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Lisa Su, Ph.D.
Distinguished Leadership in Science and Technology

Dr. Lisa Su is a high-performance technology executive who drives industry-leading innovation and execution to deliver the world's most advanced processors and an inspiration to the next generation of innovators and changemakers.

Dr. Lisa T. Su is chair and chief executive officer of AMD. Prior to serving as president and CEO, she was chief operating officer responsible for integrating AMD's business units, sales, global operations and infrastructure enablement teams into a single market-facing organization responsible for all aspects of product strategy and execution. Dr. Su joined AMD in January 2012 as senior vice president and general manager, global business units and was responsible for driving end-to-end business execution of AMD products and solutions.

Prior to joining AMD, Dr. Su served as senior vice president and general manager, Networking and Multimedia at Freescale Semiconductor, Inc. (a semiconductor manufacturing company) and was responsible for global strategy, marketing and engineering for the company's embedded communications and applications processor business. Dr. Su joined Freescale in 2007 as chief technology officer, where she led the company's technology roadmap and research and development efforts.

Dr. Su spent the previous 13 years at IBM in various engineering and business leadership positions, including vice president of the Semiconductor Research and Development Center responsible for the strategic direction of IBM's silicon technologies, joint development alliances and semiconductor R&D operations. Prior to IBM, she was a member of the technical staff at Texas Instruments Inc. in the Semiconductor Process and Device Center from 1994 to 1995.

Dr. Su has bachelor's, master's and doctorate degrees in electrical engineering from the Massachusetts Institute of Technology (MIT). She has published more than 40 technical articles and was named a Fellow of the Institute of Electronics and Electrical Engineers in 2009. In 2018, Dr. Su was elected to the National Academy of Engineering and received the Global Semiconductor Association's Dr. Morris Chang Exemplary Leadership Award. In 2020, Fortune named Dr. Su #2 on its "Business Person of the Year" list, she was elected to the American Academy of Arts & Science, and received the Grace Hopper Technical Leadership Abie Award. In 2021, she was recognized by the IEEE with its highest semiconductor honor, the Robert N. Noyce Medal and was appointed by President Biden to the President's Council of Advisors on Science and Technology. She has been a member of the board of directors of Cisco Systems, Inc., since January 2020 and also serves on the board of directors for the Semiconductor Industry Association.

Eugene L. Tu, Ph.D.
Distinguished Leadership in Science and Technology

Dr. Eugene L. Tu is the center director at NASA's Ames Research Center in California's Silicon Valley, where he leads a staff of civil servants and contractors in providing critical research and development support that makes the aeronautics and space missions of NASA and the nation possible.

Dr. Tu was most recently director of Exploration Technology at Ames, a position he held from November 2005 until his selection as Ames center director in May 2015. There he led four technology research and development divisions, including two of NASA's critical infrastructure assets: the consolidated arc jet testing complex and the agency's primary supercomputing facility.

Dr. Tu began his career as a research scientist conducting computational fluid dynamics research on the steady and unsteady aerodynamics of complex aircraft configurations. After progressing through various research and managerial positions in such fields as computational aerodynamics, information technology, or IT, and high performance computing and communications, he was selected as the deputy program manager for the agency's IT Base Research program in 1997. In 1998, he was selected as the program manager for the agency-level High Performance Computing and Communications, or HPCC, program and concurrently led both the IT Base Research and HPCC programs. In 2001, the two programs were combined into the Computing, Information, and Communication Technology, or CICT, program and Dr. Tu was selected as the CICT program manager. In 2002, he was selected into the Senior Executive Service Candidate Development Program, SESCDP, and served in the Office of Biological and Physical Research at NASA Headquarters in 2003, and as the acting director for the Information Sciences and Technology Directorate at Ames in 2004. After receiving his SES certification in 2005, he was selected as the director of Exploration Technology at Ames.

