

Panels

June 17, 2025, 2:00 pm

Panel 1: The Power of Operations Research and AI: Success Stories and Emerging Trends

Moderator



Edgar Gutierrez-Franco, PhD
Full Professor, Externado University of Colombia

Edgar Gutierrez-Franco, PhD, is a Full Professor at the Externado University of Colombia and an Affiliated Researcher at the Massachusetts Institute of Technology. He is a supply chain management analyst with experience leading and developing data-driven strategies and models for corporate organizations. His focus is on the creation of optimization and simulation models, machine learning algorithms, and strategic management methodologies to drive efficient and sustainable operations in the supply chain and omnichannel channels, thereby supporting managerial decision-making processes. He has experience in various aspects of the supply chain, including network design, last-mile logistics, capacity planning, inventory control and allocation, omnichannel sales strategies, and digital supply chain models. He has held leadership roles in cross-functional corporate teams, ensuring the successful delivery of projects within established deadlines and budgets. His communication skills and strong stakeholder relationships have allowed him to manage large-scale projects while fostering a collaborative work environment. His work experience spans several industries, including retail, beverage, agribusiness, and consulting. In academia, he has advised projects and led courses related to Systems Engineering, Operations Research, Simulation, Machine Learning, and Supply Chain Management in the United States and Latin America since 2003. He is also the author and editor of books in the field of Supply Chain Analytics, including "Engineering Analytics: Advances in Research and Applications" (Taylor and Francis, 2021) and "Artificial Intelligence: Advances in Research and Applications" (Nova, 2018).

Panelists



Víctor Gustavo Tercero Gómez, Ph.D.
Professor of Industrial Engineering
School of Engineering and Sciences
Food Safety Project – HEALTH Research Core
Monterrey, Nuevo León, Mexico

Víctor Gustavo Tercero Gómez is a professor at the School of Engineering and Sciences at Tecnológico de Monterrey. He received his Ph.D. in Systems and Engineering Management from Texas Tech University and a second Ph.D. in Engineering Sciences from Tecnológico de Monterrey. He holds Black Belt and Master Black Belt certifications in Six Sigma, with years of experience leading and advising continuous improvement projects in manufacturing and service organizations.

As a researcher, he has authored numerous scientific articles in the fields of statistical process monitoring, nonparametric statistics, and statistical engineering. He is currently a Level 2 member of Mexico's National System of Researchers.



Sri Thirumalai
Director, Last Mile Delivery
Walmart
Bentonville, Arkansas, USA

Sridhar Thirumalai is an accomplished supply chain executive with over 18 years of experience at leading global organizations, including Apple, Meta, Tata Consultancy Services TCS, and Walmart. He currently serves as Director of Last Mile Delivery at Walmart, where he spearheads multiple strategic initiatives that leverage artificial intelligence and machine learning to address complex last-mile logistics challenges. Throughout his career, Sridhar has demonstrated expertise in supply-demand planning, end-to-end delivery optimization, and technology-driven transformation across the supply chain sector. He is recognized for his commitment to advancing supply chain innovation and operational excellence.



Dr. Johanna Trujillo Díaz
Investigador en Estancia Post Doctoral – Proyecto Orquídeas
Facultad de Ciencias Económicas y Administrativa
Universidad Cooperativa de Colombia, Bogotá, Colombia

Industrial Engineer, master in industrial engineering, and a Ph.D. in Strategic Planning and Technology Management. She has 16 years as a researcher and professor, and 8 years working as an administrative and financial director. She holds the first postdoctorate in the analysis of data on COVID vaccination in Colombia, and the second is in the design of a platform using Artificial Intelligence to formulate projects for raising the economics of Colombian Indigenous focusing on gender. On the one hand, in this field, she has worked in multidisciplinary research, applying tools for decision-making in logistics, transportation, supply chain, data science, big data, artificial intelligence, and technology development, where she has been a leader and co-researcher of these research projects. As a result, I have some scientific publications: a) two books, (the first is on applications of stochastic models and simulation; the second is about measuring efficiency using the data envelopment analysis (DEA) technique); b) 30 articles and book chapters, some of these are indexed and others for dissemination; and c) presentations at national and international congresses.



Prof. Ali El Kamel
Professor and Acting Chair, Department of Chemical & Petroleum Engineering
Khalifa University, Abu Dhabi, UAE

Ali El Kamel is a Professor of chemical engineering and Acting Chair of Chemical Engineering Department at Khalifa University. His academic journey includes earning a BSc in Chemical Engineering and BSc in Mathematics from the Colorado School of Mines, an MSc in Chemical Engineering from the University of Colorado-Boulder, and a PhD in Chemical Engineering (Process Systems Engineering Specialization) from Purdue University – West Lafayette, Indiana. At the core of his research program is the development of both theory and applications for process systems engineering. His diverse applications range from planning and scheduling of process operations to energy production, pollution monitoring and control, waste minimization, carbon management, sustainable operations, molecular design, and product formulation. Professor Elkamel is currently focusing on research projects related to energy systems, integration of renewable energy in process operations and energy conversion systems, and the utilization of data analytics (Digitalization), machine learning, and Artificial Intelligence (AI) to improve process and enterprise-wide efficiency and profitability. Professor El Kamel teaches graduate and undergraduate courses, covering topics such as optimization techniques, mathematical methods for chemical engineers, applied statistics, numerical methods, systems engineering, process design, industrial ecology, and engineering economy. His influence extends beyond the classroom, as he has supervised over 75 Master's students, 45 PhD students (20 in academia), and more than 45 post-doctoral fellows/research associates. Notably, all of his trainees have successfully secured

positions in the chemical process industry and academia. He has been funded for several research projects from government and industry. Among his accomplishments are the Outstanding Faculty Award, the Best teacher award, the IEOM (Industrial engineering and Operations Management) Outstanding Service and Distinguished Educator Award, UAE MBR Academy of Scientists, The Engineering Research Excellence Award, and Excellence in Graduate Supervision Award. He has been on the program and organization committees of many international conferences. Prof. Elkamel has a strong track record of research excellence. He published over 450 journal articles, 185 proceedings, and 50 book chapters, and has been an invited speaker on numerous occasions at academic institutions throughout the world and at national and international conferences. He has also written 5 books, including "Environmentally Conscious Fossil Energy Production", "Planning of Refinery and Petrochemical Operations", and "Electric Vehicles in Energy Systems: Modelling, Integration, Analysis, and Optimization.". Education: Doctorate of Chemical Engineering, Purdue University, USA, Master's Chemical Engineering, University of Colorado-Boulder, USA, Bachelor's Chemical Engineering, Colorado School of Mines, USA and Bachelor's Mathematics, Colorado School of Mines, USA.



Dr. Christopher Mejia
Research Scientist, MIT Center for Transportation & Logistics
Director, MIT SCALE Network for Latin America and the Caribbean
Director, MIT Graduate Certificate in Logistics and SCM (GCLOG) program
Founder & Director, MIT Food and Retail Operations Lab
Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

Christopher Mejia Argueta is a Research Scientist at the MIT Center for Transportation and Logistics. He develops applied research on retailing operations and food supply chains for multiple stakeholders, including consumer packaged goods manufacturers, carriers, and retailers in the Food and Retail Operations Lab (FaROL). His research focuses on improving the efficiency and flexibility of operations in multiple stakeholders, designing route-to-market and logistics strategies to address changing purchasing patterns, coupling these dynamic consumer profiles with the retail landscape, and reducing undesired socioeconomic and health problems related to income disparity, social backwardness, food malnutrition, food waste by proposing sustainable policies, business models to

