Call for Papers

Annals of Operations Research

Special Issue: Modeling and Simulation of Complex Systems

Submission Deadline: February 28th, 2019

Complex systems are a common phenomenon in real-world decision making. The behavior of such a complex system stems from numerous relationships and various interactions between diverse entities of the system or between a given system and its environment: innovation diffusion on consumer markets may serve as an example. Computer simulations provide an opportunity to alter a modeled system, to observe its emergent behavior, and, thus, to answer what-if questions.

This special issue of the *Annals of Operations Research* aims at discussing recent advances in modeling and simulation of complex systems. Methods to be applied include agent-based simulation, multi-agent systems, simulation-optimization approaches, etc. Potential topics to consider (but not limited to) are:

- diffusion processes in markets, societies, or ecosystems
- applications in various areas including, for example, smart products, smart production systems, or autonomous production
- impact of peculiarities of some complex system, e.g., word of mouth or social influence
- parametrization and validation issues

We hope the special issue will document the state-of-the-art in modeling and simulation of complex systems and provide a framework for future research that moves the field forward by better solving relevant problems with more realistic assumptions, and by leveraging the best research in related disciplines. Researchers from all disciplines are invited to consider this special issue as an outlet to publish their high quality work on the above or related topics.

Instructions for authors can be found at:
http://www.springer.com/business+%26+management/operations+research/journal/10479

Authors should submit their manuscripts via the Journal's online submission site (http://www.editorialmanager.com/anor/), choosing "**S.I.: Simulating Complex Systems**" as the article type. All papers submitted to the special issue will be peer reviewed in accordance with the standard procedures of the *Annals of Operations Research* journal.

Submitted papers should not have been previously published or be currently under consideration for publication elsewhere. Papers must contain original research results that are significant relative to the relevant literature. The use of real-world data is valued. Still, submitted papers must highlight their (algorithmic) contribution to the state of the art in this field of operations research and they should discuss some simulation experiments (i.e., numerical illustrations (examples) may not be sufficient).

Important Dates:

Submission Start Date: **July 1st, 2018**

Paper Submission Due: **February 28th, 2019** (<u>extended deadline</u>)

Guest Editors:

Christian Stummer
Department of Business Administration and Economics
Bielefeld University
Universitaetsstr. 25, 33615 Bielefeld, GERMANY
e-mail: christian.stummer@uni-bielefeld.de

Martin Zsifkovits
Department for Informatics
Universität der Bundeswehr, Munich
Werner-Heisenberg-Weg 39, 85577 Neubiberg, GERMANY
e-mail: martin.zsifkovits@unibw.de

Karl F. Doerner
Department of Business Administration
University of Vienna
Oskar-Morgenstern-Platz 1, 1090 Vienna, AUSTRIA
e-mail: karl.doerner@univie.ac.at