INTRODUCTION   **Open Access**

Welcome message from the organizers at the 1st Energy Informatics. Academy Conference Asia (EI.A Asia 2021)

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Dear readers,

The 1st Energy Informatics. Academy Conference Asia (EI.A Asia 2021) (EnergyInformatics.Academy, 2021a) has collected great contributions from researchers and practitioners in various scientific, technological, engineering and social fields to disseminate original research on the application of digital technology and information management theory and practice to facilitate the global transition towards sustainable and resilient energy systems.

With the whole technical program committee's effort, in total 25 high-quality papers (including 21 full papers and 3 poster abstracts) were accepted and presented at the conference.

This supplement of the proceedings of Energy Informatics. Academy (EI.A) Asia 2021 includes 21 full papers from the EI. A Asia 2021 conference submission. Meanwhile, the 3 poster abstracts from the EI. A Asia 2021 conference submission and 10 from the co-located EI. A - SDC Asia 2021 Ph.D. workshop are included in the 'Abstracts from the Energy Informatics. Academy Asia 2021 conference and PhD workshop'.

The 21 full papers cover 7 important aspects of the energy informatics domain (shown in Table 1):

- Energy systems
- Energy in buildings
- Energy communities
- Electric Vehicles
- Energy in industry
- Energy markets
- Energy policy & regulation

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Table 1 Themes of the 21 full papers from Energy Informatics. Academy (El.A) Asia 2021 conference

Theme	Paper title
Energy systems	A Scoping Review of Deep Neural Networks for Electric Load Forecasting
	Advanced Voltage Control Method for Improving the Voltage Quality of Low-Voltage Distribution Networks with Photovoltaic Penetrations
	Optimization of district heating production with thermal storage using mixed-integer nonlinear programming with a new initialization approach
Energy in buildings	Climatization and Luminosity Optimization of Buildings Using Genetic Algorithm, Random Forest, and Regression Models
	A QR code based framework for auto-configuration of IoT sensor networks in buildings
	A Digital Twin Framework for Improving Energy Efficiency and Occupant Comfort in Public and Commercial Buildings
Energy communities	Software toolchain to enhance the management and integration of a sustainable campus model
	Web-based platform for the management of citizen energy communities and their members
	An Overview of Digitalization for the Building-to-Grid Ecosystem
Electric Vehicles	Joint Optimal Allocation of Electric Vehicle Charging Stations and Renewable Energy Sources Including CO_2 Emissions
	A generic agent-based framework for modeling business ecosystems: a case study of electric vehicle home charging
	Electric Vehicles as Distribution Grid Batteries: A Reality Check
	Methodology for identifying technical details of Smart Energy Solutions and Research Gaps in Smart Grid: An Example of Electric Vehicles in the energy system
Energy in industry	Greenhouse Industry 4.0 – Digital Twin Technology for Commercial Greenhouses
	A Multi-objective Optimization Platform for Artificial Lighting System in Commercial Greenhouses
	Agent Based Coordination Protocol for System of Cyber-Physical Systems
Energy markets	Local Energy Markets - An IT-architecture Design
	Industrial consumers' electricity market participation options: A case study of an industrial cooling process in Denmark
	Analysis and forecasting of crude oil price based on the variable selection-LSTM integrated model
Energy policy & regulation	Evaluating the CO2 abatement effects of low-carbon city policy in China: A quasi-natural experiment
	Digitalisation Potentials in the Electricity Ecosystem: Lesson learnt from the Comparison between Germany and Denmark

The presentations for these 21 full papers and 6 keynote speeches (shown in Table 2) are recorded and available via EnergyInformatics. Academy YouTube channel (EnergyInformatics.Academy, 2021b; EnergyInformatics.Academy, 2021c).

Sincerely,

General Chairs

Bo Nørregaard Jørgensen, University of Southern Denmark, Denmark

Table 2 Six keynote speeches at the Energy Informatics. Academy (El.A) Asia 2021 conference

Keynote speech title	Speakers	Affiliation
International research collaboration – a stepping stone for the green transition	Dr. Thomas Trøst Hansen	Innovation Center Denmark Shanghai, China
Cybersecurity for the future power system	Prof. Ming Ni	NARI Technology Inc., China
Vehicle-to-grid and blockchain application	Dr. Ye Yang	State Grid Electric Vehicle Charging Service Corporation, China
General, powerful, and scalable management of energy flexibility with FlexOffers	Prof. Torben Bach Pedersen	Aalborg University, Denmark
Smart buildings and energy efficiency	Prof. Xiaoyu Zhao	Tongfang Technovator International Limited Corp, China
The Future Directions of Energy Informatics	Prof. Rick Watson	University of Georgia, USA

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Guangchao Chen, University of Chinese academy of sciences, China

Birte Holst Jørgensen, Technical University of Denmark, Denmark

Program Committee Chair

Zheng Ma, University of Southern Denmark, Denmark

Technical Program Committee Chairs

Hongbo Duan, University of Chinese academy of sciences, China

Qiuwei Wu, Technical University of Denmark, Denmark

Yun Lin, Harbin Engineering University, China

Abbreviations
EI.A Asia 2021: The 1st Energy Informatics. Academy Conference Asia; EI.A: Energy Informatics.Academy

Availability of data and materials
Not applicable.

Declarations

Ethics approval and consent to participate
Not applicable to this paper.

Consent for publication
Not applicable to this paper.

Competing interests
The authors declare that they have no competing interests.

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EnergyInformatics.Academy (2021c) The Energy Informatics. Academy Asia. PhD workshop https://wwwyoutubecom/playlist?list=PLeFn4XFYdKdtOL-MJ08uVzmwlhvcYuw-v Accessed 22 June 2021

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