

# 4<sup>th</sup> IFAC Workshop on Cyber-Physical Human Systems (CPHS 2022)

## CALL FOR PAPERS

December 1-2, 2022  
Houston, TX, USA

**Overview:** Advances in computing, communication, control, and learning have facilitated the integration of cyber-physical systems with humans in a broad range of domains. As autonomy becomes pervasive, new theories, models, methods, and algorithms are needed to develop new paradigms for dynamic interaction and information exchange between cyber-physical and human elements. New capabilities must be developed to provide seamless integration between cyber-physical and human elements, and to create new functionalities and levels of performance beyond what is currently possible. Advanced cyber-physical human systems (CPHS), that exceed capabilities of humans or autonomy in isolation, have potential for enormous societal and economic impact. The IFAC Workshop on Cyber-Physical and Human Systems aims to investigate cross-disciplinary aspects and develop new technological solutions.

The 4th IFAC Workshop on Cyber-Physical and Human Systems (CPHS 2022) builds on the successes of CPHS 2016, CPHS 2018, and CPHS 2020. CPHS 2022 will bring together researchers and practitioners to share scientific and technological advances, and to gain a deeper understanding of cyber-physical human systems. The workshop will focus on modeling, design, analysis, control, verification, and certification of CPHS, including theoretical, algorithmic, computational, and experimental aspects, with emphasis on:

- Modeling, analysis, and control of integrated CPHS
- The multitude of humans and autonomous elements
- Social and societal aspects of CPHS
- Interface transparency between humans and CPS
- Dynamic interaction and teaming of humans and autonomy

Fundamental advances in cyber-physical human systems will require an interdisciplinary approach, capitalizing on expertise in control theory, human-machine interaction, formal methods, autonomous systems, human factors, cognitive psychology, cognitive control, and other related areas.

**Submissions:** All submissions must be in English. Only original papers that are not submitted or published in other conferences or journals will be considered. Submissions are invited for:

- Regular papers (6 pages) on relevant CPHS topics
- Invited sessions, consisting of up to six regular papers, around a common theme of interest to the CPHS community

Papers will be published in IFAC-PapersOnline. Extension of high-quality papers into manuscripts for a journal special issue will be encouraged.

<http://www.cphs2022.org>



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### IMPORTANT DATES

Initial submission: May 13, 2022  
Decision notification: Aug. 15, 2022  
Final submission: Sept. 15, 2022

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