



University at Buffalo

Department of Industrial  
and Systems Engineering  
School of Engineering and Applied Sciences



# Industrial and Systems Engineering

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// 2023 DEPARTMENT NEWS





## // A MESSAGE FROM THE CHAIR



**D**ear Alumni and Friends,

I am pleased to report that this year in my opinion has been the best UB ISE has ever had. The U.S. News and World Report ranked our ISE graduate program 21st out of 100 programs overall and ranked us 14th among public universities in the United States. Our annual research expenditures are at an all-time high and are expected to continue to grow with the increasing number of recently awarded grants.

With the arrival of three additional faculty this fall, the size of our department is also at an all-time high. Their onboarding has significantly strengthened our department's expertise in data analytics, artificial intelligence, and machine learning. We have recently added new undergraduate and graduate courses in these areas and are now offering an MS focus area dedicated to Data Analytics Engineering.

Our faculty, students, and alumni continue to be recognized for their accomplishments and leadership within the ISE profession and academia. There is unprecedented demand for our graduates. Our students are being offered high-salaried jobs in academia, government, and the manufacturing, defense, healthcare, and insurance industries.

In the coming months, we will continue to expand our research impact in advanced manufacturing, health and health systems, transportation and logistics, security and defense, and critical infrastructure resilience. We will further strengthen our entrepreneurship and intrapreneurship culture to encourage students and faculty to advance the profession through innovation. We will also assess and refine our traditional and new academic curriculums to ensure the students have the skills and tools needed to address the complex ISE challenges of today and tomorrow.

In this newsletter, we share just some of our departmental highlights. I encourage you to learn more by visiting [engineering.buffalo.edu/ise](https://engineering.buffalo.edu/ise), or joining us on LinkedIn ([search ISE at UB](#)), Facebook ([facebook.com/UBISer](https://facebook.com/UBISer)), X, formerly known as Twitter ([@UB\\_ISE](#)) or Instagram ([ub\\_ise](#)). I also encourage you to contact me directly at any time to share ideas about how we can better connect with you! //

Yours respectfully,

**Victor Paquet**

Professor and Chair, Department of Industrial and Systems Engineering

## // QUICK FACTS



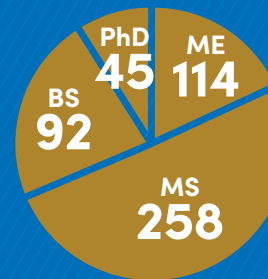
### 2023 ENROLLMENT

**509**

Total Students

**11**

PhD Degree Conferrals



### DEGREE PROGRAMS

- BS Industrial Engineering
- BS/MBA 5-Year Degree
- MS Industrial Engineering, Concentrations in Human Factors, Operations Research, and Production Systems
- ME Engineering Management
- PhD Industrial Engineering

### 2024 US NEWS & WORLD REPORT GRADUATE RANKINGS

**21<sup>st</sup>**

Overall

**14<sup>th</sup>**

Among Public Universities

**24**

2023 FULL-TIME FACULTY

- 19 tenured or tenure track, 5 teaching

### RESEARCH STRENGTH AREAS

- Security and Defense
- Health and Health Systems
- Transportation and Logistics
- Advanced and Sustainable Manufacturing
- Critical Infrastructure Resilience

### 2022-2023 FISCAL YEAR

**\$3.4m**

Research Expenditures

**\$9.3m**

New Grants Overall

**\$3.5m**

ISE Credit



Assistant Professors **Diana Ramirez-Rios**, top, and **Sayanti Mukherjee**, bottom, received a NSF RAPID Grant for “Exploring

Impacts of Cascading Failure and Recovery Efforts of Interdependent Critical Infrastructure in Socially Vulnerable Puerto Rican Communities in the Aftermath of Hurricane Fiona.”

The project aimed to understand the extent to which failures of multiple critical infrastructures lead to prolonged impacts on socially vulnerable communities in the aftermath of a disaster, and how they can be restored more effectively, especially in poor or rural communities.

When Hurricane Fiona hit Puerto Rico in September 2022, causing significant flooding and widespread power outage, Ramirez and Mukherjee took a team of research assistants to Puerto Rico to study the impacts of the hurricane and recovery efforts first-hand. Research activities included identifying areas of higher impact using satellite images, collecting information on restoration interdependencies from relevant newspaper articles and open-source datasets, interviewing emergency and infrastructure managers and surveying households’ perceived impacts in communities of high social vulnerability.

