women in Engineering Program and its College of Engineering.

Dr. McLaren enjoys walking, cooking, Purdue sporting events, and reading. She loves being an aunt to her nephew and two nieces and spending weekends at the family lake house.

SPARK AWARD

Gena Vitale

GENERAL MOTORS

For leveraging superb communications skills to influence countless women and girls; and for channeling experiences as wife, mother, and engineer into supporting others in their development.

Gena Vitale is an engineering group manager, aerodynamics and wind noise computer-aided engineering for General Motors. In her role, she is responsible for a 16-engineer team that creates and executes overall computational fluid dynamics strategies in support of greenhouse gas and performance goals.

Vitale earned a B.S. in mechanical engineering from Michigan State University in 1999, joining General Motors after graduation as a product validation engineer in its Chassis Division, becoming a senior design engineer, then program manager, before assuming her current position. In 2004, she completed her M.S. from Rensselaer Polytechnic Institute through General Motors' technical education program. Since 1999, she has held positions of increasing responsibility in the Vehicle Engineering organization. One of Vitale's most notable contributions was creating the vision and processes for the vehicle engineering early career development program TRACK (Technical Rotation and Career Knowledge).

She is enthusiastic about attracting, retaining, and developing talent, and serves as a formal and informal mentor and advisor to women engineers in early and midcareer. She has been an active member of General Motors' recruiting and engagement team since 2005. As the candidate care and engagement lead for the team, Vitale has planned or supported many events to attract potential hires to the company. She built a relationship with the Engineering Career Service Center at Michigan State University, and leaders from that organization routinely seek her out to consult with female engineering students.

Vitale's influence extends far beyond General Motors. Since 2008, she has volunteered her time to bring science, technology, engineering, art, and mathematics (STEAM) awareness and engagement to elementary school children and high school students. She serves as an engineering ambassador to girls in elementary school, volunteering in classrooms to bring engineering to life through the "A World in Motion" program, which explores engineering principles through design, build, and test activities. Through General Motors' partnership with Detroit Cristo Rey High School, Vitale has also volunteered to manage and mentor high school girls from underrepresented communities in a co-op program.

In 2010, she married Pete Vitale, also a General Motors engineer. Together, they are raising a daughter and a son. Vitale supports her children in their personal development goals: Her daughter, currently in the second grade, would like to become a veterinarian, while her preschooler son is refining his superhero skills. For fun, the family enjoys taking cruise vacations and spending time renovating their cottage.

SPARK AWARD

Shen-Hui Wu

NORTHROP GRUMMAN CORPORATION

For a distinguished technical career; for inspiring and inclusive leadership; and for a generous spirit that supports others, from women engineers to cancer research and care for the homeless.

Shen-Hui Wu was fascinated with airplanes in high school and decided to build them as her career. Once admitted to a college aerospace engineering department, she was told she should change her major because "girls do not learn engineering." Today, she is a senior technical advisor at Northrop Grumman Corporation in Woodland Hills, California, with 36 years of industry experience in mechanical analyses of electronic equipment.

Wu has also worked on various gyros and accelerometers for missiles, airplanes, ships, submarines, and space applications. She has a B.S. from National Cheng Kung University in Taiwan; an M.S. in solid mechanics from the University of California, Los Angeles; and has completed Ph.D. coursework in automatic control at UCLA. She holds two patents on fiber-optic velocity sensor design for sonar applications.

Wu is an active member of the SWE Los Angeles Section and the Northrop Grumman Women's International Network (NGWIN), which she joined to help promote women and improve the onboarding experience. She established a volunteer leader succession plan, resulting in many professional and personal development events. She co-founded the Northrop Grumman Women Engineers (NGWE) on campus in 2009 to address the needs of technical women, and has held many NGWE and NGWIN leadership positions at the campus, sector, and corporation levels. Wu initiated many programs, such as professional development workshops, employee awards and recognition, SWE UCLA speed mentoring, and cancer education events. Her leadership propelled NGWIN to be the top-performing employee resource group at the Woodland Hills campus. Wu mentors early- and middle-career engineers on a weekly and biweekly basis, and was the co-chair of the 2016 SWE-LA Professional Development Conference, which was attended by 180 women engineers.

