



IISE Annual Conference & Expo 2022
Call for Abstracts & Presentation Summaries
Hyatt Regency Seattle
May 21-24, 2022

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

IISE Annual Conference & Expo 2022 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 and methods.

There are also opportunities to organize special sessions (e.g., tutorials, panels, workshops). If you are interested in organization such a session, please contact the track chairs by October 15, 2021.

Please explore the track sessions for more details.

IISE Annual Conference Program Tracks

[Construction Engineering and Management](#)
[Data Analytics and Information Systems \(DAIS\)](#)
[Energy Systems](#)
[Engineering Economy](#)
[Engineering Education](#)
[Engineering Management](#)
[Facilities Design & Planning](#)
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[Lean & Six Sigma](#)
[Logistics & Supply Chain](#)
[Manufacturing & Design](#)
[Modeling & Simulation](#)
[Operations Research](#)
Performance Excellence
[Quality Control & Reliability Engineering](#)
[Sustainable Development](#)
[Work Systems & Services](#)

Important Deadlines

Important deadlines:

- | | |
|--|------------------|
| • Submission deadline for abstract/presentation summary: | November 1, 2021 |
| • Notification of decision on abstract/presentation summary: | December 6, 2021 |
| • Paper submission deadline:
<i>(Paper submission is optional but encouraged.)</i> | January 20, 2022 |
| • Speaker registration deadline:
<i>(Applies to all accepted speakers not submitting a paper for review.)</i> | January 20, 2022 |
| • Notification of decision on paper: | March 1, 2022 |
| • Presenting author registration deadline:
<i>(Applies to all remaining speakers.)</i> | March 7, 2022 |
| • Paper final revision submission deadline: | March 14, 2022 |

[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
- Construction labor
- Building information modeling
- Built environment
- Forensic engineering
- Construction equipment mgmt.
- 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:

[Christina Rinaudo](#), Mississippi State University - *Primary Coordinator*

[Javad Seif](#), Cal Poly Pomona - *Secondary Coordinator*

[Mehdi Khazaeli](#), University of the Pacific - *Secondary Coordinator*

[Emily Wall](#), Mississippi State University - *Emerging Technologies Coordinator*

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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
- Healthcare Informatics
- 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
- System Informatics and Optimal Control
- Ubiquitous/Pervasive System.

Data Analytics and Information Systems Track Chairs:

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

[Sayanti Mukherjee](#), University of Buffalo - *Primary Coordinator*

[Afrooz Jalilzadeh](#), University of Arizona - *Secondary Coordinator*

[Fei Gao](#), LinkedIn - *Secondary Coordinator*

[Nasibeh Fard](#), Rochester Institute of Technology - *Emerging Technologies Coordinator*

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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 Systems Track Chairs:

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

[Harsha Gangammanavar](#), Southern Methodist University - *Secondary Coordinator*

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

[Pingfeng Wang](#), University of Illinois at Urbana-Champaign

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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:

[Raymond Smit](#), East Carolina University - *Primary Coordinator*

[Ahmet Akgun](#), California University of Pennsylvania - *Secondary Coordinator*

[Wujun Si](#), Wichita State University - *Emerging Technologies Coordinator*

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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:

[Faisal Aqlan](#), Pennsylvania State University, Erie Campus - *Primary Coordinator*

[Tuba Ketenci](#), Georgia Institute of Technology - *Secondary Coordinator*

[Susan O. Schall](#), SOS Consulting, LLC - *Emerging Technologies Coordinator*

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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:

[Ashish Shah](#), ExiEx - *Primary Coordinator*

[Lizette Lespier](#), University of North Carolina Charlotte - *Secondary Coordinator*

[Joseph B. Michels](#), Solomon Bruce Consulting L.L.C - *Emerging Technologies Coordinator*

[Mindy Holmes](#), IAB

[Ruel Ellis](#), University of West Indies

[Sandra Furterer](#), University of Dayton

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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. Mowrey](#), University of Dayton - *Primary Coordinator*

[Geoff Dybicz](#), Stratasys - *Secondary Coordinator*

[Sean Carr](#), HDR Inc - *Emerging Technologies Coordinator*

[Hector Vergara](#), Oregon State University

[Mohamed Awwad](#), California Polytechnic State University

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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:

[Shengfan Zhang](#), University of Arkansas - *Primary Coordinator*

[Tim Matis](#), Texas Tech University - *Secondary Coordinator*

[Yao Bing](#), Oklahoma State University - *Emerging Technologies Coordinator*

[Haifeng Wang](#), Mississippi State University - *Emerging Technologies Coordinator*

