

Special Session

Code: 4v19w

Title

Collaborative Technologies and Applications

Proposer / Main Organizer

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Dr. Weiming Shen is a Professor at Huazhong University of Science and Technology (HUST), China. Prior to joining HUST, he worked for about 20 years at National Research Council Canada as Research Officer, Senior Research Officer, and Principal Research Officer. He is a Fellow of Canadian Academy of Engineering, Fellow of IEEE, Fellow of Engineering Institute of Canada (EIC). He is an internationally-recognized expert on Agent-Based Collaborative Technologies and Applications. During the past three decades, he has been leading a number of major projects on Agents, IoT, and Big Data with smart applications. He has published several books and over 550 papers in scientific journals and international conferences in the related areas. His work has been cited over 16,000 times with an h-index of 60. He is the Co-Editor-in-Chief of IET Collaborative Intelligent Manufacturing, an Associate Editor or Editorial Board Member of over ten international journals (including IEEE Transactions on Automation Science and Engineering; IEEE Transaction on SMC: Systems; IEEE SMC Magazine; Advanced Engineering Informatics; Computational Intelligence) and served as guest editor for several other international journals. He is the Co-Chair of the IEEE Technical Committee on Computer Supported Cooperative Work in Design, has been Program Committee Co-Chair of the CSCWD conferences since 2001, and served as General Chair/Co-Chair or Program Committee Chair/Co-Chair for over 30 international conferences.

Other Organizers

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IEEE Member or SMC Society Member

IEEE Member and SMC Society Member

Category

Please select one of the following categories:

- Human-Machine Systems*

Number of Expected Paper Submissions:

6 or more

Keywords

Collaborative design, collaborative robots, human-machine collaboration, agents and multi-agent systems, Internet of things, wireless sensor networks, cyber-physical systems, digital twins, collaborative processing of big data, cloud computing, edge computing, cloud-edge-device collaboration, collaborative workflow, collaborative workspaces, Industry 4.0, collaborative system security and privacy

Brief Description and Justification (200-250 words):

The scope of this Special Session includes collaboration technologies and their applications to the design of processes, products, systems, and services in industries and societies. Collaboration technologies include theories, methods, mechanisms, protocols, software tools, platforms, and services that support collaboration and coordination among people, software and hardware systems. Related fields of research include collaborative workflows, collaborative virtual environments, collaborative workspaces, collaborative wireless sensor networks, human-robot collaboration, interoperability, ontology and semantics, security and privacy, social aspects and human factors related to collaboration. Applications can be found in smart devices, smart spaces, smart factories, smart homes, smart buildings, and smart cities. Application domains include aerospace, automotive, construction, manufacturing, logistics, transportation, power & energy, healthcare, infrastructure, social networks, and entertainment.

Note: *This special session is organized by the IEEE SMC Technical Committee on Computer Supported Cooperative Work in Design (CSCWD). All five proposers are CSCWD TC Co-Chairs. We have been organizing special sessions at IEEE SMC conferences for over 10 years. CSCWD TC has over 150 active members and this special session receives 5~20 submissions every year. We will send out a Call for Papers to related researchers when this proposal is accepted.*