In the last 18 years, Wu has led various efforts for the American Cancer Society. She started the Southern California Chinese Relay For Life in 2010 to help address language and cultural barriers. She is the California Chinese Unit leadership council chair, a member of the California Division Asian American and Pacific Islander team, and a member of the Los Angeles regional council.

Wu has been recognized as a Technology All-Star by the Women of Color STEM Conference and has received the American Cancer Society California Division Collaboration Innovation Award and the Engineers' Council William B. Johnson International Inter-Professional Founders Award.

In her community, Wu has led teams of volunteers serving dinner to the homeless population monthly since 2001. She also facilitates a program through which NGC employees adopt several homeless families every year. She sings and has organized activities in the St. Jude church choir since 1983.

EMERGING LEADER

Lynn Davenport

MEDTRONIC

For outstanding contributions to life-changing medical devices, demonstrating leadership and technical expertise; and for increasing the visibility of women engineers at Medtronic and throughout her community.

Lynn Davenport is a principal systems engineer with Medtronic, responsible for programs creating new technologies to treat atrial fibrillation through minimally invasive ablation techniques. Her 14-year career with Medtronic has crossed two divisions, Cardiac Rhythm and Heart Failure (CRHF) and Neuromodulation. Davenport's career has grown from a research scientist studying new algorithms for cardiac resynchronization devices to her current role as lead systems engineer in a developing technology space. Her work has been included in more than 25 patent publications, and she currently holds 11 U.S. patents and numerous international patents.

Davenport's career began as scientist, then senior scientist in CRHF, where her accomplishments led to the commercialization of new cardiac monitoring algorithms. Devices with her technical imprint are implanted in almost 100,000 patients annually.

Transitioning to Neuromodulation systems engineering in 2008, Davenport's first assignment was algorithm development for a new spinal cord stimulator to automatically adapt stimulation levels for patients based on body position, a first for the industry. Released in 2011, the algorithm takes away the burden of manually adjusting therapy settings for patients with chronic back and/or leg pain.

Davenport's next assignment was a new implantable neurostimulator system, including clinician programmer, and patient programmer. She led a team of systems engineers, and helped the team maintain flexibility and focus on the end goal. The system launched in the fall of 2017 and is helping patients return to full life by alleviating chronic back pain.

Through her technical and leadership experiences on the program, Davenport became a sought-after subject matter expert on spinal cord stimulation therapy. She was named to the customer experience team to share her technical knowledge of the devices with visiting physicians.

She served as lead systems engineer on a program that provides life-restoring therapy to relieve the symptoms of gastroparesis. She exhibited strong, agile leadership, steering the program through product development despite limited resources. During the product launch, she trained the sales force and attended the first European implant surgeries in 2015.

Davenport joined SWE in 1999 as a collegian at Northwestern University and remains active with the Minnesota Section. She has held numerous leadership positions, serving the executive committee of the Minnesota Section for eight years, including terms as president, vice president, and section representative. She is currently in her second year as senator.

A founding and active member of Medtronic's SWEnet, Davenport served as global chair in 2009. In 2016, Medtronic chartered its Women in Science and Engineering initiative, and Davenport became co-chair of the acquisition team, benchmarking industry best-in-class practices for acquiring and retaining top female technical talent. She has been a key supporter of a successful WISE-sponsored internship program for first-year students entering engineering.

She earned a B.S. in electrical engineering from Northwestern University and an M.S. in biomedical engineering from Purdue University.

Davenport, her husband, Nick, and three children love to explore and learn, finding parks and museums when they travel. Davenport's daughter attended her first SWE conference when she was four months old.

