



IISE Annual Conference & Expo 2023
Call for Abstracts & Presentation Summaries
Hyatt Regency New Orleans
May 20-23, 2023

[Abstract & Presentation Summary Submission Website](#)
[IISE Annual Conference Speaker Information Page](#)

IISE Annual Conference & Expo 2023 is a forum for exchanging knowledge and discoveries in the industrial and systems engineering research and practitioner communities. The conference continues to integrate research and industry applications under one conference. We encourage submissions that demonstrate results from university and industry collaborations or applications of emerging technologies or methods.

There are also opportunities to organize special sessions (e.g., tutorials, panels, workshops). If you are interested in organizing such a session, please contact the track chairs by **November 11, 2022**.

Please explore the track sessions for more details.

IISE Annual Conference Program Tracks

[Construction Engineering and Management](#)
[Data Analytics and Information Systems](#)
[Energy Systems](#)
[Engineering Economy](#)
[Engineering Education](#)
[Engineering Management](#)
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[Lean & Six Sigma](#)
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[Modeling & Simulation](#)
[Operations Research](#)
Performance Excellence
[Quality Control & Reliability Engineering](#)
[Sustainable Development](#)
[Systems Engineering](#)
[Work Systems & Services](#)

Important Deadlines

Submission deadline for abstract/presentation summary:	November 11, 2022
Notification of decision on abstract/presentation summary:	December 16, 2022
Paper submission deadline: (<i>Paper submission is optional but encouraged.</i>)	February 3, 2023
Speaker Registration Deadline:	February 10, 2023
Notification of decision on paper:	March 10, 2023
Paper final revision submission deadline:	March 32, 2023

[Submit the Abstract/Presentation Summary](#)
[IISE Annual Conference Speaker Information Page](#)

Construction Engineering and Management

Presented by the Construction Division

Abstracts and presentation summaries are welcome in the following areas:

- Construction Management
- Construction cost estimating
- Construction methods
- Construction scheduling
- Construction safety
- Construction site layout
- Construction ergonomics
- Construction finance
- Construction contracts
- Building information modeling
- Built environment
- Forensic engineering
- Construction equipment management
- Front end planning
- Project delivery methods
- Project simulation
- Project optimization
- Project controls
- Project life cycle
- Project variance
- Process modeling
- Risk Management
- Green construction
- Resilient construction
- Lean construction
- Smart construction
- Asset replacement analysis

Construction Engineering and Management Track Chairs:

[Henry Lester](#), University of Dayton – *Primary Coordinator*

[Emily Wall](#), Mississippi State University – *Secondary Coordinator*

[Mary Margaret Mitchell](#), U.S. Army Engineer Research and Development Center – *Emerging Technologies Coordinator*

Data Analytics and Information Systems (DAIS)

Presented by the Data Analytics and Information Systems Division

Abstracts and presentation summaries are welcome in the following areas:

- Climate-induced risk modeling of sociotechnical systems (e.g., communities, energy, water, public health, etc.)
- Data analytics and statistical learning
- Decision support system
- Energy systems modeling (energy capital investments and energy operations interface)
- Grid/Cloud computing
- Hazard and vulnerability modeling
- Healthcare systems
- Homeland Security and disaster management
- Human system integration
- Human-computer/Human-machine interaction (HCI/HMI)
- Industry 4.0
- Information and system security
- Information visualization
- Intelligent transportation system
- Internet of Things (IoT)
- Machine learning and artificial intelligence
- Multi-agent system
- Network science and complex systems
- Predicting/Forecasting/Assessing Risk, Resilience, and Sustainability
- RFID and sensor network
- Robotics and automation
- Smart Grid
- Smart and interconnected automation systems
- Smart manufacturing
- Systems informatics and optimal control
- Ubiquitous/Pervasive System

Data Analytics and Information Systems Track Chairs:

[Nathan Gaw](#), Air Force Institute of Technology – *Primary Coordinator*

[Adam Meyers](#), Pacific Northwest National Laboratory – *Primary Coordinator*

[Chenang Liu](#), Oklahoma State University – *Secondary Coordinator*

[Zimo Wang](#), Binghamton University – *Secondary Coordinator*

[Afrooz Jalilzadeh](#), University of Arizona – *Emerging Technologies Coordinator*