help vulnerable population segments. Dr. Chris Mejia is also the Director of the MIT Supply Chain and Global Logistics Excellence (SCALE) Network for Latin America. This initiative, conducted by the MIT Center for Transportation & Logistics in the region, aims to lead impactful research and education projects for all companies, the public sector, and society together with top Latin American universities and the support of the Center for Latin-American Logistics Innovation (CLI). In addition, Dr. Chris Mejia serves as the Director of the MIT Graduate Certificate in Logistics & Supply Chain Management (GCLOG), an elite program from the MIT SCALE Network geared towards outstanding graduate students from Latin America. He holds a M.Sc. in Industrial Engineering focusing on supply chain management and multicriteria optimization, and a PhD in Industrial Engineering focusing on Humanitarian Operations. Dr. Mejia got both degrees with summa cum laude honors (best grade, top 1% students) in both classes at Monterrey Tech, Mexico. In 2013, Dr. Mejia was the academic leader at CLI, where he developed dozens of projects with industry and other academic partners related to disaster response, green logistics, packaging, and last-mile distribution in emerging markets. Before joining MIT CTL, Dr. Mejia Argueta was a Postdoctoral Fellow at Eindhoven University of Technology (TUE), the Netherlands, where he investigated retailing operations for emerging markets and formulated estimation models to analyze the prevalence of nanostores in emerging markets. He is author and editor of the books: 1) Reaching 50 Million Nanostores: Retail Distribution in Emerging Megacities, 2) Supply Chain Management and Logistics in Latin America: A multi-country perspective and 3) Supply Chain Management and Logistics in Emerging Markets. He has over 15 years of experience, and his work in over 16 countries worldwide has focused on improving the efficiency of operations across the supply chains. He is a co-editor of various special issues in recognized journals and an author of scientific papers published in top journals. He has developed dozens of industry projects focused on the reality of emerging markets regarding transportation, logistics, retailing, and supply chain management.



Gautam Nandkishore Nayak
Manufacturing Quality Engineering Manager, Meta
San Francisco Bay Area, CA, USA

Gautam Nayak is a Manufacturing Quality Engineering Manager at Meta, where he leads quality and manufacturing programs for next-generation AI infrastructure and cloud computing hardware. He plays a critical role in bringing hardware from concept to mass production, working with cross-functional teams to deliver scalable, reliable systems that power Meta's global data centers. His work supports Open Compute Project (OCP) initiatives and AI training infrastructure with global impact. He earned an MS in Industrial & Systems Engineering from SUNY Binghamton and a BE in Production Engineering from the University of Mumbai. Gautam is a Six Sigma Black Belt with over 16 years of experience spanning electronics manufacturing, hardware validation, reliability engineering, and supply chain quality. Gautam serves on the Technical Program Committees for more than 20 leading international conferences in 2025, including IEEE AAIEE, AICDDB, SusTech, CEEPE, CE2CT, SCSE, CSNT, IC2E3, ICAIE, ICCAS, ICCONT, ICETEA, ICETI4T, ICMI, ICPST, IREC, MPON, WCCCT, ICIMMT, IOEM AND IISE. He regularly reviews scholarly papers in areas such as smart manufacturing, AI-driven defect detection, cloud infrastructure reliability, and sustainable electronics systems. He is also a recognized judge for global innovation and technology awards, including the Globee Awards for AI, Disruptors, Business, Cybersecurity and Building Innovation Awards. His professional interests include AI-powered manufacturing systems, quality engineering, test automation, lean six sigma, and fostering academic-industry collaboration for innovation in hardware systems.



Bayazit Karaman, Ph.D.
Associate Professor, Department of Computer Science
Florida Polytechnic University, Lakeland, FL, USA

Presentation Title: Brains and Blueprints: How AI and OR Work Together to Drive Smarter Decisions

Dr. Bayazit Karaman is an Associate Professor in the Department of Computer Science at Florida Polytechnic University. He earned his Ph.D. in Information and Computer Science from the University of Arkansas at Little Rock, where his research focused on the role of antipodal brain connectivity in cognitive functions and mental disorders. Dr. Karaman's research interests include machine learning, deep learning, bioinformatics, and cognitive neuroscience, with a special focus on how AI and brain-inspired systems can address real-world challenges. He has published in leading journals and conferences, contributing to areas such as EEG-based classification using transformers, semantic complexity tracking in fMRI, and AR/VR-based learning systems. At Florida Poly, Dr. Karaman teaches courses in artificial intelligence, machine learning, and programming. He has mentored several award-winning student projects and actively contributes to curriculum development. He also serves as a reviewer for journals including Cognitive Neurodynamics and Knowledge-Based Systems.



Ian Bentley, PhD.
Professor and Chair of Physics
Florida Polytechnic University
Lakeland, FL, USA

Ian Bentley joined Florida Polytechnic University in 2023 as chair of the Department of Physics. Bentley was tasked with reimagining the physics curriculum and with providing additional support for the introductory physics courses. "Combined with the existing faculty in the department, we can provide support for a variety of student interests through coursework and research," he said.

Before joining Florida Poly, Bentley taught physics at Saint Mary's College in Notre Dame, Indiana. He was director of the college's Dual Degree Engineering Program from 2022-2023, director of the Physics Program from 2018-2022, an associate professor of physics from 2018-2023, co-department chair of chemistry and physics in 2017 and 2018, and an assistant professor of physics from 2012-2018. During his time at Saint Mary's, Bentley developed the physics program curriculum and led the college to establish bachelor's degrees in physics, and physics and applied mathematics, and also a minor in physics, all of which began in the fall of 2016. He supervised the growth of that physics program, resulting in the classes of 2020 and 2021 graduating more physics bachelor's degrees awarded to women than any other college or university in the state of Indiana. Bentley said he greatly values scientific research and that he has been fortunate to be part of some wonderful collaborations. He was the principal investigator for the first major National Science Foundation research grant awarded to Saint Mary's College.

Prior to his positions at Saint Mary's, Bentley served as an adjunct professor of physics from 2012-2023 at the University of Notre Dame in Notre Dame, Indiana. Bentley said he was grateful to be appreciated as a quality teacher there. He also was a postdoctoral research associate at the university from 2010-2011. He also was a visiting assistant professor of physics at Marquette University from 2011-2012, and an adjunct assistant professor of physics at Indiana University South Bend from 2010-2011.

At the engineering physics program at Florida Poly, Bentley said Florida Poly is supporting an exciting combination of a core physics curriculum (in mechanics, thermodynamics, electricity and magnetism, and quantum mechanics) that is paired design-based applications. Students are learning how to use mathematics, computation, and other tools to understand the rules that govern the universe. Together, these skills and the knowledge that students gain allow graduates from Florida Poly's program to pursue traditional routes of going to graduate school for physics or engineering, as well as to go directly into their careers as engineers, research technicians, teachers, analysts, and a variety of other options, Bentley said.



Dr. Hayder Zghair
Assistant Professor of Industrial Engineering, Department of Engineering and Physics
Director of Industrial Engineering Development, College of Science and Engineering
Southern Arkansas University

Dr. Hayder Zghair is an assistant professor of Industrial Engineering in the Department of Engineering and Physics, and the director of Industrial Engineering Development in the College of Science and Engineering at Southern Arkansas University. Before joining SAU, served in several academic appointments including Assistant Teaching Professor of Industrial and Manufacturing Engineering at Pennsylvania State University and lecturer of Industrial and Manufacturing Engineering at Kettering University. Dr. Zghair's research interest covers a wide area of industrial and manufacturing engineering including Flexible-Automated Manufacturing, Robotics, Human Factors and Ergonomics, Sustainability Engineering, Analytical Modeling and Simulation, and Optimization, and has published many journal and conference papers. Dr. Zghair continues to explore new and cutting-edge areas for research and education in engineering disciplines and has recently had an extensive interest in industry 4.0 and 5.0 tech such as AI, IIoT, smart sensors, and cloud computation and control. He also has several professional memberships; ASEE, SAE, and IEOM. Dr. Zghair obtained his Doctor's Degree in Manufacturing Systems Engineering from Lawrence Technological University, Michigan, USA, and has several professional affiliations: Affiliate Researcher at Penn State Institute of Energy and the Environment and Board Member of Division Directors in the Environmental Engineering Division at American Society of Engineering Education (ASEE). Dr. Zghair is the chair of the SAU campus sustainability committee and a member of several committees at the department, college, and university levels.



Dr. Alper Senol
Professor, Supply Chain Management
Miami Dade College
Miami, Florida

Alper Senol is a seasoned Industrial Engineer and Professor with over 20 years of expertise in Supply Chain Management and technology integration. His career spans pivotal roles driving digital transformation, optimizing operations, and fostering effective team dynamics. His current research focuses on the integration of advanced technologies in Supply Chain Management to enhance operational efficiencies and quality management.

