



Special session on:

Complex Systems & Emergent Behavior

Joint Congress on Computational Intelligence (CCI 2020), Mashhad, Iran from 4-6 March 2020

Complex systems (CS) are systems composed of many components that may interact with each other and their environment. This collective behavior of interactive parts entails emergent properties that cannot be inferred from properties of the parts. Although there is no centralized control governing the behaviour of the components, local interactions among them cause a global pattern to emerge. Examples of CSs include living things such as human beings, cells, nervous systems, ant colonies, school of fish, honey bees as well as economies, climate, swarm robotics, multi-agent systems, modern energy or telecommunication infrastructures. This topic spans beyond the borders of single fields of study and embraces multiple disciplines. It also has wide range of real applications from high tech to daily life.

This special session will highlight the latest development in this rapidly growing research area of **Complex Systems & Emergent Behavior**. Authors are invited to submit their original and unpublished work in the areas including (but not limited to) the following:

- Fundamental Concepts in Complex Systems
- Dynamics of Complex Systems
- Emergence and Complexity
- Complexity Management
- Complexity and Modeling
- Complexity and Cognitive Science
- Complexity and Chaos
- Swarm Robotics
- Multi-Agent Systems
- Real World Applications of Complex Systems in Engineering, Physics, Medicine, Mathematics, Chemistry, Biology, Cosmology, Agriculture, Geology, Sociology, Literature, and Art.

You should follow the instructions of the **CCI 2020 paper submission guidelines**, and submit your paper directly via <http://cfis2020.um.ac.ir/> for review. Make sure to select **“complex systems & emergent behavior”** as your preferred track during submission. Please also email the title and ID of your paper to radyrz@mail.um.ac.ir. Special session papers are treated the same as regular conference papers, and will be included in the conference proceedings. The *extended deadline* for paper submission is 22 November 2019.

If any further questions, please contact the organizers at the below address.

Organizers:

Prof. Mohammad-R. Akbarzadeh-T.

Department of Computer and Electrical Engineering, Center of Excellence on Soft Computing and Intelligent Information Processing, Ferdowsi University of Mashhad, Mashhad, Iran.

Nasibeh Rady Raz (PhD Candidate) [radyrz@mail.um.ac.ir]

Department of Computer Engineering, Center of Excellence on Soft Computing and Intelligent Information Processing, Ferdowsi University of Mashhad, Mashhad, Iran.