Dr. Tu earned his bachelor’s degree in mechanical engineering from the University of California, Berkeley, in 1988, and both his master's degree and doctorate in aeronautics and astronautics from Stanford University in 1990 and 1996, respectively. He is an associate fellow of the American Institute of Aeronautics and Astronautics. Dr. Tu received the NASA Outstanding Leadership Medal in 2000, and the Presidential Rank Awards for Meritorious Executive and Distinguished Executive in 2009 and 2020, respectively. Dr. Tu lives in Fremont, California, with his wife Kathy and three children. His hobbies include attending sporting events, traveling, and motorsports.

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Vishwajeet Uddanwadiker

Executive of the Year

Versatile executive who has benefited the company and industry by developing solutions for complex engineering problems and testing the solutionsusing advanced data analysis methods, while also applying his skills as a valuedleader, teacher, and mentor.

Vishwajeet Uddanwadiker is Vice President for Aerospace Safety Analytics at The Boeing Company. In this important role, he reports to the Chief Aerospace Safety Officer and is responsible for strengthening the Safety Management System for Boeing products and services through the use of advanced data analytics.

Vishwa joined Boeing at its newly opened Bangalore office in March 2009 as Director of IT International for India. In December 2011, he was promoted to the role of Director of Information Technology for Boeing International and moved to Seattle. Since then, he has held a variety of roles at the company, including Vice President of Information Technology for Boeing Commercial Airplanes and Vice President of Engineering People Strategy. He served as interim Chief Information Officer and Senior Vice President, reporting to the Boeing CEO, during 2019 and 2020.

Before joining Boeing, Vishwa held positions of increasing responsibility in India with firms including Honeywell Technology Solutions. He holds a Bachelor of Engineering in Computer Science from Birla Institute of Technology and Science in Pilani, India, and an MBA from the Indian Institute of Management in Ahmedabad, India. Coming to the United States from India, he overcame the obstacle of speaking English as a second language by deliberately volunteering for public speaking opportunities.

In addition to his technical expertise, Vishwa dedicates significant time to developing the next generation by teaching leadership classes and mentoring employees at all levels. He was on the advisory board of the Master of Science in Information Systems program for the Foster School of Business at the University of Washington in Seattle. He is currently a Boeing executive sponsor for the Society of Asian Scientists and Engineers (SASE) and a supporter of the Boeing Asian American Professional Association (BAAPA) employee resource group.

Vishwa lives in Issaquah, Washington, with his wife and two young sons. In his free time, he enjoys cooking, gardening, and the sport of cricket.

Karthik Vasanth

Executive of the Year

Karthik Vasanth is an accomplished business leader who has grown multiple investments from inception to thriving growth engines across technological verticals and market segments thanks to his personal touch and technical depth in everything he does.

Karthik Vasanth is vice president and general manager for Texas Instruments' Data Converters and Clocks business unit in the company's Analog Signal Chain organization. Under his leadership, his team develops innovative products and solutions for industrial, automotive, communication infrastructure, aerospace and defense, medical imaging and healthcare markets across the globe. He oversees six product lines and a team of over 600 employees on three continents.

After beginning his career in 1995 as an engineer in silicon technology development, Karthik has contributed to many innovations in device modeling, high-performance radio frequency and medical integrated circuits. For example, he worked on compact process and device simulation models and developed and validated advanced SPICE models, including BSIM4. He has since created multiple businesses, authored more than 30 papers and developed several patented technologies.

Karthik earned a bachelor's degree in electronics and communication engineering from the Indian Institute of Technology Madras and master's and doctoral degrees in electrical engineering from Princeton University. He serves on the electrical engineering advisory boards at Princeton University and Southern Methodist University.

Karthik loves to play cricket and travel with his family on Disney Vacations.

TEXAS INSTRUMENTS

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Juhi Jotwani McClelland

Executive of the Year

Juhi is passionate about applying technology to make the world a better place, developing teams, and growing global businesses through diverse perspectives.

Juhi is General Manager & Managing Partner Communications Sector, IBM Consulting. She's responsible for a multi-billion-dollar service P&L leading sales and delivery organizations focused on Consulting, Hybrid Cloud, Intelligent Workflows and AI services. She spends much of her time with clients building strategic partnerships to deliver compelling Hybrid Cloud and Analytics solutions.