Education:

- Ph.D. in Industrial Engineering and Management Systems
- M.S. in Engineering Management and Systems Engineering
- B.S. in Management Information Systems
- Certified in Lean Supply Chain Management
- Certified in Lean Six Sigma Green Belt



Dr. Thomas Jones
Assistant Professor of Industrial Engineering
Florida Polytechnic University
Lakeland, FL, USA

Thomas Jones is an Assistant Professor of Industrial Engineering at Florida Polytechnic University with several years of industry experience. He holds a Bachelor of Science, Master of Science and PhD all in Industrial Engineering with specializations in Quality Systems and digital transformation. Dr. Jones carries certifications in Lean, Six Sigma, Operational Excellence, and Auditing which he has paired with work as a quality engineer and industrial engineer in the Aerospace and Defense and Automotive industries leading change and improvement. He has extensive experience in new product development and introduction, operational excellence including Lean Six Sigma, and in stabilizing processes. His research has centered on digital transformation and the implementation of Industry 4.0, with an emphasis on developing systems which are user friendly and easy to work with, and through this research he co-authored the book "Total Digital Transformation".

June 17, 2025, 4:00 pm

Panel 2: Navigating the Future: Industry 4.0 and 5.0 for Smart and Sustainable Manufacturing and Services

Moderator:



Dr Ahmad K. Elshennawy
Professor, Department of Industrial Engineering & Management Systems
Executive Director, UCF Quality Institute
University of Central Florida, Orlando, Florida, USA

Dr Ahmad Elshennawy is a professor of Industrial Engineering at University of Central Florida (UCF). He earned Ph.D. in Industrial Engineering and M. Eng. in Industrial Engineering from The Pennsylvania State University. While he received MS in Production Engineering and BS in Production Engineering from Alexandria University. Elshennawy's areas of specialty includes Quality Management: ISO 9000, Six Sigma Quality, Lean Six-Sigma Manufacturing Systems: Lean Manufacturing, Advanced Manufacturing Systems Precision Metrology: Machine Tool Metrology, Coordinate Measuring Machines Process Improvement: Statistical Process Control, Reliability and Maintainability Housing Constructability: Modular Homebuilding, Advanced Production Technologies, Quality Improvement.

Panelists



Dr Daniel Zavala Salazar
Innovation Coordinator at Grupo Nazan
Professor, Tecnológico de Monterrey
Monterrey, Nuevo León, Mexico

Master in Quality and Productivity Program Director, Master in Engineering Management Program Director, Full Professor Monterrey Tech, specialized in Logistics and Operations Research. Former Industrial Engineering Department Head, former Quality Center Director at Monterrey Tech. I have been involved in training and consulting projects in Mexico and South America for firms such as Gerdau, Proeza, Prolec, Nissan, Fuerzas Armadas De Ecuador (ARMY), Policia Nacional De Colombia, Schlumberger, Metalsa, Primex, Ge, Dupont, Conagua, Industrias Del Hierro, Minera Autlán, Takata, Trw, Jabil Manufacturing, Atp, Otis, and Unomedical, in areas such as Logistics, Project Management, Statistical Process Control, Total Quality Management and Productivity Management. Graduated with honors as B.S. in Industrial Engineering, M.S. in Operations Research, M.B.A. with major in finance, Ph.D. in Operations Management. Co-founder of Mexican Society for Operations Research.



Dr. Celso Alvarado
President, QSI Global Ventures
Founder, Nebusis Cloud Services
Orlando, Florida

Dr. Celso Alvarado is a global expert in management systems and digital transformation, with extensive experience leading initiatives worldwide. He is the founder of QSI Global Ventures and Nebusis Cloud Services, where he drives the integration of AI, IoT, and blockchain into compliance-driven strategies for resilient, efficient, and sustainable operations across manufacturing and service sectors. Dr. Alvarado holds a Ph.D. in Industrial Engineering from the University of Central Florida, a Master's in Management and International Business from the University of Miami, and a B.S. in Chemical Engineering from the New Jersey Institute of Technology. He is an ANSI-accredited expert contributor to ISO technical committees and has supported the management system efforts of organizations such as Google and PepsiCo using emerging technologies. His work focuses on leveraging innovation to strengthen ESG performance and transform organizational systems at scale.



Quintal Battle
Ph.D. Candidate
University of Central Florida

Navigating the Future: Industry 4.0 and 5.0 for Smart and Sustainable Manufacturing and Services

Quintal Battle is a Ph.D. candidate in Industrial Engineering at the University of Central Florida. Her research focuses on integrating organizational human factors and ergonomics (HF/E) during the implementation of Industry 4.0 technologies to enhance worker well-being in manufacturing systems. Building on over two decades of experience in engineering, operations, and applied systems design within the private sector, her dissertation proposes a systematic framework to assess organizational ergonomic maturity and its impact on employee well-being during digital transformation. Her practical experience deeply informs her academic work, particularly in developing evidence-based tools and methodologies that are applicable in real-world settings. Quintal holds a Master of Science in Engineering Management from the University of Central Florida and a Bachelor of Science in Mechanical Engineering from Florida

A&M University. She is a McKnight Doctoral Fellow and a member of IISE and SEMS.



Dr. Rena Lewis
Aerospace and Defense Contractor
Cape Canaveral, Florida

Dr. Rena Lewis is a seasoned Systems Engineer with over eight years of experience in the Aerospace and Defense industry, who recently transitioned into Project Engineering. Originally from Louisiana, she began her academic journey at Southern University and A&M College, where she earned a bachelor's degree in Electronic Engineering Technology. Dr. Lewis started her professional career with an Aerospace and Defense contractor in Cape Canaveral, Florida. She went on to earn a master's degree in Engineering Management from the University of Central Florida (UCF) and recently completed her doctoral degree in Industrial Engineering, with a focus on Industry 5.0. In addition to her technical career, Dr. Lewis is passionate about education and mentorship. She serves on the Board of Directors for 1881, a New Orleans-based nonprofit providing pre-apprenticeship opportunities for out-of-school youth. Her commitment to STEM and community service has earned her the TRIO Achiever Award (2021) and the STEM Champion Award (2023).



Dr. Thomas Jones
Assistant Professor of Industrial Engineering
Florida Polytechnic University
Lakeland, FL, USA

Thomas Jones is an Assistant Professor of Industrial Engineering at Florida Polytechnic University with several years of industry experience. He holds a Bachelor of Science, Master of Science and PhD all in Industrial Engineering with specializations in Quality Systems and digital transformation. Dr. Jones carries certifications in Lean, Six Sigma, Operational Excellence, and Auditing which he has paired with work as a quality engineer and industrial engineer in the Aerospace and Defense and Automotive industries leading change and improvement. He has extensive experience in new product development and introduction, operational excellence including Lean Six Sigma, and in stabilizing processes. His research has centered on digital transformation and the implementation of Industry 4.0, with an emphasis on developing systems which are user friendly and easy to work with, and through this research he co-authored the book "Total Digital Transformation".



José Carlos Flores Molina, Ph.D.
Full Professor, Department of Industrial Engineering
Pontificia Universidad Católica del Perú, Lima, Peru

Dr. José Carlos Flores Molina holds a Ph.D. in Industrial and Systems Engineering from Florida International University (USA, 2011) and a Master of Science in Quality Engineering from the University of Newcastle upon Tyne (UK, 1997). He earned his undergraduate degree in Industrial Engineering from the Pontificia Universidad Católica del Perú (PUCP, 1992), where he currently serves as a Full Professor in the Department of Industrial Engineering. He is a Fellow of the American Society for Quality (ASQ) and currently serves as Regional Director for Latin America and the Caribbean. In 2023–2024, he was a member of the ASQ Board of Directors. He also holds several ASQ certifications, including Certified Quality Engineer, Certified Quality Auditor, and Certified Manager of Quality / Organizational Excellence. Dr. Flores Molina is a registered Professional Engineer with the Colegio de Ingenieros del Perú, Chapter of Industrial and Systems Engineering. He is also a Lean Six Sigma Master Black Belt, certified by the Texas Manufacturing Assistance Center at The University of Texas at Arlington (USA), and an ISO 9001:2015 Lead Auditor, certified by the British Standards Institution (UK). At PUCP, he serves as Director of the Master's Program in Quality Management and Systems, and as Director of the Institute for Quality, in addition to his role as Full Professor in the Department of Industrial Engineering. Beyond his academic and professional roles, Dr. Flores Molina is the President of the National Society of Organizations Accredited in Quality Systems (SNOASC), a national association of accredited conformity assessment bodies. From 2016 to 2019, he served as President of the Permanent Technical Standards Committee (CPN) of INACAL, Peru's national standards body, where he led the approval of Peruvian Technical Standards. He also served as General Manager of ICACIT, the Peruvian equivalent of ABET, from 2003 to 2004. Dr. Flores Molina is widely recognized for his leadership and sustained contributions to quality management, standardization, and continuous improvement throughout Latin America and beyond.

