



Thanh Dong University

ICPEEC 2023

The International Conference on Power, Energy and Cybernetics 2023

December 16-17, 2023, Hai Duong, Vietnam

PROGRAM BOOK



ABOUT ICPEC 2023

Aim and Scope

The International Conference on Power, Energy and Cybernetics (ICPEC) is an initiative to connect students, researchers and engineers worldwide who are studying, researching and working in the fields of Power, Energy and Control. It is intended to be organized biannually for scholars to share their wisdom and visions in related fields.

This year, Thanh Dong University, Hai Duong, Vietnam hosts the International Conference on Power, Energy and Cybernetics 2023 (ICPEC 2023). It is held on December 16th and 17th, 2023 as a two-day, hybrid academic conference aiming to attract original research papers and short letters on various field topics. The scope covers recent cutting-edge technologies and applications in power electronics, electric drives, power systems, control, robotics, etc.

Track #1: Power Converter Design and Control

- Modulation and control of power converter
- Advanced converter topology
- Wide-bandgap devices
- Wireless power transfer
- Applications of power converters

Track #2: Electric Machines and Control

- Motors and actuators design
- Drive trains and motion control
- Advanced material for electric motors
- Advanced control techniques of electric motors

Track #3: Control Theory and Applications

- System modelling, estimation, identification and simulation
- Analysis and design of control systems
- Practical implementation

Track #4: Robotics, AI and Mechatronics

- Robot learning
- Object recognition
- Localization
- Micro/nano/humanoid/soft robot
- Medical robotics

Track #5: Transmission and Distribution System Analysis

- Power flow
- System fault performance and protection techniques
- Impact of DERs on power grids
- Modeling and simulation tools/methods

Track #6: Power System Operation and Control

- System reliability and stability
- Energy management systems
- Forecasting
- Resilient and disaster responses
- Micro-grids and DERs
- Renewable energy

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WELCOME MESSAGE FROM GENERAL CHAIR

Dear Vietnamese and international scientists,

On behalf of the organization committee, I would like to welcome all of you to the International Conference on Power, Energy, and Cybernetics (ICPEC 2023).

Thanh Dong University hosts this event to actively participate in the process of technological and scientific advancement, building up a strong and mature scientific community in Vietnam. Thanh Dong University is proud to organize this international conference for the first time.



The topics of this event are initialized by three Vietnamese academic communities: Vietnam Power Electronics Community (VPEC), Vietnam Power System Community (VPSC), and Vietnam Control and Robotic Group (VNCR) with the ambitious and great goal of connecting Vietnamese scientists at home and abroad and sharing knowledge and research results between Vietnamese and international researchers in our field. I do donate them and I would like to help set this process in motion and lead it to success in the hope that ICPEC 2023 will be a stable, regular scientific institution.

As the name ICPEC (International Conference on Power, Energy, and Cybernetics) suggests, the keywords “Power, Energy and Cybernetics” represent the scientific pillars of this Conference, which is also the orientation of the approximately one hundred papers submitted. In the end, sixty-four best have been selected by the reviewers to present at our ICPEC 2023. We would like to take this opportunity to thank the reviewers. ICPEC is also technically supported by the IEEE Vietnam Section and IEEE PELS Vietnam Chapter KIPE Vietnam Chapter, for which we are very grateful.

Last but not least, we would like to thank all activists who helped to lead ICPEC 2023 to success, and all authors of the scientific papers without whom our current event ICPEC 2023 could not take place.

I wish you all fruitful, intensive professional discussions and much success.

Best regards,

Le Van-Hung, Assoc.Prof., Dr.

Chairman Cum Rector

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