In her previous role as General Manager of IBM's Technology Support Services, Juhi successfully led a multi-billion dollar P&L directing large teams across Sales, Delivery, Offerings and Business Operations.

Prior to this role, Juhi was IBM's VP for Department of Defense. She led a team of sales managers and architects to drive IBM solutions around datacenter transformation, cloud computing and business analytics. In addition, she has held several Development and Product Management leadership positions within IBM including Vice President of Retail and Global Director of BladeCenter including leading the industry consortium Blade.org.

Juhi has worked for IBM in Asia Pacific in the Telecom business and as a Business Transformation Consultant in IBM Global Services Strategy and CRM Practices.

She's a frequent speaker at Industry conferences across the globe on innovative technology topics like IoT, Blockchain, AI/ML application to grow businesses.

Juhi is a member of IBM's Performance Team, IBM's Acceleration Team, IBM's Women's Council and Asian Business Resource Group.

Prior to joining IBM, Juhi has worked with Wipro - Apple, India. She has a Bachelors (Honors) in Economics and MBA in Marketing. She is also a co-founder of See Insights that provides state and country parks visitation & usage insights by deploying IoT sensors. Juhi resides in Raleigh, NC with her husband and daughter.

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Allen Ku

Executive of the Year

Innovative executive and visionary who drives the industry in global technology development and deployment of essential computer peripherals, security camera and smart home devices for the global landscape.

Allen Ku is the President and CEO of Adesso, Inc. For over 20 years, Allen has been an innovator and leader in the field of technology for Adesso, Inc. Allen has been in the technology industry all of his adult life – starting at WANG Computer, Qtronix, Aprotech and the start of Adesso in 2002. The culture of Adesso revolves around a simple, but meaningful premise: Supplier, Employee, customer…and expands to the Products, people, place, pricing and promoting the brand.

Adesso is a custom design/manufacturer of computer peripherals and mobile accessories. Adesso specializes in Webcams, Input Devices, Headphones, Conference Solutions, Speakers, Docking Stations, Bar Code Scanners and a wealth of additional products. The Adesso product line is comprised of more than 250 products with over 26 different categories. The Adesso culture is driven by customer service and creating cutting-edge products with high quality components, to provide the perfect solutions for business, the home office or wherever your technology takes you! Adesso can support the customer on a direct basis, through our Distribution Partners or OEM with our Private label – via FOB China.

Headquartered in Walnut, CA, U.S.A., Adesso, Inc. has become a leading design manufacturer and supplier of technology products and computer peripheral solutions to a variety of vertical markets, such as education, government, health care and many more for more than 20 years. Adesso's unmatched product catalogue includes a wide array of Plug & Play technologies such as CyberTrack Webcams, Keyboards & Mice, Headsets and More! Adesso's products are available through various distributors and resellers including TD Synnex, Ingram Micro, Essendant, D&H as well as CDW, Dell, HP, Insight, Staples, Office Depot, SHI, Amazon, Walmart - just to name a few. For a full list of reseller and distribution partners, and additional details of the Adesso product line, visit: www.adesso.com.

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Nataraj Nagaratnam, Ph.D.

Engineer of the Year

Sustained leadership and innovations in the field of cyber security across cloud, mobile, and web that are helping businesses around the world effectively manage cyber security, risk, and compliance.

Dr. Nataraj Nagaratnam is a technology and business executive focused on designing and delivering innovative security solutions that help enterprises in their digital transformation journey. Recognized as an IBM Fellow, he has led innovative security products and capabilities across cloud, mobile, and middleware systems that are helping businesses around the world effectively manage their security. The title of IBM Fellow is the company's pre-eminent technical distinction, granted in recognition of outstanding and sustained technical achievements and leadership in engineering, programming, services, science, design and technology. There has been only 331 Fellows since 1963. As a security leader, he has 24+ years of industry experience in building security products, architecting solutions, product management and leading engineering organizations. Career contributions across his roles in IBM have already led to delivery of numerous security capabilities and products, successful client solutions using those capabilities, shaping industry security standards, and also led technical diligence and strategy for acquisitions.