June 18, 2025, 2:00 pm

Panel 3: Integrating AI into Engineering Curricula: Current Trends and Future Directions

Moderator:



Hamid R. Parsaei, Ph.D., P.E.
Life Fellow, IISE, ASEE, SME, IEOM
Professor, Wm. Michael Barnes '64 Department of Industrial and Systems Engineering
Director, College of Engineering Accreditation and Assessment
Affiliated Faculty, Department of Multidisciplinary Engineering
Texas A&M University, College Station, Texas

Dr. Hamid R. Parsaei is an internationally recognized leader in the field of manufacturing automation, leadership, engineering education, additive manufacturing, economic and financial decision making, and project management with more than three decades of experience in academia. He is awarded as a fellow IISE, ASEE, SME and IEOM. Dr. Parsaei's leadership experience and accomplishments include serving as Professor and Associate Dean for Academic Affairs at Texas A&M University at Qatar (TAMUQ.) He also served as the Director of Outreach and Accreditation and the Interim Chair of the Mechanical Engineering at TAMUQ while holding the rank of Professor in the Department of Industrial and Systems Engineering at Texas A&M University in College Station, Texas. Prior to joining Texas A&M University, Dr. Parsaei served as Professor and Chair of the Department of Industrial Engineering at University of Houston for 10 years and Director of Graduate Studies and Graduate Advisor for five years. He also served as Director of the Texas Manufacturing Assistance Center's Gulf Coast Region from March 2001 to September 2005. Dr. Parsaei is highly regarded worldwide for his scholarship. He served as Area Editor, Methodology, and as an editorial board of The Engineering Economist from June 1990 until January 1995, and he was editor in chief of three international refereed archival journals. He currently serves as a member of the editorial boards and associate editor to over fifteen peer-refereed journals. He has been guest editor for several special issues of peer-reviewed archival journals, and has served as series editor to nine book series published by Wiley and Sons, CRC Press, Taylor and Francis, and several other publishing houses. His newest journal, Engineering Education Letters is a clear testament to Dr. Parsaei's dedication to engineering education.

Dr. Parsaei has been principal and co-principal investigator on projects funded by NSF, Qatar Foundation, the US Department of Homeland Security, Texas Department of Transportation, Houston Transtar, the National Institute of Standards and Technology and the National Institute of Safety and Health, among others, with total funding in excess of \$24 million. He has authored or co-authored 26 archival books and over 280 refereed publications that appear in archival journals and conference proceedings. He has received several prestigious recognitions from IISE including, the Wellington Award (1993) from the Engineering Economy Division of the Institute for his original contributions to the field of engineering economics, Award of Merit in recognition of his service to the Engineering Economy Division during 1991–1992, the 2006 UPS Excellence Award for innovative development of programs directed to the development of women, minorities and people with disabilities within the field of industrial engineering. He garnered the 2016 George L. Smith Award and in 2018, he was honored with the Fred C. Crane Award for meritorious service to the IISE. Dr.

Parsaei received his M.S. and Ph.D. degrees in industrial engineering from Western Michigan University and the University of Texas at Arlington, respectively. He is a registered professional engineer in the State of Texas and an ABET Engineering Accreditation Commissioner and Program Evaluator.

Panelists



Dr. Maria Auxiliadora Cannarozzo Tinoco
Associate Professor and Chair, Department of Production and Transportation Engineering
Universidade Federal do Rio Grande do Sul
Porto Alegre, Brazil

Dr. Maria A. Cannarozzo Tinoco is an Associate Professor in the Department of Production and Transportation Engineering at the Universidade Federal do Rio Grande do Sul (UFRGS), Brazil, where she teaches in the undergraduate program, in the Professional Master's Program (PMPEP), and collaborates with the Graduate Program in Industrial Engineering (PPGEP). She is a researcher at the Organizational Engineering Research Group (NEO-UFRGS), the Innovation and Sustainability Research Group (NIS-UFRGS), and a member of the Red Internacional de Investigadores de Ingeniería Industrial (REDI4). Currently, she coordinates the Institutional Undergraduate Modernization Project implemented by the UFRGS School of Engineering within the Industrial Engineering Program, as part of the Undergraduate Modernization Program (PMG), promoted by CAPES and the Fulbright Commission since 2019. She served as manager of the UFRGS Network of Technology Incubators (REINTEC) at the ZENIT Science and Technology Park (2021-2022) and was a visiting professor at the University of Central Florida, USA, in 2021. Dr. Tinoco was the Coordinator (2018-2020) and the Industrial Engineering undergraduate program at UFRGS. She is currently the chair of the Department of Production and Transportation Engineering.

Vice-Coordinator (2016-2018) of



Diana Lancheros-Cuesta, Ph.D.
Associate Professor and Director of the Master's Program in AI
Director, Master of Engineering
Director, PhD in Engineering
Coordinator, research group AVRC
Universidad de La Salle – Colombia

Dra. Diana Lancheros-Cuesta is an associate professor and director of the master's Program in AI. She is Electronic Design and Automation Engineer at the Universidad de la Salle. Multimedia specialist. Master's degree in information technologies Applied to Education and PhD in Engineering from the Pontificia Universidad Javeriana. Experience in the development of intelligent software, educational information systems, automation and control. Research development in convergent and emerging technologies in education (Educational robotics, virtual reality, augmented reality). National and international publications in indexed journals. She is currently the Director of the master's Program in Artificial Intelligence at La Salle University in Colombia. She is also passionate about

robotics, artificial intelligence, and STEM.



Dr. Daniel Eilen
Associate Director, Master of Science in Data Analytics
University of Central Florida (UCF), Orlando, FL, USA

Dr. Daniel Eilen is currently the Associate Director of the Master of Science in Data Analytics at the University of Central Florida (UCF). Dan joined UCF in 2017 and is responsible for running the educational initiatives in the Complex Adaptive System Laboratory in the UCF College of Engineering and Computer Science in addition to helping formulate data analytics education strategy across the University. Prior to joining UCF, Dan was the Associate Director of Graduate Business Programs at the Krannert School of Management, Purdue University. Dan holds a Doctorate in Management and Leadership from Drexel University, a Master's degree in Human Resource Development from Indiana State University, and a Bachelor's degree in History from Indiana University. Dan serves as the Women in Data Science Ambassador for Central Florida as well as the chair of the Experiential Learning Committee on the UCF Data Science advisory Board. Dan's research interests include: workforce development, business entrepreneurship, and technology applications for personnel improvement.



Dr. Wilkistar Otieno
Associate Professor and Chair, Department of Industrial and Manufacturing Engineering
University of Wisconsin-Milwaukee, USA

Dr. Wilkistar Otieno is an Associate Professor and Chair of the Industrial & Manufacturing Engineering Department at the University of Wisconsin-Milwaukee. Her industry-driven research involves sustainable manufacturing, particularly remanufacturing and machine learning, with applications in manufacturing. She has a passion for teaching statistical-related courses, and inspiring student involvement. She is a faculty mentor to several student organizations, including the Society of Women Engineers, the Campus Advent Society and the Institute for Operations Research and Management Sciences and the Association of Energy Engineers. She is a long-time faculty mentor of the STEM INSPIRE Wisconsin Alliance for Minority Participation program. She received the 2022 Tony Quinn Award from the Louis Stokes Midwest Regional Center of Excellence (LSMRCE), and the 2022 UW System Outstanding Women of Color in Education Award. Dr. Otieno has served as the Chair of Institute of Electrical and Electronics Engineers-Milwaukee Chapter and is the past Chair of the INFORMS Women in Operations Research and Management Sciences.



