IEEE SMC 2022
PRAGUE • CZECH REPUBLIC

IEEE SMC 2022
International Conference on Systems, Man, and Cybernetics
Clarion Congress Hotel Prague, Czech Republic
October 9-12, 2022

Special Session

Code: 2r75t

Title

Adaptive Collaboration Systems

Proposer / Main Organizer

Name: Haibin Zhu
Title: Professor
Affiliation: Nipissing University,
Email: haibinz@nipissingu.ca

Dr. Haibin Zhu is a Full Professor and the coordinator of the *Computer Science Program,* Founding Director of *Collaborative Systems Laboratory*, He was a visiting professor and a special lecturer in the College of Computing Sciences, New Jersey Institute of Technology, USA (1999-2002) and a lecturer, an associate professor and a full professor at NUDT (1988-2000). He has published 200+ research papers, six books and four book chapters. He is *a senior member of IEEE* and *ACM*. He is serving as a member of the IEEE SMCS BoG, the Editor-in-Chief of *IEEE SMC Magazine,* co-chair of the technical committee of *Distributed Intelligent Systems of IEEE SMC Society*, Associate Editor (AE) *of IEEE Transactions on Systems, Man and Cybernetics (SMC): Systems, IEEE Transactions on Computational Social Systems,* and IEEE Canada Review. *He is a founding researcher of Role-Based Collaboration and Adaptive Collaboration.* He is the receipt of the meritorious service award from IEEE SMC Society (2018).

Dr. Weiming Shen is a Full Professor at Huazhong University of Technology, China. He was a Senior Research Scientist at the National Research Council Canada's Integrated Manufacturing Technologies Institute (NRC-IMTI) and an Adjunct Full Professor at the University of Waterloo and an Adjunct Research Professor at the University of Western Ontario. He received his Bachelor (1983) and Master's (1986) degrees in Mechanical Engineering from Northern Jiaotong University, China and his PhD degree (1996) in Information Engineering from the University of Technology of Compiegne, France. He is an Associate Editor or Editorial Board Member of six international journals and served as guest editor for six other international journals. He has been Program Committee Co-Chair of the CSCWD conferences since 2001 and has served as Chair/Co-Chair. He is an IEEE Fellow and also a fellow of the Canadian Academy of Engineering.

Dr. Giancarlo Fortino received the Ph.D. degree in computer engineering from the University of Calabria (Unical), Italy, in 2000, where he is currently a Full Professor of computer engineering with the Department of Informatics, Modeling, Electronics, and Systems. He is also a Guest Professor with the Wuhan University of Technology, China, a High-End Expert with HUST, China, and a Senior Research Fellow with ICAR-CNR Institute. He is an IEEE Fellow, a member of the IEEE SMCS BoG, and the IEEE Press BoG, and the Chair of the IEEE SMCS Italian Chapter. He is a (founding) Series Editor of the IEEE Press Book Series on Human-Machine Systems, the EiC of the Springer Internet of Things Series, and an AE of many international journals. He is a Co-Founder and the CEO of SenSysCal S.r.l., a Unical spinoff focused on innovative IoT systems.

IEEE Member or SMC Society Member

Yes

Category

Please select one of the following categories:

- *Systems Science and Engineering*
- *Human-Machine Systems*

Number of Expected Paper Submissions:

8 or more

Keywords

Agent-Based Modeling, Distributed Intelligent Systems, Decision Support Systems, Modeling of Autonomous Systems, Trust in Autonomous Systems

Brief Description and Justification (200-250 words):

Adaptability is a common and typical property for natural systems in the real world. It is also an important and desirable property for computer supported artificial intelligent collaboration systems. An adaptive collaboration system can be viewed as a set of interacting intelligent agents, real or abstract, forming an integrated system that is able to respond to internal and external changes. Feedback is a key feature of adaptive systems, enabling responses to changes. Artificial systems can be made adaptive using feedback to sense new conditions in the environment and adapt accordingly. Adaptive collaboration systems can find applications in almost all industrial sectors, particularly in aerospace, automotive, and manufacturing.

The topics for the special session include the following but are not limited to:

- Adaptation Models
- Adaptive Collaboration
- Adaptive Group Structures for Agents
- Adaptive Human-Machine Systems
- Adaptive Multi-Agent Systems
- Adaptive Operator Agent Interactions
- Adaptive Services
- Adaptive Wireless Sensor Networks
- Agent Adaptation
- Assessment/Evaluation of Adaptability
- Design and Analysis of Adaptive Collaboration Systems
- Design of Adaptive Collaboration Systems
- Distributed AI-IoT Systems
- E-CARGO and its Applications in Adaptive Collaboration
- Feedback Loop Design in Adaptive Collaboration Systems
- Fundamental issues of Adaptive Collaboration Systems
- Natural Adaptation
- Optimization of Adaptive Collaboration Systems
- Performance Evaluation of Adaptive Collaboration Systems
- Principles of Adaptation
- Robot Adaptation
- Role Mechanisms in Adaptive Collaboration Systems
- Role-Based Collaboration
- Social/Economic/Political Simulation using E-CARGO
- Society as an Adaptive Collaboration System
- Specifications of Adaptability
- Trust in Adaptive Collaboration Systems

Note: This special session has been organized by TC DIS and TC CSCWD for many years, and attracted 6-14 submissions every year. We will send out a Call for Papers to related researchers to solicit more submissions when this proposal is accepted.