Zhengmao, Li

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GENERAL INTRODUCTION

Dr. Li received a Ph.D. degree from the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore, in 2020. During 2019-2021, he was a Research Fellow with the Stevens Institute of Technology, Hoboken, NJ, USA under IEEE Fellow, Prof. Wu Lei. From 2021-2023, he was a Research Fellow at Nanyang Technological University and Singapore ETH Center under IEEE Fellow, Prof. Wang Peng and Prof. Xu Yan. From April. 2023, Dr. Li joined Aalto University as an Assistant Professor.

Till Now, he has published **41 journal papers**, **12 conference papers, 2 books, and 2 patents**. Among them, there are 13 first-authored journal papers of which 10 are top-tier journals, and 6 first-authored conference papers. He got Google Scholar citations **2415 times** (h index 23, i10 index: 36) and in total **8 highly cited research papers (5 of which are first-authored journal papers, TOP 1%)** and **one hot paper (TOP 0.1%)**. One paper is regarded as pioneering research on the **IEEE Innovation Spotlight** website. In 2023, he was selected into the **World's Top 2% of Scientists** in the subfield of "**Energy**". In 2024, he won the **best reviewer** of the journals IEEE Transactions on Power Systems, IEEE Transactions on Sustainable Energy, CSEE JPES, and IET Economic Conversion Management.

Dr. Li serves as an **associate editor** and **guest editor** of IEEE Access, Heliyon (SCI Journal under cell), Protection and Control of Modern Power Systems, IET Renewable Power Generation, Frontiers in Energy Research, and IET Economic Conversion Management, International Journal of Electrical Power & Energy Systems journals. He has successfully applied for more than 10 special issues and conference topics.

PERSONAL INFORMATION

Birthdate:	Jan. 17, 1991 (Shandong, China)
Citizenship:	China
Home Address:	No.172 Jingzhi Town, Weifang City, Shandong Province, China
Google Scholar:	Li Zhengmao
Researchgate:	Zhengmao Li
ORCID:	Zhengmao LI

EDUCATION

Nanyang Technological University Singapore

***Ph.D.*, Electrical and Electronic Engineering, Supervisor: Prof. Yan, Xu** Aug.2016-Jun.2020

Thesis: "Optimal Planning and Operation of Multi-energy System"

Cumulative GPA: 4.4/5

Stevens Institute of Technology New Jersey, USA

***Visiting scholar* Electrical and Computer Engineering, Supervisor: Prof. Lei, Wu** Nov.2019- Jun.2020

Shandong University Shandong, China

***Master*, Electrical Engineering, Supervisor: Prof. Jun, Liang** Sep.2013-Jun.2016

Thesis: "Optimal Operation of Multi-energy Microgrid"

Cumulative GPA: 91.64/100, Rank: Top: 2% (1/61)

National Academic Scholarship for highest academic distinction (Top 2% nationwide, twice) 2015&2014

Merit Students for Top 2% students in Shandong University (2 times) 2015&2014

***Bachelor*, Information Science and Engineering** Sep.2009-Jun.2013

Thesis: "High Voltage Control of the Power System"

Cumulative GPA: 86.49/100, Rank: Top: 12% (11/91), Junior-Senior GPA: 92.37/100

National Encouragement Scholarship for highest academic distinction (Top 2% nationwide) 2012

First Class Scholarship for Top 2% students in Shandong University 2012

Komatsu Japan-China Annual & Social Practice Individual & Zhang Hongqin Grant Scholarship 2011

WORK EXPERIENCE

Aalto University, School of Electrical Engineering, Finland

Assistant Professor From Apr.2023

Nanyang Technological University (NTU) and ETH Zurich, Civil, and Environmental Engineering Singapore

***Research Fellow*, Supervisor: Prof. Yan, Xu, and Wang Peng (IEEE Fellow)** Apr.2021- Now

Project undertook: Cyber-Physical Systems Resilience-Joint ETH and NTU future resilience system project