Nataraj is a prolific inventor with more than 100 patents. He has authored and co-authored numerous journal articles, blogs, papers, books and security specifications. He received his Ph.D. in Computer Science from Syracuse University. He has influenced industry direction by participating in various industry standards bodies. He is a sought-after expert to speak at conferences, media interviews, and policy forums.

Nataraj has always been passionate about growing technical talent and giving back to community. During this appointment as CTO for India Software Lab, he led focused programs to build a talent pipeline, technical leadership and drive innovation projects with entrepreneurial mindset. His mentees are a diverse group from different geos, gender and business units. He also actively volunteers in local non-profit organizations.

John J. Dong, Ph.D.
Engineer of the Year

Dr. John J. Dong is a Senior Technical Fellow (STF) and Engineering Executive at Boeing, whose significant contributions to aerospace have impacted Space Systems (space shuttles, space stations, Delta launch vehicles, and satellites), aircraft (787, 737, 777, C-17, F-15), and advanced concept systems (Solar airplane, Orbital expresses, Orbital plane, Lunar lander, Autonomous air/space vehicles), etc.

Dr. John Dong chairs the Digital Enterprise Technical Board (DETB) and Engineering Analysis Simulation Integration (EASI) Technical Board to drive digital innovation and transformation. Throughout his 25 year long career at Boeing, John has led the development of many innovative solutions for the design, manufacturing, certification and operation of many Boeing products. These include space shuttles, space stations, rocket launch vehicles, the Lunar Lander Crew Cabin, satellites, 737/787/777X commercial airplanes, autonomous systems, and many other advanced concept air/space systems.

Prior to joining Boeing in 1997, John was an Assistant Professor of Mechanical Engineering and the Director of Digital Design & Manufacturing Center at the University of Connecticut. He also worked as a research fellow at the GE Factory Automation Center and as a structure testing engineer in an Automotive Research Center. John has pioneered numerous research innovations, which have had a lasting impact on the industry. These include 3D printing using diode lasers, design feature recognition, feature based process planning, assembly finite element method, variation tolerances and machine learning for material characterization to achieve high fidelity simulation.

John has a Ph.D. in Industrial Engineering and M.S./B.S. degrees in Mechanical Engineering. He has authored more than 140 technical papers and reports, including a book and several book chapters, and taught a number of graduate and undergraduate college courses. John is a Fellow of AIAA, and a Registered US Patent Agent. He is an active inventor with many patents covering areas such as adaptive winglet, solar airplanes, unmanned fix wing cargo airplane, unmanned multi- rotor air vehicles, space radiation shielding, multifunction composite structure for space vehicles, structural health monitoring, hybrid physics and machine learning modeling for material characterization and high fidelity simulation, advanced data analytics, and smart digital twin and secured computing, etc.

John and his wife are active participants in many community activities including K-12 schools, churches, foundations and universities. They have two grown-up daughters. In his leisure time, John likes to travel, hike and play chess.

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Idaho National Laboratory

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Piyush Sabharwall, Ph.D.

Engineer of the Year

Pioneering and sustained contributions to the development of technologies for passive safety in next generation high temperature reactors with focus on advancement in thermal hydraulics and heat transfer.

Dr. Piyush Sabharwall is a senior staff nuclear research scientist working in the Nuclear Science and Technology Directorate at Idaho National Laboratory (INL) with more than 17 years of research and development experience. Dr. Sabharwall has coauthored two books and seven technical book chapters, with more than 300 peerreviewed publications including journal articles, conference proceedings, technical abstracts, magazine articles, and technical reports.

His expertise in the heat transfer, fluid mechanics, thermodynamics, nuclear reactor design, and reactor safety analysis qualifies him to serve as a technical lead on the U.S. Department of Energy (DOE), Office of Nuclear Energy's Microreactor R&D Program (MRP). His key research areas include:

- Safety and reliability of advanced reactor concepts
- System integration and power conversion systems
- High-temperature heat exchangers for advanced reactors
- Development of non-nuclear test beds to support microreactor development and deployment

Dr. Sabharwall has led research on thermal energy systems, advanced reactor concepts, designed and developed experimental systems for nuclear and thermal-hydraulic research and co-led development of integrated energy systems, among many others. His current research focuses on strengthening the demonstration and engineering capabilities, implementing new strategies, and overseeing engineering functional excellence for the microreactor program.

