Journal of Dynamics & Games

JDG special issue EURO 2021 & IFORS 2021

Advances in Dynamics and Games:

Games in economics, finance, human resource management, and neuroscience

EURO 2021 Athens, Greece, July 11-14, 2021

IFORS 2021 Hanyang University, Seoul, Korea August, 23-27, 2021

The Program and Organization Committees have the great pleasure of inviting the community of Operational Research (OR) to take part in this highlight in the OR life Europe and the world. The committees are preparing high quality scientific programs and exciting social programs for both conferences EURO and IFORS. These international conferences will be an excellent opportunity for the OR family to get together again in a pleasant atmosphere and, thus, they are looking forward to meeting many researchers and practitioners. Several outstanding Plenaries and Tutorial Speakers have been selected and will present the state-of-the-art in OR, outlining pathways of its future developments.

Game theory is a mathematical framework developed to address problems with conflicting or cooperating parties who are able to make rational decisions. The theory primarily deals with the finding the optimal rational decision in various scenarios. Game theory is a relatively new discipline. The modern game theory was introduced in the works of John von Neumann in the 1920s. John von Neumann, Oskar Morgenstern, and John Nash were the main contributors to the development of game theory. The theory offers a wide number of applications in different fields, including economics, political science, finance, psychology, biology, etc.

The guest of this special issue entitled ‘Advances in Dynamics and Games’, **Journal of Dynamics and Games (JDG)** is a pure and applied mathematical journal that publishes high quality peer-review and expository papers in all research areas of expertise of its editors. The main focus of JDG is in the interface of Dynamical Systems and Game Theory. It is devoted to the development and the diffusion of mathematical ideas and techniques that arise from the analysis and the modelling of systems where agents (whether they be rational players, markets, plants, animals, ecosystems, communication systems, etc.) interact dynamically over time.

We invite papers challenging mathematical questions occurring in such systems or provide a rigorous mathematical analysis of models where tools from dynamics and games prove to be useful. Areas covered include dynamic games, stochastic games, differential games, evolutionary games, models of learning and evolution, repeated games, mean field models, voting, auctions, matching, assignment games and other research areas of cooperative and non-cooperative game theory, preferentially where dynamics play a role, as well as the associated applications in social, economic, biology, life, physical and computer sciences.

The objective of this special issue is to explore latest development of mathematical ideas and techniques in modeling, and simulation related with Game Theory applied in economics, finance and biology. Papers in newly evolving topics are especially welcomed. We invite researchers and experts worldwide to submit high-quality innovative research papers and critical review articles on the subsequent potential topics.

Submission:

Topics of Interest:

Manuscripts submitted to this Special Issue should be original, unpublished, not currently under consideration for publication elsewhere and should present novel, in-depth, fundamental research contributions either from a methodological perspective or from an application point of view. Quality and originality of the contribution are the main acceptance criteria. Proposed submissions may include but are not limited to the following areas:

- **Games in OR problems:**
  - Game theory in epidemiology (e.g., Covid-19)
  - Game theory in the biology of neuroscience
  - Game theory in cancer research and treatment
  - Game theory in logistics, telecommunication and "smart cities"
  - Game theory in social and welfare systems, and humanitarian aid
- **Theoretical contributions to game theory:**
  - Mean-field games
  - Differential games
  - Repeated games
  - Cooperative games
  - Games with regime switches
  - Stochastic games
- **Games in economics and finance:**
  - Games in micro- and macro-economics
  - Prey-predator models in economics (and biology)
  - Game theory in environmental protection
  - Games on information spread in economics
  - Games under interval or ellipsoidal uncertainty
  - Games under grey or fuzzy uncertainty
  - Hybrid systems and applications

Submission of Manuscripts:

Authors should follow the *Guidelines* available at the Journal of Dynamics and Games website via the link https://www.aimsciences.org/journal/2164-6066
and select the **Special Issue *"Advances in Dynamics and Games"*** within the process of submission. In cases of any questions, please contact us via e-mail to stefan.wrzaczek@tuwien.ac.at, gerhard-wilhelm.weber@put.poznan.pl and andrea.seidl@univie.ac.at.

Important Dates:

Submission Deadline: October 15, 2021,
Notification of the Final Decision: August 15, 2022

Guest Editors:

S Zeynep Alparslan-Gök, Suleyman Demirel University, turkey, zeynepalparslan@yahoo.com.

Katsunori Ano, Shibaura Institute of Technolog, Japan, kano2@mac.com.

Patrizia Daniele, University of Catania, Italia, daniele@dmi.unict.it.

Bruno M. P. M. de Oliveira, University of Porto, Portugal, and LIAAD, INESC TEC, bmpmo@fcna.up.pt.

Cristinca Fulga, The Bucharest University of Economic Studies, Romania, fulga@csie.ase.ro.

Guiomar Martin-Herran, Universidad de Valladolid, Spain, guiomar@eco.uva.es.

Vladimir Mazalov, Karelia Research Center of Russian Academy of Sciences, Petrozavodsk, Russia, vlmazalov@yandex.ru.

Leon Petrosyan , Saint-Petersburg State University, Russia, l.petrosyan@spbu.ru.

Carlos C. Ramos, University of Evora, Portugal, ccr@uevora.pt.

Andrea Seidl, University of Vienna, Vienna, Austria, andrea.seidl@univie.ac.at.

Rudolf Vetschera, University of Vienna, rudolf.vetschera@univie.ac.at.

Gerhard-Wilhelm Weber, Poznan University of Technology, Poznan, Poland, and METU, Ankara, gerhard.weber@put.poznan.pl.

Stefan Wrzaczek, Wittgenstein Centre (Univ. Vienna, IIASA, VID/OeAW), VID/OeAW, Vienna, Austria, stefan.wrzaczek@tuwien.ac.at.

Athanasios Yannacopoulos, Athens University of Economics and Business, ayannaco@aueb.gr.

Nikolay Zenkevich, Saint-Petersburg State University, Russia, zenkevich@gsom.pu.ru.