This multi-method approach allowed them to validate first-hand the restoration interdependencies, restoration efforts, and associated challenges for the recovery of the most vulnerable communities in the aftermath of severe hurricanes. //

# WHEN DISASTER STRIKES

UNDERSTANDING RECOVERY EFFORTS AND IMPACTS ON VULNERABLE COMMUNITIES



Above: Professors Mukherjee and Ramirez-Rios with ISE graduate student researchers, from second-from-left, Prasangsha Ganguly and Esneyder Gonzalez, and two Federal Highway Administration transportation engineers in El Yunque, Puerto Rico.

## IMPROVING PRESCRIBED FIRE BURNING

Wildfires can be immensely destructive, resulting in deaths and injuries and creating an enormous financial burden for affected communities.

Controlled or prescribed fire burning can be an effective way to reduce fire frequency and intensity but can be met with challenges, such as a lack of funding, preparation and technical guidance.

ISE Morton C. Frank Professor **Jun Zhuang** is the principal investigator on a National Science Foundation grant “Optimizing and Managing Prescribed Fire Usage in Mitigating Wild Fires,” to create novel analytical models to quantify the impact of prescribed burning programs.

To develop new analytic models, his team will analyze data on fire occurrences and costs, prescribed burning usages, mitigation efforts and costs, wildland-urban interface, and associated fuel, weather and topography features. They will characterize the impact of prescribed burning programs by considering the reduction of the number and intensity of large events, and the associated environmental and biological implications. //



“WE SEE AN OPPORTUNITY TO PROVIDE NEW INSIGHTS THAT CAN IMPROVE AND SUPPORT FIELD OPERATIONS THAT IN TURN WE HOPE WILL HELP MITIGATE THE LOSSES AND DAMAGES CAUSED BY WILDLAND FIRES.”

— Zhuang

## EQUITABLE SOLUTIONS TO EMERGENCY MANAGEMENT DURING WILDFIRES

ISE Assistant Professors **Sayanti Mukherjee** and **Jose Walteros** have been awarded a National Science Foundation Strengthening American Infrastructure grant to improve the Emergency Management of Critical Infrastructure Systems (EM-CIS) during wildfires in ways that will address the disproportionate societal impacts. The project aims to develop a Human-centered, Equity-focused, Risk-informed Decision-making (HERD) emergency framework, integrating social-science theories with mathematical models, to strengthen and equitably transform the EM-CIS when wildfires threaten wildland urban interfaces.

“While wildfire-prone regions in the U.S. are more likely to be populated by higher-income groups, this fact overshadows another fact that thousands of low-income, underrepresented individuals who lack the resources to prepare for and recover from wildfire damages and thus are disproportionately impacted, also reside in the same region,” notes Mukherjee.

The project brings together expertise and resources from a network of social sciences, engineering, public policy researchers, and stakeholders from multiple institutions, public and private agencies, non-profit organizations, and local communities. //



## UB RECEIVES \$1M TO IMPROVE SPACE DOMAIN AWARENESS

UB has been chosen to be part of a new five-year, \$5 million research program that aims to improve an array of diverse space-related activities, including lunar-focused astrodynamics and sensing research, conflict simulation, and expanding workforce pathways related to the space workforce.



The award was announced in October by the U.S. Space Force. Called STARLIT, the grant brings together an array of leading aerospace universities as well as an industry advisory board of 11 aerospace firms. The \$1 million UB effort is being led by ISE Professor **Moises Sudit**, above, and John L. Crassidis, Moog Professor of Innovation and SUNY Distinguished Professor of Mechanical and Aerospace Engineering.

One focus of the funding opportunity is dramatically expanding the space workforce. The funding aims to create new graduate education pathways, including summer research initiatives with minority-serving institutions, student employment and mentorship opportunities, and internship programs through community colleges. //

"SPACE IS NOT JUST THE NEXT FRONTIER. IT IS THE FOUNDATION OF THE CURRENT TECHNOLOGICAL REVOLUTION. OUR WORK IS AN IMPORTANT STEP IN PROMOTING THE NEXT WAVE OF RESEARCH DISCOVERIES."