Dr. Sabharwall obtained his Bachelor of Science in Mechanical Engineering, from Wilkes University; a Master of Science in Nuclear Engineering from Oregon State University; a Masters in Renewable Energy and Sustainability Systems from Penn State University; a Master of Engineering in Engineering Management and Ph.D. in Nuclear Engineering from the University of Idaho. Dr. Sabharwall is an Adjunct Associate Professor in the Department of Mechanical Engineering at Texas A&M University and is an Adjunct Professor at University of Michigan in the Department of Nuclear Engineering and Radiological Sciences.

Dr. Sabharwall and his wife have two young children. Outside of work he enjoys playing tennis and cricket, travelling, and volunteering his time for community events.

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Hui-Ping Wang, Ph.D.
Engineer of the Year

Original and sustained contributions to the modeling of fundamental physics, the creation and application of innovative manufacturing technologies, and mentorship of next generation manufacturing scientists.

Hui-Ping Wang is a Chinese American research scientist, General Motors (GM) Technical Fellow, wife, and mother of two. She attended Tsinghua University in Beijing for bachelor's and master's degrees in Engineering Mechanics. After coming to the United States in 1995, she obtained her PhD in Mechanical Engineering from The University of Iowa in 2000 and has been working at the GM R&D Center ever since. As a well-recognized expert in the modeling of fundamental physics applied to welding and joining, Hui-Ping has made significant contributions to the applications of innovative welding technologies in GM's vehicle manufacturing.

Hui-Ping's pioneering work on resistance spot welding process simulation helped GM to develop first-in-industry aluminum-steel resistance spot welding technology. Her technical contribution to laser welding applications in GM have been crucial: Hui-Ping developed novel physics-based models of laser-material interactions and helped to unravel root causes of prevailing laser application challenges. Teaming up with GM's manufacturing team, she developed a spatter-free laser welding process for the 2018 Buick Enclave, defect-free aluminum laser welding process for the 2020 Corvette Stingray and Cadillac CT5, and robust remote laser welding processes for the 2022 Hummer Electric Vehicle.

Hui-Ping's passion for technology and innovation is exhibited through her achievements and honors: 95 peer-reviewed publications, 53 inventions (28 of which are in production), 3 GM Boss Kettering Awards (GM's highest corporate award for innovation), The Manufacturing Institute's prestigious 2021 STEP Ahead Award, the International Institute of Welding 2021 Heinz Sossenheimer Software Innovation Award, and the American Welding Society 2022 A. F. Davis Silver Medal Award. She is an active leader in the manufacturing research community serving as an associate editor for Journal of Materials Processing Technology. Since 2006, she has been diligently mentoring graduate students in their work as visiting scholars at GM R&D; 18 of whom have graduated and are working in the manufacturing industry around the world.

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Weihua Ye, Ph.D.
Engineer of the Year

Technical leadership in wireless analytics & automation, and contributions to Radio Access Network (RAN) open standards & programmability.

Dr. Weihua Ye currently serves as a Director Member of Technical Staff at AT&T Labs. She has over 20 years of experience in the wireless industry, with a Ph.D. from Syracuse University in Electrical Engineering and an MBA from the Kellogg School of Management, Northwestern University. Since 2005, Weihua has taken on various technical and leadership roles at AT&T, including engineering manager, Radio Access Network (RAN) platform architect, and wireless analytics & automation lead. She exhibits great passion with an outstanding track record of improving both network performance and customer experience.