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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 HFE

Human Factors and Ergonomics Track Chairs

[Reuben Burch](#), Mississippi State University - *Primary Coordinator*

[Thomas Ferris](#), Texas A&M University - *Secondary Coordinator*

[Ehsan Rashedi](#), Rochester Institute of Technology - *Emerging Technologies Coordinator*

[Denny Yu](#), Purdue University

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Lean & Six Sigma Track

Presented by the Operational Excellence Division

Abstracts and presentation summaries are welcome in the following areas:

- **Collaborative Industry Applications**
 - Energy
 - Finance
 - Government & Non-Profit
 - Logistics and Supply Chain
 - Manufacturing (Nano, Smart, Cyber and Physical)
 - Startup Industries
- **Research**
 - Culture & Process Excellence
 - Environment Sustainability and Governance
 - Lessons learned from continuous improvement implementation
 - Modelling and Simulation
 - Product and Service Development
 - Project Management
 - Quality Management
 - Systems Thinking
- **Emerging & 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:

[Cecilia Martinez Leon](#), University of Buffalo - *Primary Coordinator*

[Jasbir Kumar](#) - *Secondary Coordinator*

[Sampson Gholston](#), University of Alabama in Huntsville - *Emerging Technologies Coordinator*

[Krishnan Krishnaiyer](#), Marathon Petroleum

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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 & 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:

[Payam Parsa](#), California State Polytechnic University - *Primary Coordinator*

[Michael Sherwin](#), University of Pittsburgh - *Secondary Coordinator*

[Junfeng Ma](#), Mississippi State University - *Emerging Technologies Coordinator*

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

[Yanchao Liu](#), Wayne State University

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Manufacturing & Design Track

Presented by the Manufacturing & Design Division

Abstracts and presentation summaries are welcome in the following areas:

- Additive Manufacturing (AM) and 3D Printing
- Advanced Automation & 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, & 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 & Development

Manufacturing & Design Track Chairs:

[Abishek Balsamy Kamaraj](#), Kettering University - *Primary Coordinator*

[Hannah Budinoff](#), University of Arizona - *Secondary Coordinator*

[Wenmeng Tian](#), Mississippi State University - *Emerging Technologies Coordinator*

[Brandon Lane](#), NIST

[Qiang Huang](#), University of Southern California

[Yunbo \(Will\) Zhang](#), Rochester Institute of Technology

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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:

[Rick Haberlin](#), Mitre - *Primary Coordinator*

[Greg Zerr](#), Marathon Petroleum - *Secondary Coordinator*

[Prashanth Rajivan](#), University of Washington - *Emerging Technologies Coordinator*

[Andy Collins](#), Old Dominion University

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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 & Logistics, Supply Chain, Manufacturing and other Areas
- COVID-19-related Operations Research Problems

Operations Research Track Chairs:

[Sharan Srinivas](#), University of Missouri - Columbia - *Primary Coordinator*

[Karmel S. Shehadeh](#), Lehigh University - *Secondary Coordinator*

[Taewoo Lee](#), University of Houston - *Emerging Technologies Coordinator*

[Amin Rahimian](#), University of Pittsburgh

[Jianqiang Cheng](#), University of Arizona

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Quality Control & Reliability Engineering (QCRE) Track

Presented by the Quality Control & Reliability Engineering Division

Abstracts and presentation summaries are welcome, but are not limited, 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 & 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 & 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:

[Ramin Moghaddass](#), University of Miami - *Primary Coordinator*

[Yisha Xiang](#), Texas Tech University - *Secondary Coordinator*

[Hongyue Sun](#), University of Buffalo - *Emerging Technologies Coordinator*

[Chao Wang](#), University of Iowa

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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 & 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 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 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*

[Ricardo Thierry](#), Instituto Tecnológico y de Estudios Superiores de Monterrey - *Secondary Coordinator*

[Chen Zhou](#), Georgia Tech, Stewart School of Industrial and Systems Engineering - *Emerging Technologies Coordinator*

[Brion Hurley](#), Business Performance Improvement

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Work Systems & Services Track

Presented by the Work Systems Division

Abstracts 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 - *Primary Coordinator*

[Jonathan Grooms](#), West Monroe Partners - *Secondary Coordinator*

[Donald Hochertz](#), Roimich - *Emerging Technologies Coordinator*

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