— Sudit

## NEW DEFENSIVE STRATEGIES WILL PROTECT TERRESTRIAL-SATELLITE COMMUNICATION NETWORKS IN CONTESTED ENVIRONMENTS



ISE Assistant Professor **Jose Walteros** is the recent recipient of a grant from the U.S. Air Force Office of Scientific Research. The goal is to develop an optimization framework to design proactive and reactive strategies to ensure that teams of assets relying on terrestrial-satellite communication networks (TSCNs) have continuously open communication channels with their command base for the entire duration of their missions.

The approach will leverage technologies developed in the areas of network interdiction, robust network design, and multi-level optimization to counteract disruptive non-kinetic operations (e.g., jamming) conducted by adversarial actors aimed at limiting the communications capabilities and situational awareness of the assets.

The project provides fundamental and potentially transformative developments in mathematical modeling to minimize an attacker's chances of disrupting TSCN. "Preliminary results of this project have so far been promising," says Walteros. //

## NEW TOOLS WILL IMPROVE AIRLIFTS IN CONTESTED ENVIRONMENTS



U.S. Air Force Air Mobility Command (AMC) is responsible for supporting global activities of the U.S. armed services, including the aerial transportation of troops and supplies. AMC's missions can be extremely complex especially if carried out in contested environments. AMC planners currently use spreadsheets and existing networks to plan airlift operations. This manual process produces sub-optimal plans that add to cost, require long development times, have low flexibility, and can lead to low confidence in mission success.

ISE Professor **Robert Dell** was recently awarded a grant from the U.S. Air Force Office of Scientific Research to improve current AMC airlift planning practices. He and researchers from the Naval Postgraduate School have partnered to mathematically model a Dynamic Airlift Routing Problem (DARP) and deliver a prototype model that enables rapid mobility planning for airlift capabilities. The project directly responds to AMC's Rapid Operational Design of Airlift Networks (RODAN) request for enhanced tools that enable planners to rapidly design and evaluate airlift networks in contested environments. The DARP model is specified by an underlying transportation network of nodes (representing airports) and arcs (feasible flight paths between pairs of airports), a fleet of aircraft with operating characteristics, and a list of demand lines, each of which is specified by an amount and type of cargo, an origin, a destination, and a priority. //



## IMPROVING BORDER SECURITY FROM THE RIVER, AIR AND LAND

Border patrol agencies face uncertainty in their daily operation caused by intelligent adversaries who frequently shift tactics. This unpredictable environment, where threats emerge in real-time, requires dynamic solutions, both proactive and reactive, in which sequential decisions are made, and plans updated, as new intelligence is acquired.

To address this complex problem, ISE Morton C. Frank Professor **Jun Zhuang** has been partnering with U.S. Border Patrol agencies in both Buffalo and Tucson Sectors to study dynamic intelligence-based patrol strategies with an aim to improve patrol operations along the U.S.-Canada and U.S.-Mexico border. In particular, the team utilizes techniques from operations research, decision analysis, game theory, and computer science to develop optimal patrol strategies that can be dynamically updated, reconfigured and visualized within a software toolkit. //



Above: ISE researchers, from left, Kyle Hunt, Ian Unson and Professor Zhuang onboard a U.S. Border Patrol boat in the Niagara River. Below: Visiting the U.S.-Mexico border wall.



## ALL ABOARD

### UB RECEIVES \$2.5M TO IMPROVE PUBLIC TRANSIT ACCESS IN BUFFALO

The lack of convenient, affordable public transportation limits access to school, work and healthcare for millions of individuals in the U.S., and especially those with disabilities. Buffalo All Access is a new transportation initiative funded by the U.S. Department of Transportation that will use technology to improve options for all travelers in and around the Buffalo Niagara Medical Campus (BNMC).

The project is being led by the Niagara Frontier Transportation Authority in partnership with UB and other regional organizations. It includes the development of a human-operated and self-driving on-demand shuttle service that will circulate around the medical campus and adjacent neighborhoods, a “Complete Trip” mobile app and website to allow riders to plan trips and receive en-route navigation information based on their unique needs and abilities, and pedestrian wayfinding technologies deployed outdoors on the medical campus and in medical buildings to assist travelers. UB is responsible for developing and testing the self-driving bus, and evaluating the effectiveness of the new systems. UB’s portion of the project’s \$8 million budget is \$2.5 million.