EMERGING LEADER

Rebekah Feist, Ph.D.

THE DOW CHEMICAL COMPANY

For deep technical expertise and leadership in a wide variety of technologies, leading to successful applications; for passionate advocacy of women engineers; and for encouraging students to pursue STEM careers.

Rebekah Feist, Ph.D., is the global research and development leader for emulsions, blends, and powders product development in the Dow Performance Silicones business of The Dow Chemical Company. She is responsible for the safety and development of a team of engineers, chemists, and technologists with expertise in emulsion polymerization, mechanical dispersions, and formulation science. Dr. Feist guides the global new product innovation portfolio and strategy, including the identification, prioritization, and cross-functional alignment of research and development (R&D) investments within the emulsions, blends, and powders area and she is responsible for delivering accretive growth through innovation.

Dr. Feist's career with Dow began in 2007 in the new products organization of corporate R&D, where she developed photovoltaic technologies with improved efficiency, reliability, and cost. After transitioning into the Dow Solar business, she contributed to the development and commercialization of the Dow POWERHOUSE™ solar shingle system. In 2013, Dr. Feist joined Dow Corporate Venturing, leading strategy supporting solar-related business growth and new business opportunity programs.

In 2014, she held dual roles as the mechanical dispersions R&D leader and the corporate R&D strategy leader. With her teams, Dr. Feist improved the fundamental understanding of dispersion processing and accelerated shelf-life testing, and partnered with the corporate R&D leadership team to develop and implement its global strategy. She was also responsible for leading multiple key customer innovation relationships.

Dr. Feist has 13 patents, and is extensively published. In 2016, she was the recipient of the University of Minnesota U40 Alumni Leader Award. She served as part of the 2016 Leadership in Action program where her team directly impacted the competitiveness of 100-plus faculty and students at Cebu Technological University in the Philippines. She has served on the IEEE Photovoltaic Specialists Conference planning committee, as an editor of the *IEEE Journal of Photovoltaics,* and as an advisory board member for the University of Iowa electrical and computer engineering department.

An active SWE member, Dr. Feist most recently served as the Mid-Michigan Section president. She is dedicated to outreach and encouraging students' interest in STEM, leading hands-on activities through Girl Scouts, and serving as a mentor of a *FIRST*® Robotics team at Herbert Henry Dow High School. As a result of her influence, SWE members now volunteer regularly at *FIRST* events.

Dr. Feist holds a Bachelor's of Chemical Engineering and an M.S. and Ph.D. in electrical engineering from the University of Minnesota.

Outside of work, Dr. Feist and her husband, Shawn, also an engineer, love fostering the engineering tendencies (both the constructive and destructive aspects) of their two children, ages 8 and 5. When not cleaning up after the latest "experiment," she and her family enjoy navigating the complexities of youth soccer, the ups and downs of Minnesota team sports, and running any obstacle course race they can find along the way.

EMERGING LEADER

Dayna Johnson, P.E.

GE POWER

For defining leadership through adaptability and tenacity, demonstrating courage and intellectual curiosity; for excelling in successive roles while encouraging others; and for enthusiastic outreach and volunteer service.

Dayna Johnson, P.E., is a business development manager with GE Power for the AC Solutions product line. In this role, she is responsible for developing partnerships, increasing the sales pipeline, and executing the commercial growth strategy for substation projects. She is one of fewer than 300 participants in GE's Accelerated Leadership Program, which identifies and develops strong global executive leaders within the company.

Johnson began her career with a deep interest in wastewater treatment and conveyance. With less than a year of experience, she was selected to be resident engineer on a multimillion-dollar wastewater treatment plant expansion. She was also the lead engineer for the design and construction of an award-winning multiphase project, resulting in safe, reliable infrastructure for an area that had been plagued with contaminated wells for over a century.