Weihua challenges herself and others to think outside of the box, take a holistic approach, and embrace partnership. Her network analytics team has developed a popular mobility tool suite with over 80K usages per month, which is able to provide remote testing and scaled screening of passive intermodulation, check mobility customer quality, and diagnose root causes. It reduces the number of cell site visits (avoiding over $15M in annual costs) and improves mean time to resolution. Weihua is instrumental to driving RAN openness and automation, being one of AT&T's key contributors in establishing the industry's O-RAN alliance. In 2017, her team successfully prototyped an automated closed-loop algorithm and demonstrated the feasibility of near real time RAN control. In following years, three use cases have been developed and taken through field trials. For over two years, her team represented AT&T in O-RAN as the co-chair of WG2. By giving innovations a practical application, Weihua has helped shape the future of open and software-defined RAN. Her recent project on end-to-end cross-layer diagnostics and geolocation-based analytics is revolutionizing wireless service assurance and network optimization.

Dr. Ye has seven papers published in prestigious journals and conferences, as well as ten patents issued by the USPTO. She and her husband have two children, a rising college freshman and a high school sophomore. Outside of work, Weihua enjoys music, reading, and hiking. She also runs marathons.

AT&T

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Charley Xuelai Qian

Engineer of the Year

Construction Engineering Lead who strives for excellence in delivering quality buildings and facilities adopting local construction methods and industrial standards to achieve optimal results for the customers.

Charley X. Qian is currently serving as Iraq Resident Engineer, Transatlantic Expedition District, U.S. Army Corps of Engineers, who oversees construction projects funded by the United States in the Republic of Iraq. Prior to the tour in Iraq, Charley served as a Resident Engineer in Southern New Mexico, oversaw projects in Holloman Airforce Base, White Sand Missile Range, and Fort Bliss, also flood control and civil/utilities projects for nearby cities such as El Paso, Taxes. He also worked in Los Alamos National Laboratory on the Department of Energy projects in Northern New Mexico.

Charley served multiple tours in Afghanistan in supporting the country's rebuilding and stability. His main contributions include the construction of Afghanistan National Power Grid and Southern Electrical Power System; Kajaki Dam and Darla Dam irrigation system renewal; and sections of country's ring roads.

Charley managed the construction of hospitals, troop clinics, PX and commissary, piers for ships, shelters for aircrafts, lodging facilities, HQ buildings, barracks, and training centers. He was responsible for the design of Garrison Humphreys Infrastructure Utilities and Land Usage and the first Design Manager for Yangsan Relocation's in carrying out Sensitive Compartmented Information (SCI) programs and setting up engineering/contracting/construction procedures in accordance with the provisions of ICD 705.

Prior to his tour in South Korea, Charley worked for architectural firms in Georgia and was a member of American Institute of Architect. After receiving his bachelor's degree, he worked in Northwest China and appointed as the assistant general manager for Xian International Airport project (one of the national key projects at the time) coordinating the engineering efforts of over 100 architects and engineers.

Charley earned a Bachelor of Architectural Engineering degree from TsingHua University, Beijing, China; a Master of Architecture degree from Clemson University, South Carolina; a Master of Computer Science degree from Southern Polytechnic State University, Georgia; and a Master of Business Administration degree from University of Phoenix, Arizona. He is a Registered Architect in the State of Georgia since 1993.

Charley and his wife have three grown children; outside of work, he enjoys traveling, gourmet food, and home building.

Tan M. Ly
Engineer of the Year

U.S.ARMY

2022

Talented engineer who has been at the forefront of numerous projects within the Department of Defense and representing the United States at the World Radio Conference. In this effort, Mr. Tan Ly has developed a reputation for straightforward, diplomatic answers to challenging national and international coordination issues.

Mr. Tan M. Ly, a Vietnamese refugee in 1980, accepted the International Spectrum Management position at Army Spectrum Management Office (ASMO), Deputy Chief of Staff, G-6, on 11 July 2014. In this capacity, he is the primary lead to defense and champion Electromagnetic Spectrum access for the Department of the Army and Department of Defense (DOD) at the international level. Representing the Army and DoD at the International Telecommunication Union (ITU) and World Radiocommunication Conference (WRC) every 4 years. He has led numerous sharing studies between International Mobile Telecommunication (IMT), and radar systems that operate in the 3GHz and 5GHz.