Stevens Institute of Technology New Jersey, USA

***Research Fellow*, Supervisor: Prof. Lei, Wu (IEEE Fellow)** Nov.2019-Mar.2021

Project undertook: Supporting Sustainable Evolution of Electrical Energy Systems via Closed-Loop Consumer in the USA

RESEARCH/TEACHING INTERESTS

1. **Hydrogen**-based **green** energy transition for future energy systems.
2. **Planning** and **operation** of **integrated-energy systems**, such as (islanded/grid-connected) microgrids, ships, seaports, smart buildings, etc., with integrated power, thermal, and gas networks.
3. Tackling diverse **uncertainties** such as those from renewable energies, outdoor temperature, gas prices, and ship swinging with the **multi-stage (distributional) robust/stochastic optimization** methods in multi-energy systems.
4. **Resilience enhancement** of integrated-energy systems with **demand response scheme** and **heterogeneous transportable energy storage**.
5. Advanced algorithms development and application in multi-energy operations such as **approximate dynamic programming**, deep reinforcement learning, **machine learning**, etc.

PUBLICATIONS

Total Citation (Google Scholar): 2415 **h-index:** 24 **i10-index:** 38

Journal Publications

[1] **Z. Li**, Y Xu, P Wang, et al. "Restoration of Multi-Energy Distribution Systems with Joint District Network Reconfiguration by A Distributed Stochastic Programming Approach, *IEEE Transactions on Smart Grid*, (accepted), 2023

[2] **Z. Li**, Y Xu, P Wang, et al. "Coordinated Preparation and Recovery of A Post-Disaster Multi-energy Distribution System Considering Thermal Inertia and Diverse Uncertainties, *Applied Energy*, vol.336, pp. 120736, 2023. **(Highly cited paper)**

[3] **Z. Li***, L Wu, Y Xu, et al. "Distributed Tri-layer Risk-averse Stochastic Game Approach for Energy Trading Among Multi-energy Microgrids", *Applied Energy*. vol.331, pp. 120282, 2023, 2023 **(Highly cited paper TOP 1% and Hot paper, TOP 0.1%)**

[4] **Z. Li**, L. Wu, Y. Xu, and X. Zheng, "Stochastic-Weighted Robust Optimization Based Bilayer Operation of a Multi-Energy Building Microgrid Considering Practical Thermal Loads and Battery Degradation," IEEE Transactions on Sustainable Energy, vol. 13, no. 2, pp. 668-682, April 2022. **(Highly cited paper)**

[5] **Z. Li**, L. Wu, Y. Xu, S. Moazeni and Z. Tang, "Multi-Stage Real-Time Operation of a Multi-Energy Microgrid With Electrical and Thermal Energy Storage Assets: A Data-Driven MPC-ADP Approach," IEEE Transactions

on Smart Grid, vol. 13, no. 1, pp. 213-226, Jan. 2022. **(Highly cited paper)**

[6] **Z. Li**, L. Wu and Y. Xu, "Risk-Averse Coordinated Operation of a Multi-Energy Microgrid Considering Voltage/Var Control and Thermal Flow: An Adaptive Stochastic Approach," in IEEE Transactions on Smart Grid, vol. 12, no. 5, pp. 3914-3927, Sept. 2021.

[7] **Z. Li**, Y. Xu, L. Wu and X. Zheng, "A Risk-Averse Adaptively Stochastic Optimization Method for Multi-Energy Ship Operation Under Diverse Uncertainties," in *IEEE Transactions on Power Systems*, vol. 36, no. 3, pp. 2149-2161, May 2021. **(Highly cited paper)**

[8] **Z. Li**, Y. Xu, X. Feng, and Q. Wu, "Optimal Stochastic Deployment of Heterogeneous Energy Storage in a Residential Multienergy Microgrid with Demand-Side Management," in *IEEE Transactions on Industrial Informatics*, vol. 17, no. 2, pp. 991-1004, Feb. 2021. **(Highly cited paper)**

[9] **Z. Li**, Y. Xu, S. Fang, X. Zheng, and X. Feng, "Robust Coordination of a Hybrid AC/DC Multi-Energy Ship Microgrid With Flexible Voyage and Thermal Loads," *IEEE Transactions on Smart Grid*, vol. 11, no. 4, pp. 2782-2793, July 2020.