Looking for a different challenge, Johnson left the corporate world in 2011 and became the co-founder of a successful software start-up, leading the effort to complete the articles of incorporation and perform the business analysis. A year later, the start-up was profitable, and she had completed her Master of Engineering Management.

Pivoting once again, Johnson returned to the corporate world as a commercial manager with GE Energy. She quickly learned the energy transmission and distribution market as she managed cross-functional teams of up to 30 business leaders, engineers, sales managers, sourcing specialists, project managers, and external partners, completing complex engineering, procurement, and construction (EPC) proposals. She led a team to a first-of-a-kind win for a large EPC substation project in Canada, resulting in multiple internal recognitions.

Johnson has been involved in leadership at all levels within SWE, working to optimize its operations, expand outreach, and increase member engagement. She currently serves at the Society level as director of professional excellence and was the FY18 director of achievement. She received the SWE Distinguished New Engineer Award in 2011 and the Valparaiso University Outstanding Young Alumni Award in 2018.

Her community involvement displays her passion for engineering and influencing the next generation. She has served on the board of directors for her church and donated her time to complete the civil engineering for her church building's expansion project. Johnson has volunteered with Children's Community Theatre, teaching teenagers to make sets for plays. She regularly volunteers with GE Girls, teaching middle-school girls about STEM, and with high school and college students about engineering as a career. She has served as an officer in her Toastmasters club, where she has earned Advanced Communicator Bronze and Competent Leader designations.

Johnson has a B.S. in civil engineering and a Master of Engineering Management, both from Valparaiso University. In her free time, she enjoys travel; DIY home improvement projects; and spending time with her husband, two sons, and the family dog.

EMERGING LEADER

Ana Paula Ribeiro Marimoto

CUMMINS INC.

For demonstrating technical prowess and collaborative skills; for raising the bar for herself with each challenge; and for dedication to ensuring an inclusive environment for all.

Ana Paula Ribeiro Marimoto is dynamic systems and controls leader for Cummins Inc. Born in São José dos Campos, São Paulo, Brazil, her participation on a math and science olympics team sparked an early interest in engineering. With her mother as mentor, she realized that being an engineer was attainable, regardless of gender, and that anything could be accomplished through hard work and a passion for continuous learning and improvement.

Marimoto's career began as a manufacturing intern for General Motors in São José dos Campos. After graduating, she became a manufacturing engineer, and her talents were quickly recognized. She began her 14-year career with Cummins in 2004 as an applied controls engineer, working in engineering development, and overseeing the highly successful introduction of Cummins' Euro III electronic engines to the Brazilian market.

She became an Operations Six Sigma black belt in 2008, when one of her projects was nominated for the Cummins Chairman's Award, and another completed project resulted in significant savings. In 2009, Marimoto was invited to lead Six Sigma as a master black belt for engineering, driving the company's Six Sigma cultural deployment and managing the program to the highest level of engagement the organization had ever experienced. Her leadership of multiple quality projects during her tenure as both black belt and master black belt brought another significant savings for the company in 2010 and 2011.

Moving from quality back into engineering, Marimoto accepted several leadership roles, including supporting the entrance of global off-highway customers to the South American market, and becoming the first woman manager of the company's new Latin America Tech Center. There, she oversaw technical operations for the region, including test cells, applied mechanics, turbo and fluids lab management and facilities support in Mexico, Peru, Colombia, Chile, and Argentina. In 2016, Marimoto relocated with her family to the U.S. to work as a dynamic systems and controls leader, and later, aggregating the calibration management leadership, positions she holds to this day.

An active leader of diversity and inclusion initiatives, Marimoto was Cummins' first leader of the Technical Women Leadership Team for Latin America, an initiative to attract, develop, and retain female engineering talent. She was also the first São Paulo international ambassador for SWE, as well as the founder of the São Paulo SWE affiliate.

Marimoto lives in Columbus, Indiana, with her husband, Marcos, and three children. She enjoys reading, cooking, crafting, and traveling to new places with her family.