Mr. tan is a member of the U.S. Delegation at the World Radio Conference 2019 (WRC-19), 2015 (WRC-15) 2007(WRC-07). He Represented the DoD, and U.S. Air Force at (WRC-07), U.S. Army at (WRC-19, WRC-15), and a subject matter expert in Radiolocation, Radiodetermination, and mobile systems.

At the national level, he represents the U.S. Army At National Telecommunication Information Administration (NTIA) and a member of Inter-department Radio Advisory Committee (IRAC), Radio Subcommittee Advisory (RCS), personal acquaintance with representatives from the Air Force Spectrum Management Office (AFSMO), Department of Navy (DON), DISO, Federal Aviation Administration (FAA), the National Telecommunications and Information Administration (NTIA), Federal Communication Commission, the Joint Spectrum Center (JSS), the Global Positioning System (GPS) wing, the North American Air Defense (NORAD) program office, and the 84 RADES radar evaluation squadron.

Mr. Tan M. is married to Beverly K. Ly, and they have two sons – Calvin Ly and Justin Ly.

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Sandia National Laboratories

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Bishnu P. Khanal, Ph.D.

Most Promising Engineer of the Year

Rising technical leader and innovator for next generation optical lithography process development for application specific integrated circuits, complementary metal-oxide-semiconductors, silicon photonics, waveguide, ion trap and quantum computing technologies.

Bishnu P. Khanal is the R&D manager at Sandia National Laboratories of the Materials Mechanics and Tribology department. He leads a team of scientists, technologists, post-docs, and students in conducting research on the fundamental understanding of materials mechanical behavior. Prior to this role, Bishnu led the advanced optical lithography process development activities for application specific integrated circuits, complementary metal-oxide-semiconductors, silicon photonics, waveguide, ion trap and quantum computing technologies at Sandia's Microsystems, Engineering, Science, and Applications division. He was the key member and technical leader on several, nuclear weapon, Laboratory Directed Research & Development projects, Defense Advanced Research Projects Agency, and Intelligence Advanced Research Projects Activity programs focusing on microelectronics and micro-elecromechanical system development.

Previously, Dr. Khanal worked as a R&D process engineer at Intel Corporation, where he installed and qualified process equipment and developed etch processes for several technology nodes. Dr. Khanal led programs for tool and product qualification and technology transfer to high volume manufacturing facilities in the United States and abroad. In addition, Dr. Khanal led the Intel Module Team a cross-functional team of engineers, for inline defect reduction and led several cost-cutting projects, saving several million dollars a year in manufacturing expenses.

While earning his PhD, Dr. Khanal worked on the synthesis, nano- engineering, and self-assembly of one-dimensional metallic nanocrystals. The seven novel nanostructures Dr. Khanal developed have been licensed and are commercially available. Dr. Khanal has published more than 25 papers in highly prestigious peer-reviewed journals, receiving more than 4,200 citations.

Dr. Khanal earned bachelor's and master's degrees in chemistry from Tribhuvan University, Nepal, and a master's and doctorate degree in chemistry from Rice University, Houston, TX.

Dr. Khanal and his wife have two children; outside of work, he enjoys spending time with his family, running, hiking, vegetable gardening and writing poems and lyrics.

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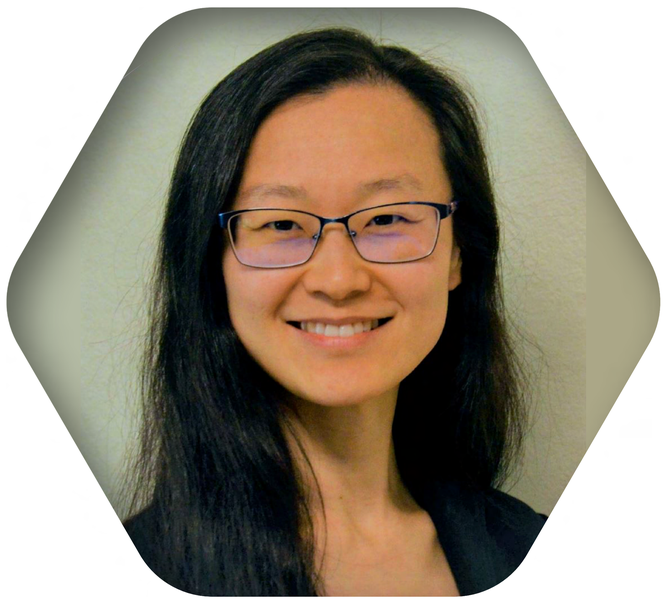

Shuonan Dong, Ph.D.

