

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 1st round review: 9/1/2019
- Completion of 2nd round review: 2/1/2020
- Final submission: 3/1/2020
- Publication date: 3/2020

Guest Editors

Dr. Sandra D. Eksioglu
Clemson University
seksiog@clemson.edu

Dr. Magnus Fröhling
Technical University of Munich
magnus.froehling@tum.de

OE&A Focused Issue Editor

Dr. J. Cole Smith
Clemson University
jcsmith@clemson.edu

Dr. Taraneh Sowlati
University of British Columbia
taraneh.sowlati@ubc.ca

Dr. Halit Uster
Southern Methodist University
uster@lyle.smu.edu