



# January 2019 Division Newsletter

## Welcome to 2019 from Our Board Members



Lihui Bai  
President



Yongpei Guan  
Past-President



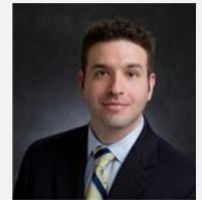
Sandra D Eksioglu  
Director



Andrew Kusiak  
Director



Zhimin Xi  
Director



Joshua Warmack  
Director

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## Message from the President

Welcome to 2019 and to a newly charged Energy Systems (ES) division of IISE! As a young division within IISE, we are beginning the new year with a full pack of exciting news. In 2019 we welcome two new board members and a student ambassador to advance our outreach to industry and student members, which is a strategic goal set for 2018-2019 operational year. Of course, the division continues to organize the Energy Systems Track at the IISE annual conference in Orlando May 18-21, 2019; we also look forward to meeting more friends at our townhall in Orlando and presenting various awards to excellent researchers contributing to the field of Energy Systems. Our webinar series will launch its first 2019 presentation on January 17<sup>th</sup>. Finally, I invite everyone to stay connected with us at IISE Connect, Facebook and LinkedIn as we continue to expand our division as a premier organization for researchers and practitioners committed to exploring Industrial and Systems Engineering tools to the field of Energy Systems.

## Welcome to Our New Board Members



Dr. Mohammad S. Roni – "Roni" to his friends and colleagues - is a research scientist at Idaho National Laboratory. His work focuses on the development of optimization model and methodological innovations for various R&D projects within INL. To develop analytics solutions/software he has applied a wide range of expertise in optimization theory such as discrete optimization, stochastic optimization, bi-level optimization, and non-convex optimization. Roni earned his master's and doctorate in industrial and systems engineering

from Mississippi State University and his bachelor's in industrial and production engineering from Bangladesh University of Engineering and Technology. He has been named principal investigator for DOE-sponsored optimization projects. These projects aim to develop integrated process optimization method for a biorefinery and develop real time, integrated dynamic control optimization to improve the operational reliability of a gasifier. He has published more than 22 peer reviewed articles and one book chapter and delivered numerous technical reports. He is also a member of the Institute for Operations Research and the Management Sciences (INFORMS).



Dr. Lei Fan received the B.S. degree in Electrical Engineering from the Hefei University of Technology, Hefei, China, in 2009 and the Ph.D. degree in Industrial and Systems Engineering at the University of Florida, Gainesville, FL, USA in 2015. He was an application engineer in General Electric from 2015 to 2017. Currently, he is a software engineer in Siemens Industry, Inc. He has years of experiences in the application of optimization theory in the complex system operations, planning, and resources management. His research interests include complex system operations, planning, energy system modeling, and energy market analysis.

## Outreach

### Energy Systems Division Student Ambassador

**Role: Increase student membership and participation in the Energy Systems Division.**

- Interact with members through IISE Connect
- Student focused events (virtual and at the annual conference)
- Encourage student webinar participation
- Help to plan student-centered activities at the annual conference

### 2019 Energy Systems Division Student Ambassador



Alison Davis is a senior Industrial Engineering student at the University of Louisville. Ali is a Part-time Data Scientist with ORTEC, a company focused on optimization software and analytics solutions. Ali previously worked for ORTEC as a co-op student from 2017-2018. After graduating in May of 2019, she will begin working on the Master of Engineering in Industrial Engineering degree at UofL. Ali is also the current president of the industrial engineering honor society, Alpha Pi Mu, at the University of Louisville.

### *Energy Systems Division Webinar Series*

Thursday, Jan. 17, 2 p.m. Eastern time



**Presenter:** Junpeng Zhan, Ph.D.,  
research associate electrical engineer  
Brookhaven National Laboratory

**Title:** Real-time Thermal Rating: Monitoring and Application  
in Power Systems

[Abstract and more details](#)



Call for Application/Nomination  
IISE Annual Meeting and Expo 2019 Energy Systems Track

Best Paper Award  
Best Student Paper Award  
Outstanding Young Investigator Award

Details also at [division website](#)

ES track co-chairs

Contributed Sessions: Sandra Eksioglu (seksiog@clemsun.edu), Zhi Zhou (zzhou@anl.gov)  
Invited Sessions: David Morton (david.morton@northwestern.edu), Bo Zeng (bzeng@pitt.edu)