[Zvikomborero Matenga](#), Grainger – *Emerging Technologies Coordinator*

Energy Systems Track

Presented by the Energy Systems Division

Abstracts and presentation summaries are welcome in the following areas:

- Optimization of operations, planning and design of energy systems
- Data analytics for evaluation, forecasting, control, and operation of energy systems
- Policy or regulatory evaluation of energy systems
- Resilience characterization and modeling of energy systems
- Reliability, resource adequacy and safety of energy systems
- Economic aspects of energy systems design and operation
- Interdependent modeling of energy and other systems
- Changing business models of energy supply and demand
- Artificial intelligence and machine learning modeling related to energy systems

Energy System Track Chairs:

[Ekundayo Shittu](#), George Washington University – *Primary Coordinator*

[Murat Yildirim](#), Wayne State University – *Secondary Coordinator*

[Talayah Razzaghi](#), University of Oklahoma – *Emerging Technologies Coordinator*

Engineering Economy Track

Presented by the Engineering Economy Division

Abstracts and presentation summaries are welcome in the following areas:

- Asset management
- Capital investment analysis
- Financial engineering
- Cost/benefit analysis
- Prices and portfolios
- Real Options
- Life-cycle cost assessment/management
- Energy and engineering economy
- Value chain management
- Technology replacement management
- Engineering economy education
- Entrepreneurship and innovation
- Economics of supply chain management
- Analytics in engineering economy
- Other areas in economic and investment analysis

Engineering Economy Track Chairs:

[Nabil Nehme](#), American University of Beirut – *Primary Coordinator*

[Wujun Si](#), Wichita State University – *Secondary Coordinator*

[Taner Cokyasar](#), Argonne National Laboratory – *Emerging Technologies Coordinator*

[Ahmet Akgun](#), California University of Pennsylvania

[Raymond Smith](#), East Carolina University

Engineering Education Track

Abstracts and presentation summaries are welcome in the following areas:

- K-12 Engineering Education – lessons learned and best practices
- Emerging technologies and methods in Engineering Education
- Incorporating Diversity and Inclusion into the classroom
- Remote teaching – lessons learned and best practices
- Experiential and project-based learning
- Accreditation best practices
- Curriculum development
- Capstone experiences
- Industry partnerships

Engineering Education Track Chairs:

[Lesley Strawderman](#), Mississippi State University – *Primary Coordinator*

[Jenna Johnson](#), Mississippi State University – *Secondary Coordinator*

[Denise Bauer](#), Methodist University – *Emerging Technologies Coordinator*

Engineering Management Track

Presented by the Society for Engineering & Management Systems

Abstracts and presentation summaries are welcome in the following areas:

- Decision analysis
- Operations and supply chain management
- Manufacturing and service process improvements
- Performance measurement
- Change and risk management
- Organizational behavior and design
(Organizational culture management)
- Team-based work systems
- Project management
- Establish discipline standards and disseminate to all sub-contractors
- Coordinate across various project disciplines
- Identify and manage inter-discipline interface and coordination

Engineering Management Track Chairs:

[Sheila Barnett](#), U.S. Army Engineer Research and Development Center

[Sandra Furterer](#), University of Dayton

[Mindy Holmes](#), IAB

[Henry Lester](#), University of Dayton

[Joseph B. Michels](#), Solomon Bruce Consulting, LLC

Facilities Design & Planning Track

Presented by the Logistics and Supply Chain Division

Abstracts and presentation summaries are welcome in the following areas:

- Facility design and layout
- Material handling systems
- Storage and handling systems
- Order fulfillment systems
- Order picking systems
- Warehouse automation
- Warehouse operations
- Warehouse management systems
- Warehouse logistics
- Distribution operations
- Cross docking and transportation
- Container operations
- Single-echelon inventory tracking and control
- Sensor systems for warehouses
- Ergonomics in facility logistics
- Retail store space management
- Green and sustainable facilities
- Facilities planning in disaster recovery
- Physical internet
- Material handling education
- Digital twins in material handling
- AI in facilities management

Facilities Design & Planning Track Chairs:

[Corinne H. Mowry](#), University of Dayton – *Primary Coordinator*

[Hector Vergara](#), Oregon State University – *Secondary Coordinator*

[Ravi Vengadam](#), Target – *Emerging Technologies Coordinator*

[Junfeng Ma](#), Mississippi State University

Health Systems Track

Presented by the Society for Health Systems

Abstracts and presentation summaries are welcome in the following areas:

- Pandemic preparedness and response
- Quality and patient safety
- Process improvement and health systems engineering
- Healthcare operations management
- Data analytics and health informatics
- Disease modeling and medical decision making
- Health economics and health policy
- Health logistics and supply chain
- Health information and technology
- Human factors in health care
- Emerging technology and innovation in health care
- Diversity, equity, and inclusion in health care

Health Systems Track Chairs:

[Lu He](#), Mississippi State University

[Ashlea Bennett Milburn](#), University of Arkansas

[Mustafa Ozkaynak](#), University of Colorado Anschutz Medical Campus

Human Factors and Ergonomics Track

Presented by the Applied Ergonomics Society

Abstracts and presentation summaries are welcome in the following areas:

- Applied ergonomics methods (especially with university-industry collaboration)
- Cognitive ergonomics/engineering
- Occupational health and safety
- Macroergonomics
- Human-computer and human-robotic interactions
- Wearable and performance technology use and validation
- Virtual and augmented reality study design
- User experience (UX) design and implementation
- Athlete engineering
- Validation of emerging human performance technologies (e.g., exoskeletons, computer vision, AI, autonomous systems, etc.)
- ... and anything else within the realm of human factors and ergonomics

Human Factors and Ergonomics Track Chairs:

[Reuben Burch](#), Mississippi State University

[Laura Ikuma](#), Louisiana State University

[Ji-Eun Kim](#), University of Washington

[Ehsan Rashedi](#), Rochester Institute of Technology

[Denny Yu](#), Purdue University

IAB/Young Professionals

Presented by the IAB and the Young Professionals Group

The Industry Advisory Board (IAB) and Young Professionals (YB) Track is focused on providing a forum for content largely sources from industry professionals. While focused on industry, the vision is to also attract academic and student attendees.

Abstracts and presentation summaries are welcome in the following areas:

- Interesting case studies highlighting the utilization of key ISE techniques and technologies
- Management and development tools/processes that can be leveraged by industry professionals
- Engaging content that embraces the modernization of the ISE profession and where it is headed
- Examples of where industry and academia have collaborated to advance ISE capabilities

IAB/Young Professionals Track Chairs:

[Maya Bam](#), General Motors

[Jon Owen](#), General Motors

[Bob Pudlo](#), FedEx

[Veronica Radin](#), West Monroe Partners

[Karl Salvatore](#), Northeastern University

[Kaz Takeda](#), SprintRay

[Isaac Villareal](#), American Airlines

Lean & Six Sigma Track

Presented by the Operational Excellence Track

Abstracts and presentation summaries are welcome in the following areas:

- Collaborative Industry Applications
 - Energy
 - Finance
 - Government and non-profit
 - Logistics and supply chain
 - Manufacturing (Nano, Smart, Cyber and Physical)
 - Startup industries
- Research
 - Culture and process excellence
 - Environment sustainability and governance
 - Lessons learned from continuous implementation
 - Modeling and simulation
 - Product and service development
 - Project management
 - Quality Management
 - Systems thinking
- Emerging and Innovation Solutions
 - Artificial intelligence, data analytics, machine learning
 - Data visualization
 - Hybrid lean
 - Industry 4.0, Internet of Things (IoT)
 - Innovation and operational excellence
 - Intelligent automation
 - Offshoring and reshoring
 - Planning and leading virtual workshops

Lean & Six Sigma Track Chairs:

[Enrique Macias De Anda](#), University of Tennessee Knoxville – *Primary Coordinator*

[Ahmad Elshennawy](#), University of Central Florida

[Bill Edwards](#), Kettering University

[Rupy Sawhney](#), University of Tennessee Knoxville

[Steve Vijayan](#), Nemours Children's Health System

Logistics & Supply Chain Track

Presented by the Logistics & Supply Chain Division

Abstracts and presentation summaries are welcome in the following areas:

- Logistics network design and optimization
- Logistics network simulation
- Inventory optimization and control
- Supply chain modeling and simulation
- Supply chain and logistics applications
- Transportation systems
- Supply chain analysis and design
- Green or sustainable supply chain
- Logistics for energy production
- Procurement and supplier selection
- Demand planning
- Information sharing
- Coordination and collaboration
- Offshoring and reshoring
- Humanitarian supply chains
- Supply chain reliability and resilience
- Service supply chains
- Reverse logistics

Logistics & Supply Chain Track Chairs:

[Yanchao Liu](#), Wayne State University – *Primary Coordinator*

[Payam Parsa](#), California State Polytechnic University – *Secondary Coordinator*

[Erin Gerber](#), University of Louisville – *Emerging Technologies Coordinator*

[Sasha Zhijie Dong](#), Texas State University

[Raj Mishra](#), Moderna

Manufacturing & Design

Presented by the Manufacturing & Design Division

Abstracts and presentation summaries are welcome in the following areas:

- Additive manufacturing (AM) and 3D printing
- Advanced automation and robotics
- Artificial intelligence (AI), machine learning, and data analytics in manufacturing
- Biomedical and healthcare manufacturing
- Manufacturing for the energy sector
- Computer-aided design (CAD) and computer-aided manufacturing (CAM)
- Design for X methodologies (Design for manufacturability, design for AM, design for assembly and design for quality)
- Human-machine interaction
- Decision and/or cost models for manufacturing
- Green manufacturing and manufacturing for sustainability
- IoT, smart manufacturing, cyber-physical systems, and industry 4.0
- Lean manufacturing systems and six sigma
- Materials processing and manufacturing
- Manufacturing education
- Manufacturing machines and equipment
- Micro/nanoscale manufacturing
- Non-traditional manufacturing
- Product and/or process design and development

Manufacturing & Design Track Chairs:

[David Vance](#), University of Cincinnati – *Primary Coordinator*

[Ahmed Qureshi](#), University of Alberta – *Secondary Coordinator*

[Mohammed Shafae](#), University of Arizona – *Emerging Technologies Coordinator*

[Agustin Diaz](#), REM Surface Engineering – *Industry Engagement Coordinator*

[Chaitanya Mahajan](#), Kettering University – *Academia Engagement Coordinator*

Modeling & Simulation Track

Presented by the Modeling & Simulation Division

Abstracts and presentation summaries are welcome in the following areas:

- Department of Defense
- Infrastructure
- Manufacturing
- Health
- Methodological Advances (novel applications of M&S)

Modeling & Simulation Track Chairs:

[Raed Jaradat](#), Mississippi State University – *Primary Coordinator*

[Casey Canfield](#), Missouri S&T University – *Secondary Coordinator*

[David Claudio](#), University of Massachusetts Lowell – *Secondary Coordinator*

[Greg Zerr](#), Marathon Petroleum – *Emerging Technologies Coordinator*

Operations Research Track

Presented by the Operations Research Division

Abstracts and presentation summaries are welcome in the following areas:

- Deterministic optimization (convex/nonconvex)
- Stochastic modeling
- Simulation
- Optimization under uncertainty
- Network optimization
- Game theory
- Approximation algorithms
- Machine learning and artificial intelligence
- Emerging technologies, methods and applications of OR in practice
- Socially responsible approaches in OR
- Operations research applications in energy, healthcare, finance, military defense, cybersecurity, cloud computing, illicit trafficking, social goods, transportation and logistics, supply chain, manufacturing and other areas
- COVID-19-related operations research problems

Operations Research Track Chairs:

[Jun Zhuang](#), University at Buffalo – *Primary Coordinator*

[Kelly Sullivan](#), University of Arkansas – *Secondary Coordinator*

[Tugce Isik](#), Clemson University – *Emerging Technologies Coordinator*

[Hadi Charkhgard](#), University of South Florida

[Danial Davarnia](#), Iowa State University

Quality Control & Reliability Engineering (QCRE) Track

Presented by the Quality Control & reliability Engineering Division

Abstracts and presentation summaries are welcome in the following areas:

- Big data in quality and reliability
- Deep learning in manufacturing
- Data streams and online data analysis
- Reliability, availability, maintainability
- Reliability prediction, modeling and analysis
- Physical reliability modeling
- Reliability growth modeling
- Degradation and lifetime testing
- Accelerated life testing
- System reliability and optimization
- Warranty data analysis
- Distributed sensing and data analysis
- Decision analysis and risk management
- High-dimensional data analysis
- IoT and cyber manufacturing
- Systems resilience analysis
- Quality engineering and applied statistics
- Quality improvement in the service sector
- Quality planning and management
- Statistical quality control and diagnosis
- Six Sigma methods and process capability
- Statistical process control and tolerancing
- Design and analysis of experiments
- Profiles and multiple responses
- Multivariate data analysis
- Bayesian methods
- Response surface and surrogate modeling
- Sampling and inspection
- Nonparametric methods
- Data analytics in cybersecurity

Quality Control & Reliability Engineering Track Chairs:

[Xiaowei Yue](#), Virginia Tech, – *Primary Coordinator*

[Yisha Xiang](#), University of Houston – *Secondary Coordinator*

[Ying Lin](#), University of Houston – *Emerging Technologies Coordinator*

Sustainable Development Track

Presented by the Sustainable Development Division

Abstracts and presentation summaries are welcome that include but are not limited to:

- Sustainability education, ethics, and public policymaking
- Sustainable infrastructure systems
- Green supply chains, sustainable engineering, and green operations
- Sustainability and LCA theory

The Sustainable Development Division is particularly interested in research abstracts and case study presentation summaries related to the application of ISE tools such as LEAN, optimization, simulation, data analytics, human factors, or engineering economics to the achievement of the United Nations Sustainable Development Goals. We request that all abstracts indicate how the research or case study impacts one or more of the following goals:

- Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (including emerging methods of incorporating sustainability into ISE education and modifying ISE tools to address Triple Bottom Line optimization.)
- Goal 6: Ensure availability and sustainable management of water and sanitation for all
- Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation including the roles ISE's can and do play in creating sustainable corporations)
- Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable
- Goal 13: Take urgent action to combat climate change and its impacts
- And other goals if relevant

Sustainable Development Track Chairs:

[John Corliss](#), PEER Consultants – *Primary Coordinator*

[Chen Zhou](#), Georgia Tech University – *Secondary Coordinator*

[Jeremy Rickli](#), Wayne State University – *Emerging Technologies Coordinator*

[Joel Brock](#), West Monroe Partners

[Curtis Bush](#), Avid Technology, Inc.

[Cilia Pembroke](#), University of West Indies, St. Augustine Campus

Systems Engineering Track

Presented by the Integrated Systems Technical Interest Group

The Systems Engineering Track encourages abstracts and presentation summaries on all aspects of systems engineering relevant to and applicable in the broad ISE domain. All application areas are relevant, provided the abstract or presentation summary addresses issues not typically addressed in the existing application area tracks. Examples include but are not limited to:

- Identifying requirements, functionality, and logical architecture
- Approaches and methods for accommodating multiple decision makers and criteria
- Large scale and/or multidisciplinary system design and management case studies
- System modeling (distinct from system analysis) tools, methods and case studies
- Identifying tradeoffs, supporting tradeoff decisions and assessing tradeoff risks
- Systems modeling to support new/emerging technologies
- Applications of model-based systems engineering in the ISE domain

Systems Engineering Track Chairs:

[Ben Amaba](#)

[Leon McGinnis](#), Georgia Tech

Work Systems & Services Track

Presented by the Work Systems Division

Abstracts and presentation summaries are welcome in the following areas:

- Work systems modeling and design
- Data analytics for work systems
- Simulation of work systems
- Work systems optimization
- Work systems science/factory physics
- Cost management for work systems
- Emerging technologies for work systems time and motion measurement
- Work systems change management
- Works systems measures and measures
- Alignment
- Work systems/capstone course project

Work Systems & Services Track Chairs:

[Laila Cure](#), Wichita State University

[Jonathan Grooms](#), West Monroe Partners

[Ike Ohu](#), Gannon University