Dr. Maj Dean Mirmirani
Interim Dean, College of Engineering
Lawrence Technological University, Southfield, Michigan

Dr. Maj Mirmirani received his Ph.D. and M.S. in Mechanical Engineering from the University of California, Berkeley, and his B.S. in Mechanical Engineering from Tehran Polytechnic (Amir Kabir University). Prior to starting his career in the United States in 1981, he spent a year at the Imperial College of Science and Technology's Department of Electrical Engineering in London as an academic visitor working on the development of a 64-lead electrocardiography (EKG). In 1981, he joined the California State University, Los Angeles's (CSULA) Department of Mechanical Engineering, where he served as department chair for 12 years. At CSULA, he founded and directed the Air Force Office of Scientific Research (AFOSR)-funded Multidisciplinary Flight Dynamics and Control Lab and was also one of the two co-directors of the NASA-funded University Research Center (SPACE Center). During his tenure at CSULA, he led several major research projects totaling to over \$20M in funding. Most notable among them were the pioneering work on modeling, simulation, and control of airbreathing hypersonic flight vehicles; design and development of a high-endurance hydrogen fuel cell-powered UAV (the first such university-built vehicle to fly); design and fabrication of a full-scale precision segmented reflector tested with shape control and pointing accuracy requirement comparable to a space-based system (a precursor to the J.W. Web); as well as development of a control-oriented multidisciplinary software package for aerospace systems design a project funded by AFOSR. While at CSULA, he also spent two summers at the National Institute of Health's Division of Mathematical Biology working on mathematical

modeling for optimal delivery of monoclonal antibodies in treatment of cancer.

In 2007, Dr. Maj Mirmirani joined Embry-Riddle Aeronautical University as the dean of the College of Engineering at the Daytona Beach Campus. During his fifteen-year tenure, for two years (2016-2018) he also served as the interim senior vice president for academic affairs and research. In August 2021, he retired from ERAU and was given the title of Dean Emeritus. However, he was recruited to serve as the interim dean at the Russ College of Engineering and Technology at Ohio University, June 2022 –July 2023. In 2024, Dr. Maj Mirmirani joined Lawrence Technological University as the interim dean of the College of Engineering. Dr. Mirmirani is a Fellow of the ASME, a Fellow of the Royal Aeronautical Society, and an Associate Fellow of the AIAA. He is an instrument-rated private pilot and a member of the Airplane Owners and Pilots Association.



Dr. Devinder Kumar Banwet FIE
Vice Chancellor Founding Retd., University of Engineering & Management, Kolkata India
Professor Emeritus, DMS, IIT Delhi (India)

Prof. Devinder Kumar Banwet is Vice Chancellor Founding Retd. of University of Engineering & Management, Kolkata India. He is an Emeritus Professor of DMS IIT Delhi in the area of Operations & Supply Chain Management, Industrial Systems Engineering, Infrastructure Project Systems Management, TQM, DSS, Operations Research Applications, Prof Banwet is a graduate Mechanical Engineer, with Master of Industrial Engineering and a PhD (Industrial Engg /Production Management from IIT Delhi. Previously he served as a Vice Chancellor of the University of Engineering and Management at Kolkata. He has made significant contributions in publications related to Operations Management. His areas of research interest include Operations Management, Supply Chain and Logistics, Services Management, Project Management, IT-enabled DSS, Industrial Systems Engineering, Total Quality Management, Manufacturing Strategy, Technology Management, Materials Inventory Management, Facilities Planning, Operations Research Systems Modelling, Telecom Systems and Entrepreneurship Management. Prof Banwet has more than 40 years

of academic teaching, research and administrative experience Prof Banwet has guided 35 + PhD projects, has many research publications in reputed journals in India and abroad, Has had prestigious assignments at Kuwait Institute for Scientific Research, University of Sorbonne at Paris, Asian Institute of Technology Bangkok; Awarded Best Engineer Award IE, India, PMI Distinguished Researcher Award, IEOM Award, Life Time Achievement Award of POMS India, ISTD India, President of professional Societies Decision Science Institute of USA India Chapter, Prof Banwet is on the Governing Board of many Professional Institutes of Technology, and Management, and usually Chairman of many NBA Nat Board of Accreditation team expert visits.



Denis Ulybyshev, Ph.D.
Assistant Professor
Department of Computer Science
Florida Polytechnic University
Lakeland, Florida, USA

Dr. Denis Ulybyshev is an Assistant Professor in Computer Science at Florida Polytechnic University. Knowledgeable innovator in Cybersecurity, AI, Databases, and Software Engineering, having 26 academic peer-reviewed publications, 7 awards, 12 years of academic research experience in the United States, and 8 years of industrial experience as a Software Engineer in developing large-scale software for mass market, including firmware for "Samsung" printers and industrial control systems for "Schneider Electric".

June 18, 2025, 4:00 pm

Panel 4: "Bridging Disciplines: Advancing Project Management, Systems Engineering, and Engineering Management Education & Certification"

Moderator: Tim Kotnour (UCF)



Dr. Timothy Kotnour
Lockheed Martin St. Laurent Professor
Department of Industrial Engineering and Management Systems
University of Central Florida
Orlando, Florida, USA

Dr. Timothy Kotnour completed his doctorate in Industrial & Systems Engineering with an emphasis in Management Systems Engineering at Virginia Tech in Blacksburg, Virginia. He completed his Bachelors of Science in Industrial Engineering at Bradley University in Peoria, Illinois. He is the Lockheed Martin St. Laurent Professor in the Department of Industrial Engineering and Management Systems at the University of Central Florida. He is the Director of the UCF Engineering Leadership and Innovation Institute and the Program Director of the Professional Engineering Management Program. He is the author of the books "Transforming Organization: Strategies and Methods" and "Inspiring the Leader Engineer: Instilling the Burning Desire and Confidence to Change the World." Dr. Kotnour has been awarded three NASA Public Service Medals (2016, 2005, and 2001) and an Outstanding Public Leadership Medal (2023) for the partnership work with the Kennedy Space Center. He is also a Fellow of the American Society for Engineering Management (ASEM). He was past editor of ASEM's Engineering Management Journal.

Panelists



Professor Sven Guzmán
Dean of Business Engineering
Escuela Superior de Economía y Negocios (ESEN), El Salvador

Professor Sven Guzmán is the Dean of Business Engineering at ESEN (Escuela Superior de Economía y Negocios) in El Salvador. He is a Fulbright Scholar with a master's degree in Operations Research from the University of Arkansas. Professor Guzmán has over 15 years of experience in quantitative modeling, simulation, and applied optimization across Central America. He has taught undergraduate and graduate courses in Operations Research, Probability and Statistics, and Systems Simulation, and has conducted professional training in simulation and process optimization in El Salvador, Panama, and Germany. He is a two-time advisor of award-winning student teams that earned First Place at the SIMIO International Student Simulation Competition held in Pittsburgh, Pennsylvania, USA. He was also a judge for several tournaments. Professor Guzman also led simulation consulting projects with industrial partners such as Kimberly Clark, GS1, several banks and government institutions like the Ministry of Public Works and Ministry of Education and Technology of El Salvador. Professor Guzmán has also worked as a consultant for various public and private institutions on the use of simulation and optimization modeling in the energy, logistics, and education sectors. He has also designed national curricula for high schools in the public education sector and collaborated with the Inter-American Development Bank (IAD-Lab) to promote the ethical use of artificial intelligence in Latin American startups and has contributed to regional capacity building in STEM and digital transformation across Latin America.



