

The 17th IEEE Conference on Industrial Electronics and Applications (ICIEA 2022) will be held during 18-20 July 2022, in Chengdu, China. The Conference is organized by IEEE Industrial Electronics Chapter of Singapore, Southwest Jiaotong University, and IEEE Singapore Section. IEEE Industrial Electronics Society is the financial and technical sponsor. **The proceedings of past ICIEA have been included in the IEEE Xplore database and indexed by EI Compindex.**

ICIEA 2022 marks the 17<sup>th</sup> Anniversary of the ICIEA conferences. As a premier conference, ICIEA provides an excellent forum for scientists, researchers, engineers and industrial practitioners throughout the world to present and discuss the latest technology advancement as well as future directions and trends in Industrial Electronics.

Authors are invited to submit full papers describing original research work in areas including, but not limited to:  
**Artificial Intelligence:** Natural language processing & interaction, Text, image & video analysis, Speech recognition, Object recognition, Gesture recognition, Machine learning, Knowledge representation, Reasoning, Statistical learning, Deep learning, Neural networks, Design for AI chip and systems, AI applications.

**Control and Systems:** Adaptive and intelligent control, Hybrid control, Digital control theory and development, Robust control, Nonlinear systems and control, Process control, Networked control, Cooperative control, Bio-control.

**Cyber-physical Systems:** Smart grid, Intelligent transportation systems, Internet of things, Mobile healthcare, Distributed computing, Infrastructure simulations, Security and privacy, Data integration and visualization, New sensing platform and senses computing.

**Energy and Environment:** Energy management and control systems, Energy distribution, storage and recovery, Alternative and green energy, Waste management, Waste treatment and recycling, Water network and security, Sensor technologies, Intelligent micro-grids, Renewable energy, Demand side management, Solar photovoltaic and wind system, Energy meteorology, Green battery, Offshore systems.

**Industrial Informatics and Computational Intelligence:** Human-machine interactions, Diagnosis and prognosis, Intelligent automation, Networked embedded controllers, Machine-to-machine, Condition based maintenance, Multi-agent systems, Fuzzy systems, Genetic algorithm, Evolutionary computing, Data mining.

**Robotics:** Autonomous mobile robot, ROS2, Interoperable robotics, Multimodal perception, Human-robot collaboration, SLAM, LIDAR, Video analytics for robot, Robotic vision, Visual servoing, Visual servoing simulation, 5G for robotics, Motion planning and control, Remote operation, 3D simulation, AI for robotics, Industrial application case study.

**Network and Communication Technologies:** Network protocols, Mobile computing, Mobile ad hoc networks, Mobile agents, Network architectures, Quality of services, Cross-layer design/optimization, Design and performance evaluation, Traffic control, Wireless systems, MU-MIMO systems, Optoelectronics and Optical Communication.

**Power Electronics:** Power devices and components, Electrical machines and Industrial drives, Power quality control, FACTS, PFC, Harmonic analysis and compensations, Switching circuits and power converters, Motors and drives, Smart grid, Distribution generation and electrical vehicles, Wireless power transmission, Energy harvesting.

**Signal and Information Processing:** Image processing, Computer vision, Bio-image processing, Audio/video processing, Data processing, Estimation and identification, Remote sensing, Information fusion, Brain computer interface, Signal transforming and filtering, Digital system design and structures, Optimization techniques.

**Invited and Special Sessions:** The Technical Program Committee is soliciting proposals for invited and special sessions focusing on topics relevant to the theme of the conference. Prospective organizers should submit proposals to the Invited Session Chairs Prof. Weihai Chen ([whchenbuaa@126.com](mailto:whchenbuaa@126.com)), Dr Zhengguo Li ([ezgli2019@gmail.com](mailto:ezgli2019@gmail.com)), Prof. Cungang Hu ([hcg@ahu.edu.cn](mailto:hcg@ahu.edu.cn)), Prof. Wensheng Song ([songwsh@swjtu.edu.cn](mailto:songwsh@swjtu.edu.cn)) or Prof. Qi Li ([liqi0800@163.com](mailto:liqi0800@163.com)) by the date listed in "Important Dates".

**Workshop:** Topics to be determined. Proposals should be submitted to Workshop Chairs for review.

**Best Paper Award:** The best paper award will be presented at the conference. The winner will be selected based on both technical content and presentation by the Best Paper Award Committee in consultation with the International Advisory Committee.

**Paper Submission:** Please submit full papers to the conference website at <http://www.ieeeicicia.org>. All submitted papers should be in the form of .pdf or .ps file and are to be limited to a maximum length of 6 pages (Letter size, single space, Times Roman of font size 10, two columns format), including figures, tables and references. Please use the template which is available from the website. Upon acceptance, authors will be required to register and present their papers. Papers will be published in the conference proceedings only if at least one of the authors is officially registered. Each registration covers a maximum of two papers.

In addition to the technical sessions, **KEYNOTE ADDRESSES** and **DISTINGUISHED LECTURES** on the State-of-the-Art in various tracks of Industrial Electronics will be delivered. Details will be on website.

### Important Dates:

Deadline for Full Paper submission	31 December 2021
Deadline for Invited and Special Sessions	31 December 2021
Notification of Acceptance	28 February 2022
Deadline for Camera Ready Manuscript Submission	15 April 2022
Deadline for Authors' Registration	15 April 2022

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- Southwest Jiaotong University
- IEEE Singapore Section

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