The electric self-driving bus, developed by ADESTEC and Vicinity Motor Corp, will be among the first of its kind to be deployed in the United States. ISE Professor and Chair **Victor Paquet** will be involved in assessing the effectiveness of the Buffalo All Access services, including the self-driving bus, in terms of how well the services meet the needs and preferences of all rider groups, including individuals with disabilities and older adults. The project is expected to run for the next three to four years. //



**Buffalo All Access will serve the BNMC (in blue) and surrounding downtown neighborhoods. ADESTEC’s electric self-driving bus will be customized to address the needs of individuals with disabilities and tested on BNMC’s grounds.**

“INCLUSIVE TRANSPORTATION IS CRITICAL FOR ENSURING EQUITABLE PARTICIPATION IN EDUCATION, WORK, HEALTHCARE AND SOCIAL ACTIVITIES. THIS PROJECT WILL PROVIDE A UNIQUE OPPORTUNITY TO LEARN ABOUT TRANSPORTATION BARRIERS AND SOLUTIONS IN THE ‘REAL WORLD.’”

— Paquet

## CHEN TO CO-LEAD \$2M GRANT TO ENHANCE MEDICATION SAFETY DURING PATIENT TRANSITIONS

“I AM THRILLED TO TAKE OUR WORK TO LARGER AND MORE COMPLEX SETTINGS, AND ULTIMATELY CONTRIBUTE TO SAFER MEDICATION PRACTICES FOR OLDER ADULTS.”

— Chen



ISE Assistant Professor **Huei-Yen ‘Winnie’ Chen**, left, is co-leading an interdisciplinary team of faculty from the Jacobs School of Medicine and Biomedical Sciences and the School of Engineering and Applied Sciences, including ISE Professor **Ann Bisantz**, to better understand barriers and facilitators to preventing, identifying and resolving medication safety problems in transitions across levels of care within the healthcare system. The project, “Patient-Driven Medication Safety Learning Laboratory in Care Transitions,” is supported by a \$2 million Patient Safety Learning Laboratories Grant from the Agency for Healthcare Research and Quality.

The research team will partner with Buffalo’s Erie County Medical Center to examine the existing medication safety work system throughout the entire care transition process and establish a cross-system learning laboratory that unites older adults, caregivers, and healthcare teams in innovative ways to strengthen medication safety during care transitions. Chen’s role on the project is to oversee a human-centric engineering process throughout the project from problem analysis to the design and evaluation of potential solutions. //

## // FACULTY AWARDS AND HONORS

**Rajan Batta**, right, received the **2022 Institute for Operations Research and the Management Sciences Lifetime Achievement in Location Analysis Award** and was recently named INFORMS Fellow. This award is given every third year at the International Symposium on Locational Decision. The honor recognizes a person who has made significant lifetime contributions to location analysis research.



**Lora Cavuoto** received UB’s **2023 Exceptional Scholar for Sustained Achievement Award**. This prestigious award was established to honor outstanding professional achievement in a senior scholar’s career, distinguishing a body of work of enduring importance that has gone beyond the norm in a particular field of study.

**Robert Dell** was **elected to the Board of Directors Military Operations Research Society**, an organization dedicated to enhance the quality of analyses that inform national and homeland security decisions. Members of the Society include the top defense analysts, operators and managers from government, industry and academia.

**Diana Ramirez-Rios** was **elected to serve as the Regional Vice President Americas of the Production and Operations Management Society**, an international professional organization representing the interests of operations management professionals from around the world.

**Jun Zhuang** received the **INFORMS Volunteer Service Award and the Society for Risk Analysis Distinguished Educator Award**, and was **named SRA Fellow**. The SRA Distinguished Educator Award recognizes those who have contributed to the training of new experts in risk analysis. //





From left to right: new ISE faculty members Sankaran, Yang, and Chen.

## PROMOTIONS

**Lora Cavouto** was recently promoted to Full Professor. She is an international leader in the data-driven measurement of workload, fatigue, and human performance in the workplace. Her research program has been funded by agencies such as the National Institute for Occupational Safety and Health, National Institutes of Health, National Science Foundation, and Department of Defense. Cavouto has received many awards for her accomplishments, including the American Society of Safety Professionals William E. Tarrant's Outstanding Safety Educator Award.