Dr. Mark Calabrese PE, PMP, ITIL
University Professor (Sr. Instructor)
Department of Industrial Engineering and Management Systems
University of Central Florida, Orlando, Florida, USA

Mark M. Calabrese is a professional with over 40 years experience in Information Technology, Engineering Services, Financial Business Management and Academia. Mark earned his Bachelors of Science in Engineering (BSE) degree from Florida Technological University in 1978, and Masters of Science in Engineering (MSE) degree from the University of Central Florida in 1979. He completed his PhD coursework and dissertation in Systems Engineering from Colorado State University, leaving for an Industry Fellowship in 1982 with Rockwell International Corporation. After 2 years working on the Space Shuttle he spent 20 years with McDonnell Douglas Corporation (Director and CFO), 3 years with Lockheed Martin Corporation (Director and CFO), and has consulted with over 30 companies over the last 25 years. After retiring from Industry, Mark began teaching Industrial Engineering and Management Systems at UCF and continues today after 20 years. Mark has years of Engineering, Project Management and Information Technology experience and knowledge from managing contracts for government and commercial customers. This experience ranges from contracts as small as \$1M per year to over \$300M per year. He continues to do research at the University level and has performed numerous Business Process Re-Engineering contracts for clients, along with efficiency and Optimization studies. Mark is ITIL certified and a Registered Professional Engineer (PE). He is also PMP and Lean/Six Sigma Green Belt certified. He has been bestowed many professional and personal honors, including the NASA Public Service Medal for Business Management, the University of Central Florida Professional Achievement Award, the University of Central Florida Distinguished Honorary Alumnus Award, and the University of Central Florida Undergraduate Teaching Excellence Award. Mark is married to his wife Yneska, and has 3 daughters (Angela, Savannah and Valeria). He has one Granddaughter and two rescue dogs. Mark enjoys the outdoors, flying, skiing and spending time at his homes in the Florida Keys and Blue Ridge Mountains.



Dr. Tony Prensa, PhD, MBA, PMP, CB-PMO, CCP, ITIL, 6σ
Chief Executive Officer & Founder
TP Global Business Consulting, LLC, Orlando, Florida, USA

Dr. Prensa is a highly accomplished executive and leader of project management office (PMO), project/portfolio management, information systems and technologies, combines a Doctorate in Organizational Leadership with a major in Information Systems and Technologies, Certified PMO Professional, Authorized PMO Instructor, Certified Project Management (PMP), and ITILIV certification with extensive experience managing and overseeing large information systems projects/programs, strategic planning, and seamless IT implementations. Adept at reengineering business processes, change management and IT infrastructure with business visions to drive profitability, efficiency, and growth within the organization. Proficient at ensuring all processes comply with regulatory requirements and IT governance practices. Excellent communicator with strong influencing and problem-solving skills. Strong leadership skills and demonstrated ability to lead team members and external business contacts including stakeholders such as consultants, partners and vendors. Demonstrated track record of delivery of multiple technical and business projects on time and within budget. Experience in full-lifecycle project management methodologies and tools. Dr. Prensa has been involved with the Project Management Institute for more than twenty-five years. He served a vice president of PMI Puerto Rico Chapter from 1998-2000. He also volunteered in many activities to promote project management and participated of writing PMP exam questions workshop in Dallas, Texas in 2002. Dr. Prensa has helped hundreds of project management professionals to get prepared for the PMP exam. Dr. Prensa has taught project management for several universities in the country, including Virginia Technical University, Grand Canyon University, Colorado Technical University, University of Phoenix and currently teaching for Walden University. With more than 25 years of teaching experience in various formats, face-to-face and virtual. Dr. Prensa has developed techniques to connect with learners and students in the most efficient way. Dr. Prensa has extraordinary people skills, he always puts people first.



Dr. Randell McNair
Adjunct Professor
Business Analytics and Data Science
Florida Polytechnic University
Lakeland, FL 33805, USA

Dr. Randell McNair is an advanced business analytics adjunct faculty member of the Louisiana Tech College of Business MBA Program, a project management instructor the USF Muma College of Business School of Information Systems graduate and undergraduate business analytics programs, and recently served as an adjunct professor in the Florida Polytechnic University department of Data Science & Business Analytics teaching Marketing Analytics and graduate level Engineering Project Management courses. He is also an author, academic journal assistant editor-in-chief, dissertation chair, and practitioner-scholar researching stewardship of insights from information assets such as digital twins, engineering databases, and document management systems. A dedicated, compassionate, and innovative consultant with a consistent track record of building and maintaining influential relationships. Experience includes over 32 years in the oil and gas sector communicating effectively with all organizational levels across diverse cultural backgrounds to achieve exceptional results and improve productivity and sustainability in complex systems environments. Randell is currently collaborating with subject matter experts in industry coordinating engaged scholarship research projects focused on digital twin decision support systems for the built environment.

June 19, 2025, 2:00 pm

Panel 5: Teaching Discrete-Event Simulation in Industrial Engineering: A Comparative Study of North and South American Approaches

Moderators: Carlos Paternina (San Diego State University, USA) / Juan Sebastian Sanchez (Universidad del Bosque, Colombia)



Dr. Carlos D. Paternina-Arboleda
Associate Professor, Fowler College of Business
San Diego State University, USA

Carlos D. Paternina-Arboleda is an Associate Professor in the Fowler College of Business at San Diego State University. Previously, he was a Full Professor at Universidad del Norte in Colombia. He has a bachelor's degree in industrial engineering from Universidad del Norte. He has a diploma of concentration studies in Engineering project Management from Universidad del Norte. He has a Master of Industrial Engineering and a Ph.D. in Industrial Engineering from University of South Florida, in Tampa, FL. He is a member of the editorial boards for Elsevier's Supply Chain Analytics Journal, the Elsevier's Latin American Transport Studies, and the Journal of Theoretical and Applied Electronic Commerce Research. He is also a member of the INFORMS Magazine Editorial Advisory Board. His ongoing research deals with AI-Driven Optimization of Freight Transportation Systems, AI-driven supply chain analytics, and Smart Digital Port Decision Support Information Systems. His research methodologies include optimization, simulation, AI-driven analytics, and implementation of decision support systems. The core of his work relates to embedding intelligent cooperative agent structures, such as reinforcement learning algorithms, Ant Colony Systems, fictitious play (a game theoretical learning approach) and evolutionary algorithms for multi-objective optimization, within decision-making software tools for Supply Chain Analytics and Optimization. He has been a co-Chair for the 2008 CLAIO (Latino Ibero American Congress in Operations Research, and the 2019 and 2024 ICCL (International Conference in Computational Logistics). He is also the co-Chair for the 2026 PANAM (Pan-American Transportation and Logistics Congress), to be held in San Diego, CA and Ensenada, MX.



Dr. Juan Sebastián Sánchez Gómez
Professor, Department of Industrial Engineering
Universidad El Bosque, Bogotá, Colombia

Professor Sánchez-Gómez is a biomedical engineer, lawyer, magister in Education, magister in Public Policy, and a doctoral student in Industrial and Systems Engineering at Universidad de Los Andes. He has worked as a professor of civil and telematics engineering at the Universidad Distrital, professor of Industrial engineering at the Universidad El Bosque, professor of Environmental engineering at the Universidad de Cundinamarca and pedagogue of educational innovations at the Center for Innovation in Technology and Education (ConectaTE) at the Universidad de Los Andes. He has experience in research and project management in education and innovation with ICT, and he has certificates in the English, Portuguese and French languages. He has been a designer of courses and educational programs, leader of national (CNA) and international accreditation (ABET), pedagogue, and teacher trainer in secondary education. Actually, he is a professor of industrial engineering at the Universidad Sergio Arboleda and a professor of Systems engineering at the Universidad de Los Andes.

Panelists



Walter Silva, Ph.D.
Associate Professor of Instruction
Graduate Certificate Coordinator
Industrial and Management Systems Engineering
University of South Florida, Tampa, Florida, United States

Dr. Silva is an Associate Professor of Instruction in the Department of Industrial and Management Systems Engineering (IMSE) at the University of South Florida. With over two decades of academic and industry experience across Peru, France, and the United States, Dr. Silva specializes in data analytics, optimization, and systems simulation. He has collaborated with organizations such as Raytheon, Raymond James, and Florida Hospital, applying analytical techniques to solve real-world challenges. He is the Graduate Certificate Program director for the IMSE department and serves as a council member for the General Education committee at USF. His current research includes modeling pandemic preparedness and enhancing engineering education communication competencies.