EMERGING LEADER

Maureen Masiulis

BALL AEROSPACE

For strong technical and leadership acumen; for dedication and commitment to all levels of SWE; and for deeply engaged service to youth and the community.

Maureen Masiulis, a program manager in Ball Aerospace's tactical solutions business unit, leads an engineering development team that helps advance the U.S. military's technical and overall national security. In this role, she oversees product development through qualification and delivery of multiple prototypes.

Masiulis has worked in the aerospace industry for nearly 15 years. Throughout her career she has led her teams to offer the best technical solutions while balancing cost and schedule. She keeps open and honest communication between her team and her customers, encouraging a culture of transparency. In her current and previous roles, she has focused on proactive risk and opportunity management to ensure all team members have the resources they need to be successful.

Masiulis graduated from Rensselaer Polytechnic Institute with dual bachelor's degrees in computer and systems engineering and electrical engineering in 2003. Upon completing her degree, she joined General Dynamics Advanced Information Systems engineering leadership development program. She held roles as an individual contributor and project lead in software and systems engineering for incremental hardware and software updates to Ohio-class submarine fire control and shipboard data systems. She also supported competitive proposal generation for adjacent market pursuits. Later, Masiulis transitioned into a program management role leading Ohio-class submarine fire control and shipboard data system development programs and strategic mission system new business.

While at General Dynamics, Masiulis earned her master's in electrical and computer engineering and Master of Business Administration from the University of Massachusetts, Amherst. She also received her program management professional certification (PMP®).

After 14 years with General Dynamics, Masiulis joined the Raytheon Company as a platform engineering subintegrated product team lead on the global positioning system (GPS) next-generation operational control system program. In this role, she led a team of 80 engineers to develop and deliver hardware and infrastructure software in support of end item products and development environments.

As an active SWE member, Masiulis currently serves as the bylaws committee chair, where she works with the board of directors and governance task force to update Society bylaws, investigate opportunities and to streamline bylaws review and approval processes. Previously, Masiulis also served as the awards and recognition committee chair and member, where she led the creation of the Global Team Leadership Award and Section/Region Award Refresh. Additionally, Masiulis served as a member-at-large president, Region F member-at-large representative, and Region F conference committee speaker subcommittee chair. She has also served as a volunteer for various SWE events and programs, including WE17, WE18, and SWE's Collegiate Leadership Institute. She was recognized with the SWE Distinguished New Engineer award in 2013. Masiulis is committed to serving her local community and has participated regularly in community-sponsored activities focusing on science, technology, engineering, and mathematics (STEM) outreach and education. For example, she has volunteered at various community clean ups and Junior Achievement events, as well as supporting multiple charity running races throughout the year.

Outside of work, Masiulis spends her free time with her husband and two young sons, and she enjoys running, hiking, skiing, lifting, and cooking.

EMERGING LEADER

Angel McMullen-Gunn

UNITED TECHNOLOGIES AEROSPACE SYSTEMS

For exemplary technical ability that influences aerospace manufacturing quality as a whole; and for unswerving commitment to her community and to SWE through strong advocacy of STEM.

Angel McMullen-Gunn is the global operations associate director for United Technologies Aerospace Systems (UTAS). She is responsible for strategic and tactical quality management systems leadership and compliance management of eight sites in Singapore, Indonesia, Poland, and the United States. After delivering best-in-class outcomes as quality manager at the York, Nebraska, mechanical operations plant site, McMullen-Gunn was promoted to this role in 2018.

As site quality manager at the UTAS York facility, McMullen-Gunn led her team to become the only global operations site to exceed quality metric goals three years in a row. Nonconforming products received by customers were reduced by more than 60 percent and scrap dollar amounts by more than 30 percent, resulting in significant hard dollar savings from 2015–2017. Internal nonconforming events were reduced, and defective parts-per-million rates reduced to 7.7 in 2016, then 3.4 in 2017, achieving Six Sigma standards of perfection for the first time in the site's 35-year history.