[10] **Z. Li**, Y. Xu, *et al*. Multiobjective Coordinated Energy Dispatch and Voyage Scheduling for a Multienergy Ship Microgrid, *IEEE Transactions on Industry Applications*, vol. 1, no. 1, pp. 1-9, Nov. 2019.

[11] **Z. Li**, Y. Xu, *et al*. Optimal Placement of Heterogeneous Distributed Generators in a Grid-Connected Multi-Energy Microgrid under Uncertainties, *IET Renewable Power Generation (RPG)*, vol.13, no. 14, pp. 2623-2633, Sep. 2019.

[12] **Z. Li**, Y. Xu, Temporally-coordinated optimal operation of a multi-energy microgrid under diverse uncertainties, *Applied Energy*, vol. 240, no. 1, pp. 719-729, Apr. 2019.

[13] **Z. Li**, Y. Xu, Optimal coordinated energy dispatch of a multi-energy microgrid in grid-connected and islanded modes", *Applied Energy*, vol. 210, no. 1, pp. 974-986, Jan. 2018. **(Highly cited paper)**

[14] **Z. Li**, F. Zhang, et al, "Optimization on Microgrid with Combined Heat and Power System", Proceedings of the CSEE, Vol. 14, No. 1, pp. 3569-3576, Mar. 2015.

[15] **Z. Li**, F. Zhang, et al, "Dynamic Scheduling of CCHP Type of Microgrid Considering Additional Opportunity Income". Automation of Electric Power Systems. Vol. 14, No. 1, pp. 87-15, Mar. 2015.

[16] B. Ding, Z. Li, **Z. Li**, et al, "A CCP-based distributed cooperative operation strategy for multi-agent energy systems integrated with wind, solar, and buildings" *Applied Energy*, 2024

[17] Y Xiang, G. Qing, M. Fang, **Z. Li**, et al "A Carbon Emission Allowance Bargaining Model For Energy Transactions Among Prosumers" IEEE Transactions on Power Systems letters, early access, 2024.

[18] Z. Shi, Y Xu, **Z. Li**, et al. "Resilience Enhancement of a Multi-Energy Distribution System via Joint Power and Heat Network Reconfiguration and Mobile Power Source Scheduling", *CSEE JPES*, 2024.

[19] H. Gao, S. Jiang, **Z. Li**, R. Wang, et al, "A Two-stage Multi-agent Deep Reinforcement Learning Method for Urban Distribution Network Reconfiguration Considering Switch Contribution", IEEE Transactions on Power Systems, (accepted), 2024.

[20] R. Leng, **Z. Li**, et al. "Stochastic Joint Planning of Distributed Energy Resources in Unbalance Distribution Network Considering Degradation Impact", *IEEE Transactions on Smart Grid*, accepted, 2023.

[21] H. Huang, **Z. Li**, et al. "Blockchain-enabled Carbon and Energy Trading for Networked-Coal Mines under Uncertainties", *IEEE Transactions on Sustainable Energy*, (accepted) 2023.

[22] H. Huang, **Z. Li**, et al. Distributionally robust energy-transportation coordination in coal mine integrated energy systems, *Applied Energy*, (accepted), 2023.

[23] Y. Yang, **Z. Li**, E. Lo, et al. "Coordinated Restoration for Coupled Power and Water Systems Considering Small Pumped-Hydro Storage and Uncertain Rooftop Renewables", *Applied Energy*, 2023.