Professor Sven Guzmán
Dean of Business Engineering
Escuela Superior de Economía y Negocios (ESEN)
El Salvador

Professor Sven Guzmán is the Dean of Business Engineering at ESEN (Escuela Superior de Economía y Negocios) in El Salvador. He is a Fulbright Scholar with a master's degree in Operations Research from the University of Arkansas. Professor Guzmán has over 15 years of experience in quantitative modeling, simulation, and applied optimization across Central America. He has taught undergraduate and graduate courses in Operations Research, Probability and Statistics, and Systems Simulation, and has conducted professional training in simulation and process optimization in El Salvador, Panama, and Germany. He is a two-time advisor of award-winning student teams that earned First Place at the SIMIO International Student Simulation Competition held in Pittsburgh, Pennsylvania, USA. He was also a judge for several tournaments. Professor Guzmán also led simulation consulting projects with industrial partners such as Kimberly Clark, GS1, several banks and government institutions like the Ministry of Public Works and Ministry of Education and Technology of El Salvador. Professor Guzmán has also worked as a consultant for various public and private institutions on the use of simulation and optimization modeling in the energy, logistics, and education sectors. He has also designed national curricula for high schools in the public education sector and collaborated with the Inter-American Development Bank (IAD-Lab) to promote the ethical use of artificial intelligence in Latin American startups and has contributed to regional capacity building in STEM and digital transformation across Latin America.



Professor Eldon G. Caldwell Marin, Ph.D., Sc.D, Dr.Ed.
Professor, Industrial Engineering Department
Engineering School
University of Costa Rica
San Jose, Costa Rica

Eldon Caldwell is full professor/Cathedraticus of the University of Costa Rica, Central America; member of the IEOM Society Academy of Fellows and member of the IEOM Society Global Council. Also, he has been recognized by the IEOM Society with the "Outstanding Service Award" for his career of over 30 years as an educator, researcher and promoter of development of industrial engineering and as "Distinguished Professor" by IEEE Computer Society, USA. Dr. Caldwell earned his B.Sc. and Master degree in Industrial Engineering at University of Costa Rica and he earned a Master degree in Service Marketing, as well in Financial Analysis at Rico; M.Sc. Health Management Systems at UNED, Costa Rica and a M.Sc. Operations Management at ITESM, México. Finally, he earned three doctoral degrees: 1-Ph.D. in C.Sc. / Industrial Engineering, Autonomous University of Central America; 2- Ph.D. (Sc.D.) in Robotics and Automation, University of Alicante, Spain; and 3-Ph.D. (Dr. Ed.) in Education at the University of Costa Rica, developing the "Theory of Socio-educational Exergy-Anergy and Entropy". He is author of many scientific articles and two books: "Marketing of Social Products & Services", UCR Publications; and "Lean Manufacturing: Fundamentals and techniques for cycle time reduction", Kaikaku Ins. Press, USA. Dr. Caldwell served as Director of Industrial Engineering Department at Engineering School of University of Costa Rica, Operations Manager at MASECA, CA; Lean Manufacturing Project Manager at Eaton Corp. Costa Rica, General Manager at Quirós & Cía-Bandag Inc. and General Manager at Lean Systems Intl., USA. He has more than 30 years of experience as advisor and consultant in Operations Management, Lean Manufacturing and Lean Logistics at Interamerican Bank for Development, WHO, UN, World Wide Bank, Coca-Cola, Ministry of Health, Costa Rica, Honduras, Panamá, Costa Rican Institute for Electricity, RTC- Perú, Young Electrical Signs, Nevada, USA, AirCare Inc., Reno, Nevada, Plan International-Honduras, Bournes Co., DOLE Co. and many others. In addition, Dr. Caldwell currently serves as Director of the Central America Robotics and Industry 4.0 Challenge Contest (ROBOTIFEST) and General Manager at Kaikaku Institute Latin America.



Dr. Karina Perez
Professor of the Postgraduate Program
Universidad Nacional Autónoma de Mexico
Coyoacán, Mexico City, Mexico

Dra. Sonia Pérez-Juárez received a BS in Industrial Engineering from the National Autonomous University of Mexico (UNAM) in 2009, a master's degree in Systems Engineering from the UNAM in 2015, and a Doctorate PHD in Education from the Center for Advanced Studies in Education (CESE) in 2022. She is currently Professor in the Industrial Engineering Department at UNAM and also at the Ibero-American University of Mexico City and the Ibero-American University of the state of León, Guanajuato. She is a professor for the postgraduate program at UNAM. She has experience in algebra, statistics, quality, economic engineering and simulation. She has been the principal advisor (thesis) for more than 10 students. Her principal projects are focused on process improvement in the Engineering Graduate School in the Systems Department. Some of her published articles include: "Waste Reduction in the Printing Process through the Implementation of a Video Inspection System as a Human-Machine Interface" and "Baggage Delivery Management Simulation for an Increase in Demand at a Mexican Airport." She has an active participation in the management of an international simulation competition for more than 5 years, with a participation of more than 10 universities.



Mario Fernando Marin
Training Simulation Solution Architect / Industrial Engineer
Research Scientist
University of Central Florida
Orlando, Florida, United States

Mario Fernando Marin is currently a Research Scientist at University of Central Florida, Orlando, USA. He brings experience from previous roles at American Technologika, Presagis, University of Central Florida and Universal Studios Orlando. Mario holds a Doctor of Philosophy (Ph.D.) in Engineering/Industrial Management - Modeling Simulation and Training from the University of Central Florida.



Professor Christopher S. Cerqueira
Brazilian Aeronautics Institute of Technology (ITA)
São José dos Campos
Brazil

Prof. Dr. Christopher Schneider Cerqueira is an esteemed researcher specializing in Model-Based Systems Engineering (MBSE) and multidomain (system-of-systems) integration. As a faculty member at the Instituto Tecnológico de Aeronáutica (ITA)—one of Brazil's leading institutions in aerospace engineering and technology education—he teaches advanced courses such as Systems Engineering, Verification and Quality of Aerospace Systems, Model-Based Systems Engineering, and Sustainability in Aerospace. His research significantly contributes to advancing MBSE methodologies, particularly through the seamless integration of digital technologies into traditional systems engineering practices. Dr. Schneider's innovative work supports ITA's mission of developing cutting-edge aerospace solutions and cultivating expertise that drives technological advancements both nationally and internationally.



Dr. Yuvraj Gajpal
Associate Professor of Supply Chain Management, Asper School of Business
University of Manitoba, Winnipeg, Canada

Yuvraj Gajpal is an Associate Professor of Supply Chain Management at the Asper School of Business, University of Manitoba, Winnipeg, Canada. He holds a PhD in Management Science from DeGroote School of Business at McMaster University, Hamilton, Canada, and a Master's in Industrial Management from the Indian Institute of Technology (IIT) Madras, India. Prior to joining the University of Manitoba, he worked as an assistant professor at King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia. He has worked as a postdoctoral fellow at the Interuniversity Research Center on Enterprise Networks, Logistics and Transportation (CIRRELT). He is a member of various academic societies such as INFORMS, POMS, CORS, ASAC, DSI, SOM, SCRC etc. His research interests mainly lie in the application of heuristics and meta-heuristics in transportation and logistics management. To support his research activities, he has secured many internal and external grants, such as NSERC, Junior Faculty Research Grant (JFRG), Internal Research Grant, etc. He has published papers in leading research journals such as Computers and Operations Research, European Journal of Operations Research, International Journal of Production Economics, Journal of the Operational Research Society, Annals of Operational Research, Construction Management and Economics etc. Dr. Gajpal has international research collaborations with many researchers all around the world. He is a reviewer of many international journals such as Computers and Operations Research, European Journal of Operations Research, Journal of Heuristics, and Transportation Research Part E. He has taught courses in Management Science, Quantitative Analysis, Production and Operations Management, Project Management, Quantitative Supply Chain Management, Mathematical Optimization Models, Simulation with Arena, Statistics, Global Supply Chain Management, Engineering Economics, Cost Accounting, and Methods Engineering.

Operational Research Society, Annals of Operational Research, Construction Management and Economics etc. Dr. Gajpal has international research collaborations with many researchers all around the world. He is a reviewer of many international journals such as Computers and Operations Research, European Journal of Operations Research, Journal of Heuristics, and Transportation Research Part E. He has taught courses in Management Science, Quantitative Analysis, Production and Operations Management, Project Management, Quantitative Supply Chain Management, Mathematical Optimization Models, Simulation with Arena, Statistics, Global Supply Chain Management, Engineering Economics, Cost Accounting, and Methods Engineering.