**Harrison Kelly** was recently promoted to Professor of Practice. His area of expertise involves improving processes through engineering quality control, process control and optimization, system variation reduction, and the use of applied statistics. Kelly held several managerial or executive positions at companies such as Motorola, Moog, Rich Products, and Curbell. //



## NEW FACULTY BRING EXPERTISE IN MACHINE LEARNING AND AI

**Prashant Sankaran**, Assistant Professor PhD, MECHANICAL & INDUSTRIAL ENGINEERING, ROCHESTER INSTITUTE OF TECHNOLOGY

Sankaran develops artificial intelligence approaches for healthcare, defense, energy, transportation, and space exploration.

**Jing Yang**, Assistant Professor PhD, INDUSTRIAL ENGINEERING, PURDUE UNIVERSITY

Yang applies machine learning to real-time human cognitive states and behavior modeling for the design of adaptive human-machine interactions in healthcare.

**Xiaoyu Chen**, Assistant Professor PhD, INDUSTRIAL ENGINEERING, VIRGINIA TECH

Chen investigates smart connected health applications for organ transplantation and perioperative medicine, communication and computation services for cybermanufacturing, statistical methods for Bayesian deep learning, and machine learning methodology for advanced manufacturing. //

## HOMECOMING

PROFESSOR ROBERT DELL RETURNS TO UB AFTER 32 YEARS

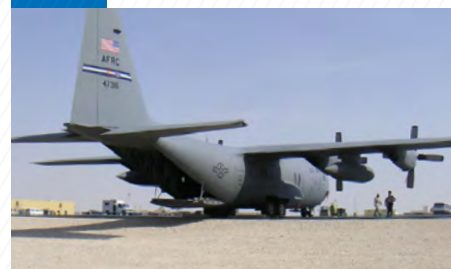
The year was 1982 when **Robert Dell** started his journey in engineering at the University at Buffalo. Engineering runs in his family. Dell recalls learning from his grandmother that his grandfather was one of the engineers who worked on the Nautilus, the world's first nuclear submarine. That history combined with his enthusiasm for mathematics eventually led him to choose industrial engineering as his pathway to making a positive difference in industry and with students.

After earning BS, MS and PhD degrees at UB, his professorial career commenced at the Naval Postgraduate School. He eventually earned promotions to Full Professor, Chair of the Operations Research department, and Acting Provost during the challenging first year of the pandemic.

Dell is internationally recognized as a leading scholar of military operations research. His research applies optimization methods to address important military logistics problems. He has developed models for the Department of Defense and Department of Homeland Security that have helped inform billion-dollar decisions about realigning and closing U.S. Army bases, supported the planning of U.S. Coast Guard employment schedules, improved airlift logistics planning for the U.S. Air Force in Iraq and Afghanistan, and helped guide U.S. Navy nuclear prototype training.

**Dell works beneath the wing of a C-130 cargo plane. Dell has been deployed twice to combat zones.**

For Dell, UB is giving him the chance to come full circle. He is teaching one of his favorite courses, IE 572 Linear Programming, is supervising PhD and MS students on funded projects and takes opportunities to encourage undergraduate students to consider graduate school as he did many years ago. //



Dell, below right, as a student with current SUNY Distinguished Professor **Rajan Batta**, left, and **Nirup N. Krishnamurthy**, center, pictured c. 1990.



"WE ARE THRILLED THAT PROFESSOR DELL HAS REJOINED OUR ISE TEAM. HE HAS CONSISTENTLY DEMONSTRATED EXCELLENCE IN RESEARCH, TEACHING, AND LEADERSHIP THROUGHOUT HIS DISTINGUISHED CAREER."

— **Victor Paquet**,  
ISE Professor and Chair



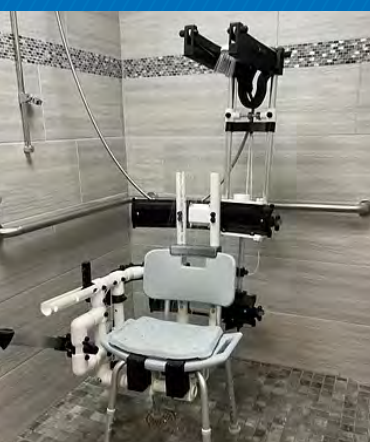


## ASSISTIVE SHOWER CHAIR WINS UB ENTREPRENEURSHIP COMPETITION

Courtney Burris, far left, and Brandon Davis Burris, second from left, co-founders of RHM Innovations Inc.