In 2017, McMullen-Gunn established the company's first Quality Leadership Engineering Advanced Development (Q-LEAD) Program charged with improving quality curriculum, education, and learning through strengthening the quality career path and improving retention. Not only did she lead the planning and execution of key program strategies, but McMullen-Gunn also led the team that defined the framework of the program requirements, identified sites with projects, planned the structure of hiring and training the Q-LEAD group, and trained multiple supervisors and mentors supporting the program. In recognition of her outstanding quality results at the Nebraska site, and the successful launch of the Q-LEAD rotational program, she received *Plant Engineering* magazine's 2017 Engineering Leaders Under 40 award. For her leadership in the aerospace industry as a whole, McMullen-Gunn was named one of the Manufacturing Institute's 2018 Science, Technology, Engineering and Production (STEP) Ahead award honorees.

McMullen-Gunn volunteers in several rural Nebraska communities, including as a STEM leader and advisor for her local library, Makers Club, Girl Scouts, schools, and SWE outreach events. She has served in several leadership roles, most recently as past-president of the SWE Eastern Nebraska Section, and is the Society audit chair-elect. McMullen-Gunn was named a SWE Distinguished New Engineer in 2011 and Outstanding SWE Counselor in 2012. She is a SWE advocate at the University of Nebraska, where she was named a 2017 Woman of Character, Courage, and Commitment. McMullen-Gunn actively mentors college students and young people, sharing her passion for STEM.

She earned a B.S. in mechanical engineering and M.Eng. in engineering management from the University of Nebraska. She also holds an M.S. in quality systems management with Six Sigma black belt certification from The National Graduate School of Quality Management. McMullen-Gunn and her husband, Darrin, live in Seward, Nebraska, with their two children.

EMERGING LEADER

Ana Luisa Mendoza

NORTHROP GRUMMAN CORPORATION

For technical excellence; for mindfulness of others as a leader and team player; and for barrier-breaking support of diversity and inclusion among her colleagues and in her community.

Ana Luisa Mendoza is a program manager for Northrop Grumman Corporation, where she leads the integration, production, and delivery of major components for the Advanced Hawkeye weapon system aircraft.

Mendoza joined Northrop Grumman in 2005 and has held roles of increasing responsibility in program management, system engineering management, engineering design and testing, manufacturing, logistics, and production. Throughout her career with the company, she has earned multiple patent disclosure awards for innovative contributions further advancing the technology at Northrop Grumman.

Since 2007, Mendoza has led diversity and inclusion initiatives for several organizations internal and external to the company. Through her work, she has impacted the careers of women and minorities in the Northrop Grumman Women's (NGWIN), the Society of Hispanic Professional Engineers, and Hispanic (One Adelante) employee networks, supporting the advancement and development of more than 10,000 employees within the company as well as many others externally. Previously, she served as enterprise chair, vice chair, and sector chair of One Adelante.

In her community, Mendoza tirelessly leads programs that benefit minorities, targeting women in and out of the workplace to identify next steps in their careers, and focusing on expanding the science, technology, engineering, and math (STEM) pipeline. As a student, she actively participated in the collegiate sections of SWE and the Society of Hispanic Professional Engineers (SHPE). Mendoza is a board member for Women in Engineering at the University of Maryland, College Park. Since 2003, she has held leadership roles within SWE local student sections and SHPE, and has encouraged countless K-12 students to pursue careers in the STEM fields.

She is a founder, vice chair of the board of directors, and current liaison of the Sánchez Ramírez Province in the Dominican Republic for the Caobas Foundation, an organization that provides opportunities for "at-risk" youth in the Washington metropolitan area and the Dominican Republic. In 2016, she led the establishment of the Caobas Foundation Futuro Scholarship through the Montgomery College Foundation, directly impacting low-income youth in the Maryland area.