Most Promising Engineer of the Year

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Technical innovator who is recognized as a rising star in robotic technology and integrated factory automation and freely shares her knowledge to support and mentor students and co-workers of all ages, especially women in STEM careers.

Shuonan (Shannon) Dong has amassed an impressive array of technical accomplishments during her nine years with Boeing in Seattle. She is currently an Advanced Technologist in Boeing Commercial Airplanes Product Development, where she is the Principal Investigator for projects including vision-based robotic drilling technology, mechanical in-tank tool, and cross-ply machine. In addition, she holds the prestigious title of Boeing Associate Technical Fellow, with a focus on Integrated Factory Automation.

Dr. Dong is recognized as a leader in the development and application of robotic technology to aerospace manufacturing, specializing in composite fabrication and assembly. Her achievements in integrated factory automation have reduced time and cost while enhancing precision and performance throughout the production process on Boeing programs including the 777X and 737. Her vision-based robotic drilling technology is expected to yield an estimated $54M cost avoidance at the Boeing Composite Manufacturing Center and is baselined for future airplanes. She holds two patents and several pending disclosures for automated manufacturing systems and has published and presented her findings in numerous technical journals and conferences.

Dr. Dong earned her BS, MS, and PhD degrees from the Massachusetts Institute of Technology Department of Aeronautics & Astronautics. Before joining Boeing, she led and participated in a wide range of research and development projects for NASA, Massachusetts Institute of Technology, and Monterey Bay Aquarium Research Institute.

Dr. Dong lives in Seattle with her husband and two children and is an avid volunteer, mentor, and educator with a goal of enhancing opportunities in STEM for girls and women. She has volunteered at her children's school as an assistant teacher, admissions officer, stage production coordinator, and general assistant. In addition to mentoring students and Boeing employees, she is an Affiliate Assistant Professor at the University of Washington. She has a particular interest in the power of music to bring people together, and she has spearheaded music and theater programs for people of every age, from toddlers to the elderly.

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Justin A. Goo, P.E.
Most Promising Engineer of the Year

A dedicated professional that strives to provide engineering solutions to the Nation's toughest challenges through high level technical expertise and engineering management skills.

Justin A. Goo, P.E., is the Chief of the Civil Works Technical Branch at the U.S. Army Corps of Engineers (USACE), Honolulu District. In his current position, he leads a staff of engineers that provide water resource engineering solutions to non-Federal partners throughout the Pacific region in the fields of flood risk management, coastal erosion, commercial navigation, ecosystem restoration, and climate preparedness and resilience.

Justin started with USACE in 2008 and has held variety of roles ranging from coastal engineer, project manager, technical lead, government negotiator, and supervisory civil engineer at both the Honolulu and Japan Districts. During that time, he has contributed his expertise in design, technical management, and project management to a variety of Civil Works, Military Construction, and Host Nation projects throughout the Pacific region.

Justin successfully led the planning, design, and construction of numerous high visibility and mission critical projects to both the Department of Defense as well as the public through USACE's Civil Works program. He also spearheaded innovative efforts such as the implementation of the technical lead position at the Japan District, incorporation of Host Nation marine construction requirements for US funded Military Construction projects overseas, and implementation of USACE's climate preparedness and resilience initiatives within the Pacific Ocean Division area of responsibility.

Justin was born and raised in Honolulu, Hawaii and received his Bachelor of Science degree in Civil Engineering from the University of Southern California in 2005 and Master of Science degree in Ocean and Resources Engineering from the University of Hawaii at Manoa in 2007. Justin, wife Kris, and daughter Kaelyn reside in Aiea. In his personal time Justin enjoys playing and coaching soccer, surfing, and speaking at STEM outreach events at local schools and universities.