



**Guest editors:**

*Lead guest editor:*

Dr. Qiong Zhang, University of South Florida, FL, USA (qiongzhang@usf.edu)

*Guest co-editors:*

Dr. Mauricio Arias, University of South Florida, FL, USA (mearias@usf.edu)

Dr. Zhongming Lu, The Hong Kong University of Science and Technology, Kowloon, Hong Kong (zhongminglu@ust.hk)

Dr. Weiwei Mo, University of New Hampshire, NH, USA (Weiwei.Mo@unh.edu)

Dr. Shima Mohebbi, George Mason University, VA, USA (smohebbi@gmu.edu)

## Call for Papers

Special Collection on Integrative Analysis and Modeling of Interdependent Systems



### Aims & Scope

Modern socio-environmental systems have evolved into complex networks of nested systems encompassing a variety of social institutions/organizations, engineering infrastructures, and natural processes. Uncoordinated management and failure to account for cross-scale interactions may lead to unintended consequences or ineffective policies. A systematic understanding of the various feedback within and across the interdependent socio-environmental systems is imperative for the provision of critical societal services (e.g., water, food, energy, mobility), protection of human health, and improvement of environmental quality in the long run. The purpose of this Special Collection is to highlight the work of the Environmental Engineering community and other relevant disciplines on integrative analysis and modeling of the interdependent systems that aspire effective, sustainable, and resilient solutions.

This special collection will focus on the following major themes:

- Reviews on the principles, mechanisms, and interactions among interdependent systems
- Application of complex system modeling to interdependent systems (e.g., system dynamics, agent-based modeling, network modeling, data-driven modeling) at global, national, regional, or local scales
- Integrated assessment or modeling framework (e.g., data analytics, life cycle assessment, domain specific models integrated with system modeling) to examine system solutions for the short-term (e.g., water stress) and the long-term goals (e.g., carbon neutrality)
- Social dynamics and policy innovations of managing interdependent systems and scarce resources
- Novel risk and resilience assessment of interdependent systems and communities to hazards (e.g., COVID19, tropical storms, fires, earthquakes)
- Convergent research from programs such as Innovations at the Nexus of Food, Energy and Water Systems (INFEWS), Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP), and Dynamics of Integrated Socio-Environmental Systems (DISES)

*continued on reverse*

# Journal of Environmental Engineering

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## Manuscript Submission Guidelines

1. Please submit your manuscript via ASCE Journal of Environmental Engineering website: <https://www.editorialmanager.com/jrneeng>
2. Once on the Editorial Manager website, please indicate that your paper is for the special collection "Integrative Analysis and Modeling of Interdependent Systems" edited by Qiong Zhang, Mauricio Arias, Zhongming Lu, Weiwei Mo, Shima Mohebbi.
3. Detailed information on the submission process is provided in the document "Publishing in ASCE Journals: A Guide for Authors" available at <https://ascelibrary.org/doi/book/10.1061/9780784479018>. Please note that this is an invitation to submit papers for peer review and does not imply acceptance for publication. Acceptance of submitted papers depends on the results of the regular peer review process.

All accepted papers submitted in response to this Call for Papers will be published in regular issues of the ASCE *Journal of Environmental Engineering* and assembled online on a page dedicated to this Collection. See <https://ascelibrary.org/page/joeedu/specialcollections> for the list of Special Collections already published.

## Deadline for Paper Submissions

Submission deadline: December 31, 2021