



SCIENCE CHINA Information Sciences Call for Papers

Special Focus on Cyber-Physical Systems

In Cyber-Physical Systems (CPS), computing, networking, sensing, and physical elements are deeply intertwined with each other to facilitate the cyber-physical interactions and data-sensitive automated decision making. The design, modelling, and verification of CPS require the consideration of multiple factors including accuracy, efficiency, energy, safety, security, privacy, and reliability. CPS methodologies have been successfully deployed to many industrial domains and they forge the core of the fourth industrial revolution due to their power of transforming a traditional industrial environment into a digital, adaptive, networked, and knowledge-based one. CPS research leverages the knowledges from system engineering, control, computing, networking, electrical engineering, industrial engineering, etc., to handle the joint dynamics of multiple involved systems. On the other hand, CPS may evolve structurally and manifest strong reconfigurability during their life cycles. This structural evolution, often associated with significant uncertainties, brings unprecedented technical challenges and opportunities to the research community in terms of monitoring, modelling, and controlling the evolving CPS. Tackling these challenges requires the development of novel and salient CPS methodologies and techniques. This special focus targets to promote the state-of-the-art research of CPS. Original contributions, authoritative reviews, and insightful perspective papers, addressing any of the theoretical and practical aspects of CPS, are welcome. The topics of interests for this special focus include, but are not limited to:

- Design, modelling, and verification for large-scale CPS;
- Uncertainty-aware control in CPS;
- Confluence of model based and data driven approaches for CPS;
- Synergy of machine learning and design automation for CPS;
- Security, privacy and trustworthiness for CPS;
- CPS eco-system and life-cycle behavioral modeling;
- Self-evolving and reconfigurable architectures for cyber-physical systems of systems;
- Collaborative robots and human-robot interaction;
- Cyber-physical smart manufacturing systems;
- Real-world industrial applications of CPS.

Submission

The manuscripts need to be prepared using the SCIS template and submitted online through the manuscript submission system of the SCIENCE CHINA Information Sciences. The submission website is at <https://mc03.manuscriptcentral.com/scis>. To submit to this special focus, you should choose **Special Focus on Cyber-Physical Systems**. Information and guidelines on preparation of manuscripts are available on the journal website at <http://scis.scichina.com>.

Important Dates

Manuscript submission deadline: **Sep. 15, 2020**

Acceptance notification: **Feb. 1, 2021**

Final manuscripts due: **Mar. 1, 2021**

Publication: **Jul. 1, 2021**

Guest Editors

Shiyan Hu, University of Southampton, UK, S.Hu@soton.ac.uk

Changliu Liu, Carnegie Mellon University, USA, cliu6@andrew.cmu.edu

Vincenzo Piuri, University of Milan, Italy, vincenzo.piuri@unimi.it