Special Session (2)

Advances and Applications of Modern Control Systems (AAMCS2019)

Special Session Organizers:

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Description: Control and automation in its broadest sense plays a fundamental role in process industries. Automatic control systems involve mathematics more than it is usual in other engineering disciplines. Even though the subject has strong mathematical foundation, emphasis throughout the text is not on mathematical rigour or formal derivation (unless they contribute to understanding the concept), but instead, on the methods of application associated with the analysis and design of feedback system Advances in sensors, actuators, computation technology and communication networks help provide the necessary tools for the implementation of control hardware. Practical applications for this control method are aimed toward a variety of relevant scientific research fields that include robotics and automation with applications. The scope of this special session is to present and discuss new trends in the design, control and applications of control systems, robots and mechatronic systems.

The aim of this special session is to provide an opportunity for international researchers to share and review recent advances in the foundations, integration architectures, and applications of control systems and Robotics. The special session aims to solicit original, full length original articles on new findings and developments from researchers, academicians and practitioners from industries, in the area of control systems and Robotics.

The topics of interest include, but are not limited to:

- Advanced Modeling and Control
- Adaptive Control
- Biomedical Control systems
- Bio-robotics
- Digital control systems analysis and design
- Hierarchical Intelligent Controllers
- Hybrid Control Systems
- Intelligent Control Systems
- Intelligent Learning Control
- Intelligent Control Architecture
• Mechatronics
• Model predictive control
• Multirate control
• Nonlinear system
• PID Control
• Robust control and robustness
• Robot Control
• Robotics and Mechatronics

**Prof. Ahmad Azar Biography**

Prof. Ahmad Azar has received the M.Sc. degree in 2006 and Ph.D degree in 2009 from Faculty of Engineering, Cairo University, Egypt. In 2014, he got a post-docotral fellowship at Rowan University, NJ, USA. He is currently a full time associate professor, Faculty of computers and information, Benha University, Egypt and part time at the Department of Mechatronics, School of Engineering and Applied Science, Nile University, Egypt.

Prof. Azar is the **Editor in Chief** of International Journal of **System Dynamics Applications (IJSDA)** published by IGI Global, USA. Also, he is the **Editor in Chief** of **International Journal of Intelligent Engineering Informatics (IJIEI)**, Inderscience Publishers, Olney, UK.

Prof. Azar has worked as associate editor of IEEE Trans. Neural Networks and Learning Systems from 2013 to 2017. He is currently Associate Editor of ISA Transactions, Elsevier and IEEE systems journal. Dr. Ahmad Azar has worked in the areas of Control Theory & Applications, Process Control, Chaos Control and Synchronization, Nonlinear control, Computational Intelligence and has authored/coauthored over 200 research publications in peer-reviewed reputed journals, book chapters and conference proceedings.

He is an editor of many Books in the field of Fuzzy logic systems, modeling techniques, control systems, computational intelligence, Chaos modeling and Machine learning. Dr. Ahmad Azar is closely associated with several international journals as a reviewer. He serves as international programme committee member in many international and peer-reviewed conferences.

Prof. Ahmad Azar is currently a senior member in IEEE, **Chair of IEEE Computational Intelligence Society (CIS) Egypt Chapter**, **Vice chair of IEEE Computational Intelligence Society Interdisciplinary Emergent Technologies Task Force**, **vice-Chair Research Activities of IEEE Robotics and Automation Society Egypt Chapter**, Committee member of **IEEE CIS Task Force on Fuzzy Logic in Medical Sciences** Also, he is the **Vice-president (North) of System dynamics Africa Regional Chapter** and an Academic Member of IEEE Systems, Man, and Cybernetics Society Technical Committee on Computational Collective Intelligence.