"WHAT WE'VE LEARNED DURING PANASCI WILL HELP US FAR BEYOND THE COMPETITION."

— Burris



The Aiding Arm

A company co-founded by ISE doctoral student turned recent graduate **Courtney Burris**, below, took first place on April 25 at the **University at Buffalo's Henry A. Panasci Jr. Technology Entrepreneurship Competition**.

**RHM Innovations Inc.** develops assistive bathing technologies to reduce strain on caregivers and improve shower quality for recipients. Burris and her co-founder Brandon Davis Burris, a University of Rochester doctoral student in biochemistry and molecular biology, were awarded \$25,000 in startup capital and in-kind services valued at \$40,000 for their company.



Inspired by personal experiences with family, the team designed its inaugural product, the Aiding Arm—a shower chair attachment that enables the caregiver to have complete control over the flow of water while the resident is seated safely in a standard shower chair. The product reduces strain on both the user and the aide during the bathing process, ultimately saving continuing care facilities time and money.

Notably, this is not the first Panasci competition for RHM. The team first entered in 2021 and made it to the finals. In 2022, they took second place.

"We are so grateful for everything we have learned about business, our company, and ourselves throughout this experience," says Burris, who continues to lead RHM as the company's CEO since completing her doctorate in May 2023. //

## TURNING CRISIS INTO AN AWARD-WINNING CHESS ENGINE

Two years ago, ISE PhD student **Adam DeHollander** needed to visit the emergency room. He was shocked to see the overcrowded waiting room, and wondered if it would be possible to reprogram algorithms that play chess to analyze the emergency department.

The research became the subject of Hollander's doctoral dissertation and went on to earn him the **2022 Chessable Research Award** and a National Science Foundation Graduate Research Fellowship. News of this fellowship came while DeHollander dealt with more adversity.

"I had surgery and was unable to walk for three months. Even after learning how to walk again, I was still in a lot of pain and had limited mobility," DeHollander says. During his recovery, DeHollander read dozens of ER papers and developed his unique chess engine approach. DeHollander's research is a brand-new approach to patient prioritization in the ER.

"It was a great honor to be chosen for this fellowship, but it was especially fulfilling because it resulted in something good coming out of a very difficult time in my life." //



## // CURRICULUM NEWS



### NEW MS FOCUS IN DATA ANALYTICS

In response to the growing demand for data analytics expertise within the ISE profession, **UB ISE has developed a new MS program focus area in Data Analytics Engineering**. Data analytics professionals transform large streams of data into understandable and actionable information to aid decision-making. Demand for data analytics professionals is particularly high for healthcare, smart manufacturing, supply chain and logistics, national security and defense, and financial employment sectors. Over 40 students have declared DAE as their focus area in its inaugural semester. //

### RANKINGS NOTE

UB ISE rankings improved from 24th to 21st overall and 14th among public universities in the U.S. News & World Report's rankings of Industrial Engineering Graduate Programs. In just its second year of eligibility, the remote Master's of Engineering in Engineering Management (ME EM program) rankings improved from 49th to 29th among all remote engineering programs, and 17th among remote engineering management programs. //



## // ALUMNI SPOTLIGHT



**Pawan Vora** is the founder and president of Alpha Cube, Inc., a web design and usability company. His expertise extends deep into UI/UX design patterns and a broad spectrum of web-related technologies for over 20 years. He is the author of *Web Application Design Patterns*, published by Morgan Kaufmann. Vora recently founded the endowed "Dr. Pawan Vora ISE Department Excellence Fund", which includes a prestigious fellowship program designed to support exceptional doctoral students.



