

Special Issue: Analytical Methods for Detecting, Disrupting, and Dismantling Illicit Operations IISE Transactions: Focused Issue on Operations Engineering and Analytics

Illicit operations, which operate outside of the boundaries of law, are a significant global issue, with some estimates valuing their economic value as upwards of \$1.6 trillion each year. Categories of illicit operations include, but are not limited to: drug trafficking; human trafficking; illegal mining, logging, and fishing; wildlife trafficking; money laundering; supply chains producing counterfeit goods; organ trafficking; identity theft; and weapons trafficking. This special issue will highlight *analytical approaches* that can help *detect, disrupt, and ultimately dismantle* illicit operations. Its goal is to showcase the role of analytical methods in the fight against illicit operations by bringing together those within the industrial and systems engineering (ISE) community and domain experts in distinct areas of fighting illicit operations. We are especially interested in papers that integrate domain expertise and/or stakeholder engagement in their model formulation, analysis, and validation.

Each type of illicit operation has its own nuances, which should be carefully considered as analytical approaches are created to help detect, disrupt, and dismantle the operation. These nuances motivate the need for methods that integrate research across disciplines to create analytical approaches to help the fight against illicit operations, along with broad activities for this fight, including socio-economic approaches or interventions from non-profits that decrease vulnerabilities and/or demand. Further, because illicit operations are hidden, data to populate analytical methods may be difficult to gather. This special issue encourages papers that (i) pull in perspectives from multiple disciplines in demonstrating the impact of the approach on a specific type of illicit operation, (ii) explore broad approaches to detect, disrupt, and dismantle illicit operations, and/or (iii) address issues around data on illicit operations and its role in analytical approaches. Submissions bringing together ISE and expertise from disciplines such as anthropology, criminology, economics, geography, public policy, and sociology are encouraged. Topics covered include, but are not limited to:

- Models to help understand the behavior of specific types of illicit operations
- Models that help understand the interactions of multiple types of illicit operations
- Analytical methods to identify, gather, and analyze data on illicit operations
- Prescriptive methods to identify effective strategies that disrupt illicit operations, as opposed to simply displacing them
- Models and methods that examine and reduce the demand patterns for illicit goods
- Predictive methods to understand how illicit operations evolve and adapt over time
- Models and methods that can examine how policy shapes illicit markets
- Analytical frameworks to structure human judgement in illicit contexts
- Models which account for a socio-economic perspective reflective of the environment giving rise to the illicit operation
- Methods to evaluate the role of culture and environment in facilitating illicit operations

Papers must be submitted through <http://mc.manuscriptcentral.com/iietransactions> and prepared according to the journal's [Instructions for authors](#). Select "Special Issue" for the question "Please select the Focus Issue to which the paper is most related" at Step 1 in the submission process, and select the specific special issue at Step 6. We *highly encourage* authors to submit abstracts to the lead editor (tcshark@clemsun.edu) in order for the editorial team to provide feedback on the submission and to facilitate a timely review of the full paper.

Important Dates

- (Encouraged) Abstract Submission: 10/31/2021
- Manuscript submission: 1/31/2022
- Completion of 1st round review: 4/30/2022
- Completion of 2nd round review: 9/30/2022
- Final manuscript submission: 11/30/2022
- Tentative publication date: 12/2022

Guest Editors

Dr. Thomas Sharkey
Clemson University
tcshark@clemsun.edu

Dr. Renata Konrad
Worcester Polytechnic Institute
rkonrad@wpi.edu

Dr. Burcu B. Keskin
University of Alabama
bkeskin@cba.ua.edu

Dr. Maria E. Mayorga
North Carolina State University
memayorg@ncsu.edu

Focus Issue Editor

Dr. J. Cole Smith
Syracuse University
colesmit@syri.edu