

Risk Analysis

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Call for Papers for Special Issue of *Risk Analysis* on “Global Systemic Risk and Resilience for novel Coronavirus and COVID-19”

A recent outbreak of novel Coronavirus has occurred in Wuhan, the capital of the Hubei Province and one of the most important transportation hubs in China. By early February 2020, this highly epidemic sickness had caused thousands of confirmed cases and killed more than 100 people in mainland China. In the past, three major, countrywide outbreaks have occurred including the “Severe Acute Respiratory Syndrome” (SARS) outbreak in 2003 in mainland China, the “Middle East Respiratory Syndrome” (MERS) outbreak in 2012 in Saudi Arabia, and the MERS outbreak in 2015 in South Korea. These outbreaks have resulted in more than 10,000 confirmed cases in total (de Wit et al. 2016). This kind of epidemic sickness can rapidly spread by a group of infectious agents through several methods of interactions and threaten the health condition of a large number of people in a short time (Medina 2018).

The cascading threats of emerging and re-emerging infectious diseases to the global economy are a critical interest, and the capacity of pandemic preparedness to confront such threats must be of greater potency. With the early effort of Ginsberg et al. (2009), data analytics and artificial intelligence (AI) has been suggested for its roles in risk identification and assessment: effectively pre-empting, preventing and combating the threats of infectious disease epidemic; and facilitating the understanding of policy implications and public behaviors during epidemics. Today’s world of seamless boundaries and global interconnectivity is exploding health data from 500 petabytes in 2012 to 25,000 petabytes in 2020 (Feldman, Martin, & Skotnes 2012).

From a systems perspective, the span of the Society for Risk Analysis (SRA) and its varied SRA Specialty Groups can offer new tools for public health practitioners, infrastructure owners/operators and policy makers to coordinate global and local, context-specific interventions, with expanded access to health information and services (Kao et al. 2014, Anparasan and Miguel 2018, Cai et al. 2019, Wang et al. 2020, Zhu 2020, Ganasegeran and Surajudeen 2020, Parlak et al. 2012, Meyer et al. 2012, Mitchell et al. 2019, Chabrelie et al. 2018, Bope et al. 2010).

This call for papers is intended to indicate insights and viewpoints from scholars regarding risk and resilience analytics for policy making and operations of large-scale systems on this epidemic. Authors are encouraged to submit their articles addressing the theme of this special issue. This call is coordinated between the Society for Risk Analysis (SRA) and the Social and Economic Security Technical Committee <http://www.ieeesmc.org/technical-activities/cybernetics/social-and-economic-security> of the IEEE Systems Man and Cybernetics Society and the Analytics and Risk Technical Committee <https://ieeesystemscouncil.org/analytics-and-risk-technical-committee> of the IEEE Systems Council.

Topics of Interest:

The special issue aims to address the following, but not limited to, potential topics in epidemic risk and resilience modeling and applications:

- Innovative strategies to limit risk of microbial disease propagation
- Mitigate risk in healthcare with advanced analytics
- Queuing modeling in healthcare addressing microbial events
- Simulation of microbial disease outbreak events
- Global supply chains for healthcare emergencies

- Big data-driven microbial health risk identification
- AI-based epidemic network analysis
- Estimating the risk of global economic costs of Coronavirus
- MCDM models in field of microbial and healthcare risk management
- Pattern recognition in epidemic risk analysis
- How to manage risk of future outbreaks (prevention, control and treatment)
- Response models during epidemic outbreaks
- IoT application in microbial risk and healthcare
- Interdisciplinary approaches and decision-making tools in microbial and healthcare risk analysis
- Cloud-based framework for social media analysis
- Emergency management of resource allocation
- Humanitarian logistics dealing with uncertainties
- Risk communication for international government and non-government entities
- Other topics related to microbial stressors and risk analytics

Paper Submission:

Submitted articles must not have been previously published or currently submitted for journal publication elsewhere. As an author, you are responsible for understanding and adhering to our submission guidelines. You can access them <https://www.onlinelibrary.wiley.com/journal/15396924>.

Please read guidelines before submitting your manuscript. Each paper will go through a rigorous review process. Accepted papers will be published on Early View online promptly, not waiting for the print edition.

Important Dates:

Deadline of Manuscript Submission: **30 November, 2020**

Final Decisions: **31 May 2021**

Tentative Publication Date: **September 2021**

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Please also see recent Risk Analysis Virtual Issue, “Risk Analysis and Coronaviruses,” at:

<https://onlinelibrary.wiley.com/doi/toc/10.1002/1539-6924.risk-analysis-and-coronaviruses>