**Maggie J. Ma** is a Certified Human Factors Professional and a Technical Fellow in Human Factors Engineering at Boeing. She has substantial experience in developing various safety programs through working closely with airlines, manufacturers, maintenance organizations, ground service providers, and regulatory agencies around the world. Ma was selected as a Fellow by the Royal Aeronautical Society in 2023. //

## // ADVISORY BOARD NEWS

### ISE WELCOMES NEW ADVISORY BOARD MEMBERS

**Sara Czaja** is the Gladys and Roland Harriman Professor of Medicine, Professor of Gerontology and the Director of the Center on Aging and Behavioral Research at Weill Cornell College of Medicine. She has written numerous books, chapters, and over 180 scientific articles on aging and cognition, family caregiving, aging and technology, training, and functional assessment. She is currently a member of the Advisory Committee of Governor Hochul's Master Plan for Aging for New York. Czaja has a BS in Psychology, and an MS and PhD in Industrial Engineering from UB.



**Dennis Schrader** served the State of Maryland for over 8 years in many roles, including Acting Secretary of Health, Chief Operating Officer and Medicaid Director, and Maryland Secretary of Health from 2016-2023. He led the state's COVID-19 Pandemic response and recovery efforts. He is a retired United States Navy Captain serving in the Civil Engineer Corps for 26 years. Schrader holds an MS in Industrial Engineering from UB. //



## OUR 2023 BOARD MEMBERS

**Mario Adams-Campos**  
National Defense University

**Oyinkansola Akintan**  
Gabriel & Company

**Mitch Berg**  
Kubient

**Linda Boyle**  
New York University

**Sean Cunningham**  
Intel Corporation

**Sara J. Czaja**  
Cornell University

**Patrick Dempsey**  
National Institute for Occupational Safety and Health

**Steve Krenzer**, Chair  
Thinkific

**Larry Megan**  
Baldwin Richardson Foods

**Frank Mufalli**  
Linde

**Seth Myones**  
Ridge Consultants, LLC

**Dennis Schrader**  
Senior Policy Advisor

**Robert Tom**  
Fisher-Price, Retired

## // EVENTS

### UB ALUMNAE PRESENTS SEMINAR ON "THE INDUSTRIAL METAVERSE"



Dean of the School of Engineering and Applied Sciences, Kemper Lewis, and ISE Professor and Chair Victor Paquet introduce Stanney.

**Kay Stanney**, UB IE '86 BS alumnae and member of the National Academy of Engineering presented her perspectives on how industrial and systems engineers are contributing to the Industrial Metaverse during **UB ISE's Distinguished Alumni Seminar Series**. Stanney described how ISEs can impact the effective implementation of the industrial metaverse through methods such as simulation, optimization, human-machine interaction, robotics, data-driven decision making, logistics supply chain and information engineering. She demonstrated that ISEs have tremendous insight and experience to share with those who aim to use these methods to transform the way every physical and digital asset within the enterprise is created, built, and operated to yield optimized, resilient, responsive, high-performing, and safer operations.

Her seminar was attended by a large audience of UB students, faculty, and alumni, including her UB roommates. A reception following the seminar was held in honor of her many significant engineering accomplishments. Stanney is CEO and Founder of Design Interactive, Inc., a woman-owned, small business focused on empowering people with innovative technology. She is recognized as a leader in Extended Reality (XR, Virtual Reality, Augmented Reality, Mixed Reality), especially in the context of training, human performance, and cybersickness. In 2019, she was inducted into the National Academy of Engineering for her contributions to human factors engineering through virtual reality technology and strategic leadership. //

"ONE OF THE THINGS I TREASURE MOST ABOUT MY TIME AT UB WAS THE SIGNIFICANT NUMBER OF WOMEN STUDYING ENGINEERING ALONGSIDE ME, INCLUDING MY THREE COLLEGE ROOMMATES."

— Stanney



Above left-to-right in both photos: Stanney (nee. Hoftiezer) and ISE alumni Laura (Chaput) Staub, Kathy (Brown) Weismann, and Silvia (Spahl) Bouchard.





University at Buffalo

## Department of Industrial and Systems Engineering

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# Get connected WITH US!

Here are just some of the ways to connect with us and make an impact on future IEs.

- Take a tour
- Take a course
- Attend a UB game
- Attend a speaker series
- Give a presentation
- Meet our students
- Post a job announcement
- Sponsor an internship
- Post a profile
- Recruit at a career fair
- Participate on the ISE Alumni Board

To learn more, visit: [engineering.buffalo.edu/ise](https://engineering.buffalo.edu/ise)



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