Mendoza's technical and community outreach contributions have been recognized by the Hispanic Association on Corporate Responsibility Young Hispanic Corporate Achievers™ award, *The (Maryland) Daily Record's* Leading Women award, and the Mexican American Opportunity Foundation Woman of the Year in STEM award. In 2009, she received the Hispanic Engineer National Achievement Awards Corporation's Luminary award, the SWE Baltimore-Washington Section's Work/Life Balance award, and the Careers Communications Group Technology Rising Star award.

She earned a B.S. in electrical engineering from the University of Maryland, College Park and an M.S. in systems engineering from Johns Hopkins University.

Mendoza often credits her father's advice, "Pursue a career in a field where you can make a difference in the world," for spurring her career journey from a small Caribbean island to fulfill a childhood dream of working in one of America's largest technology companies.

Outside of work, you can find Mendoza mentoring the next generation of professionals identifying career paths. She has a passion for travel and loves spending time with her three children and husband and exploring the outdoors with her family.

EMERGING LEADER

Eileen M. Vélez-Vega, P.E.

KIMLEY-HORN PUERTO RICO LLC

For expert, cross-functional leadership that ensures the safe and effective operations of airport design and construction; and for demonstrating a true survivor's compassion and courage in support of others.

Eileen M. Vélez-Vega, P.E., is assistant vice president and managing partner of Kimley-Horn Puerto Rico LLC, one of the first international offices established by Kimley-Horn and Associates Inc. Earlier in her career, she was an aviation project manager for Kimley-Horn in West Palm Beach, Florida. In 2014, Vélez-Vega relocated to manage the Puerto Rico office, where she is the office practice leader, overseeing all operations. She currently provides airport consulting services to the Puerto Rico Ports Authority and Aerostar Airport Holdings LLC San Juan International Airport.

Prior to joining Kimley-Horn, Vélez-Vega was a research civil engineer in the U.S. Army Engineer Research and Development Center. She is a member of several Transportation Research Board pavement committees and led the American Society of Civil Engineers Transportation and Development Institute's airfield pavements committee.

As a civil aviation engineer, Vélez-Vega gained extensive experience in the design of airport infrastructure for both commercial and general aviation airports and has published multiple papers on pavement rehabilitation. Her focus as an airport engineer is the constructability and development of the airport projects to ensure the continued safe and effective operation of the airports during construction.

Vélez-Vega's SWE journey began in 2001 as a University of Puerto Rico at Mayagüez (UPRM) collegiate member and has resulted in a 17-year SWE career spanning local, regional, and Society positions. She currently serves as the UPRM Collegiate Section counselor. She was named one of SWE's New Faces of Engineering in 2008, and in 2013, she received the SWE Distinguished New Engineer Award, recognizing the first decade of her successful career. Vélez-Vega has also been recognized as an Emerging Leader by the Puerto Rico Colegio de Ingenieros y Agrimensores (CIAPR) and recently received the organization's 2017 Distinguished Civil Engineering Professional award. In 2015, *Airport Business Magazine* named her one of the Top 40 Under 40 Aviation Professionals.

She has been recognized by the Leukemia and Lymphoma Society's Palm Beach Area chapter and the Southern Florida and Puerto Rico chapter as a Bright Light Volunteer and Honored Hero, and has raised more than $10,000 for cancer research. Vélez-Vega volunteers in the First Connections program, where she is matched with Hodgkin lymphoma patients, providing them guidance and support throughout their treatments. She has been recognized by *HERLIFE* and *Banzai Wellness* magazines for her courage and determination as a Hodgkin Lymphoma survivor.

Vélez-Vega received a B.S. in civil engineering from the University of Puerto Rico at Mayagüez and an M.S. in civil engineering from Mississippi State University. In her free time, she enjoys traveling with her husband and daughter, and volunteering for the Leukemia and Lymphoma Society.