**Eligibility & Application**

**Outstanding Young Investigator Award**

**Eligibility**

- Member of IISE and the ES division.
- Must be under 35 years of age on October 15 of the year in which the nomination is submitted.
- High impact research as evidenced by the quality of the nominee's research endeavors including publications, intellectual property and other funding and dissemination activities.
- Candidates can be nominated by others. Self-nominations are not allowed.
- Email nomination package to Zhimin Xi (zhimin.xi@rutgers.edu)

**Nomination package must include:**

- Candidate's name, affiliation, contact information, and birth date.
- Candidate's Personal Statement of specific technical contribution(s) that qualify them for this award (max. 2 pages).
- Curriculum vitae (max. 10 pages).
- Three letters of recommendation (each limited to 2 pages). This includes the nominator's letter highlighting candidate's technical contributions and achievements.
- Nominator's name, affiliation and contact information.
- **Application Due:** 5 p.m. Eastern time, March 1, 2019
- Notification: March 31, 2019

**Best Paper Award**

- Member of IISE and the ES division
- Submit full papers to ES Track; full paper will have six-page limit and undergo a double-blind review.
- Accepted papers will be eligible for the Best Paper Award.

- **Full paper due (optional):** January 18, 2019 (no extension)
- Decision notification: February 19, 2019
- Final version of full paper: March 5, 2019

**Best Student Paper Award**

- Member of IISE and the ES division; currently a registered student.
- Main author of a full paper submitted to the ES track, and presenter at the conference.
- Based on paper quality, three finalists will be invited to a special session at the annual conference. The final winner is selected using a combined score on paper and conference presentation.





## *Special Issue: Modeling and Analysis of Supply Planning and Operations for Sustainable Bioenergy Systems*

### **IISE Transactions – Focused Issue on Operations Engineering and Analytics**

Biomass utilization as chemicals, transportation fuels, heat and electricity can lead to the development of a regional economy that relies on sustainable resource supply and utilization, creates economic value for biomass suppliers and producers of chemicals and bioenergy, and positively impacts the economy and environment. Governmental policies and regulations established in the US, the EU, Australia, and others have impacted investments in this industry. Despite these investments, the industry is still in its infancy. This is mainly due to inconsistencies in biomass quality which impact process streamline and equipment utilization, conversion rates, and costs; variations in biomass supply and price which impact risk of investment and rate of return; the controversial debate of food-versus-fuel; etc.

Many experts in our community have conducted research focusing on minimizing system-wide costs to ensure that biomass fuels are competitive with fossil fuels. This special issue will highlight emerging problems currently being explored by our community at the national and international arena, such as: addressing process/system vulnerabilities to variations in biomass quality, availability, delivery cost; demand by taking holistic approaches of biomass utilization in biorefineries; evaluating the impact of biomass use on land use, water consumption, and food and animal feed availability and price; developing policies to ensure sustainable operations, etc. The purpose of this issue is to highlight and disseminate advances in the area of biomass utilization systems to a broad research community. Specific topics of interest include but are not limited to:

- Biomass supply, demand and market analysis
- Design and optimization of holistic biomass utilization systems
- Environmental impacts and multi-criteria assessment of bioenergy supply chains
- Food-energy-water nexus: Policies and operational decisions
- Optimization/simulation models for biomass supply chain design and management
- Process design and optimization of sustainable biofuel and biopower systems
- Risk analysis and management of bioenergy systems
- Spatial analysis and modeling of biomass resources
- Technology development and adoption under environmental regulations and competition

All papers must be submitted through <http://mc.manuscriptcentral.com/iietransactions>. Please select “Special Issue” under Manuscript Category of your submission. All manuscripts must be prepared according to the *IISE Transactions* publication guidelines.

#### **Important Dates**

- Paper submission: 6/1/2019
- Completion of 2<sup>nd</sup> round review: 2/1/2020
- Publication date: 3/2020
- Completion of 1<sup>st</sup> round review: 9/1/2019
- Final submission: 3/1/2020

#### **Guest Editors**

Dr. Sandra D. Eksioglu  
Clemson University  
[seksiog@clemson.edu](mailto:seksiog@clemson.edu)

Dr. Magnus Fröhling  
Technical University of Munich  
[magnus.froehling@tum.de](mailto:magnus.froehling@tum.de)

#### **OE&A Focused Issue Editor**

Dr. J. Cole Smith  
Clemson University  
[jcsmith@clemson.edu](mailto:jcsmith@clemson.edu)

Dr. Taraneh Sowlati  
University of British Columbia  
[taraneh.sowlati@ubc.ca](mailto:taraneh.sowlati@ubc.ca)

Dr. Halit Uster  
Southern Methodist University  
[uster@lyle.smu.edu](mailto:uster@lyle.smu.edu)

