IEEE Conference on Industrial Cyber-Physical Systems (ICPS)
Perth, Australia, 11-14 May 2026
https://icps2026.ieee-ies.org/

Proposal for an ICPS 2026 Special Session

- **Title of the proposed Special Session: Collaborative Manufacturing, Innovation Design and Control-Optimization of Industrial Cyber-Physical Systems**

- **Names, photos, very short bios, and emails of the organizers:**

  Yu Liu, PhD, Professor, School of Automation Science and Engineering, South China University of Technology, Guangzhou, China, Senior Member of IEEE, (https://ieeexplore.ieee.org/author/37085545831)

  Contact Info: auylau@scut.edu.cn

  Xing Li, PhD, Professor, School of Information Science and Engineering, Northeastern University, Shenyang, China, Member of IEEE, (https://ieeexplore.ieee.org/author/38054647900)

  Contact Info: lixing@mail.neu.edu.cn

  Ding Zhang, PhD, Associate Professor, School of Electromechanical Engineering, Guangdong University of Technology, Guangzhou, China, Member of IEEE, (https://ieeexplore.ieee.org/author/37086262062)

  Contact Info: zhangding@gdut.edu.cn

- **Technical outline and topics of the special session:**

  This session focuses on collaborative manufacturing, innovation design, and control-optimization of industrial cyber-physical systems (ICPS). Core topics include model and framework theory, innovative design of products, collaborative production scheduling, optimal allocation of multi-party businesses and resources, quality control of products and the distributed control networked multi-agent systems. It bridges theory and practice to advance intelligent, resilient and cooperative capability of ICPS .

  Topics:
  - *Model and framework theory*
  - *Innovative design of products*
  - *Collaborative production scheduling*
  - *Optimal allocation of multi-party businesses and resources*
  - *Quality control of products*
  - *The distributed control networked multi-agent systems*

- **Technical track(s) with similar topics (clearly point out difference to the Track scope)**

    T01 - ICPS Architectures & Engineering ICPS Advanced Modeling, Control, and Optimization (In comparison with T01, the current special session is more focused on collaborative mechanisms across the full industrial chain, integrating innovation design with distributed multi-agent control to address real-world production scheduling and resource allocation challenges for resilient smart manufacturing of CPSs.)

- **IES Technical Committees supporting the special session (if any)**

- **At least 6 potential initial contributing authors (names, affiliations and institutional emails):**
    Jiafan Xie, South China University of Technology, aujfxie1018@mail.scut.edu.cn
    Dongjie Li, Guangdong University of Technology, 2922352429@qq.com
    Runnian Fan, Guangdong University of Technology, 1443910936@qq.com
    Yun Fu, Nanchang University, auyfu@ncu.edu.cn
    Huazhao Chen, Guangdong South China Technology Transfer Center Co., LTD, chenhz96@foxmail.com
    Yuge Xu, South China University of Technology, aujfxie1018@mail.scut.edu.cn
    Zewen Sun, Donggu Guangdong Polytechnic Normal University, sunzw@dgut.edu.cn
    Fenghong Li, Donggu Guangdong Polytechnic Normal University, 2609894364@qq.com

- **At least 10 potential reviewers (names, affiliations and emails):**

    Bo Yang, Shanghai Jiao Tong University, bo.yang@sjtu.edu.cn
    Hongpeng Yin, Chongqing University, yinhongpeng@gmail.com
    Youqing Wang, Beijing University of Chemical Technology, wang_youqing@mail.buct.edu.cn
    Yalin Wang, Central South University, ylwang@csu.edu.cn
    Weimin Zhong, East China University of Science and Technology, wmzhong@ecust.edu.cn
    Ding Jinliang, Northeastern University, jlding@mail.neu.edu.cn
    Jianqiang Li, Shenzhen University, lijq@szu.edu.cn
    Yang Yu, Qingdao University, yuyang1988@qdu.edu.cn
    Ge Ma, Guangzhou University, m_ge@gzhu.edu.cn
    Yanfang Mei, Guangdong Polytechnic Normal University, yfmei@gpnu.edu.cn

- The proposers have read and adhere to the overall IEEE IES Special session conditions as shown on the website https://icps2026.ieee-ies.org/for_authors/index.html#call-for-special-sessions: YES