Dr. Jorge Flavio Sarmiento Falla
Adjunct Professor
University of Central Florida

Dr. Jorge Sarmiento is an Adjunct Professor and researcher in Industrial Engineering at the University of Central Florida (UCF), where he earned his Ph.D., M.S., and B.S. He received the 2024 Excellence in Graduate Student Teaching Award and has taught over 1,000 students across undergraduate and graduate courses, including Operations Research, Systems Simulation, Quality Engineering, and Engineering Statistics. His research focuses on agile systems, discrete event simulation, queueing systems, quality engineering, and continuous improvement, particularly in healthcare and service settings. His dissertation examined how information technology ambidexterity and human resource practices foster workforce agility to improve job performance in Peruvian healthcare systems, using PLS-SEM techniques. Dr. Sarmiento developed a simulation model during the COVID-19 pandemic that significantly reduced operational time for UCF Housing's drive-thru check-in process, impacting over 6,000 check-ins. He is Lean Six Sigma Green Belt certified and skilled in Simio, R, Python, and data analysis tools. He has previously served as a Graduate Teaching Associate and is a former member of the IISE Greater Miami Professional Chapter. He has published in Applied Sciences and presented at international conferences, promoting engineering education and mentorship.

former member of the IISE Greater Miami Professional Chapter. He has published in Applied Sciences and presented at international conferences, promoting engineering education and mentorship.

June 19, 2025, 3:00 pm

Panel 6: Future Spaceports and Aerospace Operations: Integrating AI, Space Logistics, and Innovative Technologies

Moderator: Charles Major (UCF)



Charles Major
Engineering Instructor
University of Central Florida
Orlando, FL, USA

Charles Major; Academics; Graduate Degree in Emergency and Crisis Management from the University of Central Florida (UCF); Orlando, Florida. Current position; Engineering Instructor at the UCF Department of Industrial Engineering and Management Systems, Program Manager Vanguard Rocket Cargo Grant for the Air Force Research Laboratory. Areas of interest; Disaster mitigation research, Rocket launch, Aerospace and Spaceport logistics. Experience; Twenty-seven years of international military materiel management logistics, ERP development, warehousing, acquisition, contracting, safety/risk and emergency management experience on U.S. and allied installations.

Panelists

Dr. Mansoor Mollaghasemi
Associate Professor
Industrial Engineering & Management Systems Department
University of Central Florida
Orlando, Florida, USA

MANSOOREH MOLLAGHASEMI is an associate professor of Industrial Engineering and Management Systems at the University of Central Florida. She received her Ph.D. in Industrial Engineering from the University of Louisville in 1991. She also holds a B.S. and an M.S. in Chemical Engineering from the same University. Her research interests involve simulation modeling and analysis, multiple response simulation optimization, and neural networks. She is a member of IIE and INFORMS.



Dr. Tarek A. Elgohary
Associate Professor, Mechanical and Aerospace Engineering Department
Director of the Astrodynamics and Space Robotics Laboratory
University of Central Florida, Orlando, FL, USA

Tarek A. Elgohary is an associate professor at the UCF mechanical and aerospace engineering department. He is the director of the Astrodynamics and Space Robotics Laboratory. Before joining UCF, he was a postdoctoral research associate at Texas A&M and a visiting scholar in the Department of Mechanical and Aerospace Engineering at the University of California, Irvine. He received his B.S. in mechanical engineering from the American University in Cairo and his master's degree and Ph.D. in aerospace engineering from Texas A&M University. His research interests are in astrodynamics, optimal control, robotics and space situational awareness.



Dr. Michael Kinzel
Associate Professor in Aerospace Engineering
Embry Riddle Aeronautical University
Daytona Beach, Florida

Dr. Michael Kinzel is an Associate Professor in Aerospace Engineering at Embry Riddle Aeronautical University. In a mix of teaching and mentoring students in his research group, Dr. Kinzel focuses on projects relating to computational fluid dynamics (CFD) and understanding fluid flows with aerodynamic focuses. One of his lab's projects include the NASA Dragonfly mission, where they worked on fuselage design, thermal management, and CFD on controllers.



Dr. Marwen Elkamel
Post Doctoral Fellow, Department of Industrial Engineering & Management Systems
University of Central Florida, Orlando, Florida

Dr. Marwen Elkamel is a Post Doctoral Fellow at the Department of Industrial Engineering & Management Systems at the University of Central Florida. He obtained a Bachelor degree with distinction in Economics with a minor in Management Studies from the University of Waterloo, Ontario, Canada and a Master of Science degree in Management (Business Analytics track) from the University of Central Florida. He received his Ph.D. in Industrial Engineering from the University of Central Florida in 2023. Before starting his PhD, he worked as a data analyst for WeCare Inc. During his undergraduate studies, he served as a Research Assistant at the Waterloo Institute for Sustainable Energy (WISE). He was involved in two different projects that encompassed the acquisition and summary of data and preparation of computer programs to simulate processes and to make appropriate conclusions. During his PhD studies, he has been preparing machine learning models for electricity consumption with the consideration of socio-economic factors. He was also involved in a project that dealt with power resources scheduling and planning. He is currently focusing on modeling and optimizing the Urban Food-Energy-Water Nexus in order to find more efficient ways to supply water, energy and food and manage natural resources that can aid in sustainable energy development and improved water and food security. He is a member of IEOM, INFORMS, and the Institute of Industrial & Systems Engineering. He has published several journal and conference papers in the areas of modeling, simulation, optimization, and big data analytics.



Satyar Foroughi
Ph.D. Student, Big Data Analytics – University of Central Florida
Graduate Research Assistant
Statistical Programmer – Intego Group
Orlando, Florida, USA

Satyar Foroughi is a Ph.D. student at the University of Central Florida, where his work in the Big Data Analytics Ph.D. program centers on large-language-model, scalable machine-learning systems, and Partial Differential Equations Approximations. Alongside his academic pursuits, Mr. Foroughi serves as a Statistical Programmer at Intego Group, designing SAS- and R-based pipelines that clean, integrate, and analyze clinical-study data for global life-science clients. Mr. Foroughi earned a B.S. in Data Science with a minor in Mathematics and Statistics from UCF, graduating Summa Cum Laude as the College of Sciences' Top Honor Graduate. He is a recipient of Iran's National Olympiad distinctions in both Mathematics and Computer Science.



Sanna F. Siddiqui, Ph.D.
Associate Professor of Mechanical Engineering,
Florida Polytechnic University
Orlando, Florida, USA

Dr. Sanna F. Siddiqui is an Associate Professor of Mechanical Engineering at Florida Polytechnic University, and a 2024 NSF CAREER Award Recipient. She completed her Ph.D. and Master's in Mechanical Engineering, and her Bachelor's degree in Aerospace Engineering with Magna Cum Laude Honors Distinction from the University of Central Florida. At Florida Polytechnic University, she has led the development of the aerospace concentration. Dr. Siddiqui's research explores the mechanical and material characterization of additively manufactured materials for use in aerospace applications, specifically fatigue and fracture mechanics and the role of microstructural defects in impacting mechanical performance. Dr. Siddiqui's research has been supported by the National Science Foundation and the US Department of the Air Force.



Onur Toker, Ph.D.
Professor of Electrical and Computer Engineering
Florida Polytechnic University
Lakeland, FL, USA

Dr. Onur Toker is a professor of Electrical and Computer Engineering at Florida Polytechnic University, Lakeland FL. He got his MS and PhD degrees from Ohio State, Columbus OH. Later, he worked as a graduate researcher at Technical University of Eindhoven, The Netherlands, and then at University of California, Riverside CA. Prior to joining Florida Poly, he worked for the LiDAR company, Quanergy, (Sunnyvale CA), and then for the augmented reality company, DAQRI, (Sunnyvale/Pasadena, CA). Later he also worked for a stealth mode startup for a driver behavior analysis project. While at Florida Poly, he worked for AVRA Medical Robotics, Orlando FL. Dr. Toker has more than 20 years of teaching and research experience. He has published 100+ technical papers, supervised or co-supervised several graduate students, and was PI or co-PI for several funded projects. His research interests include autonomous robots, surgical simulators and FPGA accelerators.