[24] R. Leng, **Z. Li**, et al. "Optimal Coordinated Operation of Distributed Energy Resources in Unbalance

Distribution Systems Considering Diverse Correlated Uncertainties", *Journal of Modern Power System and Clean Energy*, (accepted) 2022.

[25] L. Wang, Z. Wang, **Z. Li**, et al, "Distributed Optimization for Network-Constrained Peer-to-Peer Energy Trading among Multiple Microgrids under Uncertainty", *International Journal of Electrical Power & Energy Systems*, (accepted), 2023.

[26] J. Zhong, Y. Cao, Y. Li, **Z. Li**, et al, Optimal Operation of Energy Hub: An Integrated Model Combined Distributionally Robust Optimization Method with Stackelberg Game, IEEE Transactions on Sustainable Energy, (accepted) 2023.

[27] J. Zhong, Y. Li, Y. Cao, Y. Tan, Y.Peng, Y. Zhou, Y. Nakanishi, **Z. Li**, et al, "Robust Coordinated Optimization with Adaptive Uncertainty Set for Multi-Energy Microgrid", *IEEE Transactions on Sustainable Energy*, (accepted), 2022.

[28] J. Chen, M. Tan; C. Hu; L. Wang; **Z. Li** Multi-node Load Forecasting Based on Multi-task Learning with Modal Feature Extraction, *Engineering Applications of Artificial Intelligence*, 2022.

[29] C. Feng, B. Liang, **Z. Li**, et al, Peer-to-Peer Energy Trading Under Network Constraints Based on Generalized Fast Dual Ascent, *IEEE Transactions on Smart Grid*, 2022 **(highly cited paper)**.

[30] N Yang, …, **Z Li**, et al, "Intelligent Data-Driven Decision-making Method for Dynamic Multi-Sequence: An E-Seq2Seq Based SCUC Expert System", *IEEE Transactions on Industrial Informatics*, *2021* **(highly cited paper)**.

[31] Wang Z, Wang L, **Li Z**, et al. Optimal distributed transaction of multiple microgrids in grid-connected and islanded modes considering unit commitment scheme. *International Journal of Electrical Power & Energy Systems*, vol.132, pp. 107146, 2021.

[32] X. Zheng, K. Qu, J. Lv, **Z. Li**, et al. Addressing the conditional and correlated wind power forecast errors in unit commitment by distributionally robust optimization. *IEEE Transactions on Sustainable Energy*, 2020, 12(2): 944-954.

[33] Y. Chen, X. Feng, **Z. Li**, et al, "Multi-stage coordinated operation of a multi-energy microgrid with residential demand response under diverse uncertainties", *IET Energy Conversion and Economics*, vol.1, no.1, pp.20-33, 2020.

[34] X. Zheng, Y Xu, and **Z. Li**, Co-optimization and Settlement of Power and Gas Coupled System in Day-ahead Market Considering Multiple Uncertainties, *IET Renewable Power Generation (RPG)*, 2020.

[35] S. Fang, Y. Xu, **Z. Li**, *et al.*, "Two-Step Multi-Objective Management of Hybrid Energy Storage System in All-Electric Ship Microgrids". *IEEE Transactions on Vehicular Technology*, Vol. 64, No. 4, pp. 3361-3373, Apr. 2019.

[36] Y. Chen, Y. Xu, **Z. Li**, *et al*., "Optimally coordinated dispatch of combined-heat-and electrical network with demand response". *IET Generation, Transmission & Distribution*, Vol. 13, No. 11, pp. 2216-2225, Jun. 2019.

[37] C. Zhang, Y. Xu, **Z. Li**, *et al.*, "Robustly coordinated operation of a multi-energy microgrid with flexible electric and thermal loads". *IEEE Transactions on Smart Grid*, Vol. 10, No. 3, pp. 2765-2775, Apr. 2018.

[38] W. Liu., J.Liang, Z.Yun, **Z. Li**, *et al*, "Multi-objective Fuzzy Chance Constrained Dynamic Economic Dispatch Considering Energy Saving and Emission Reduction". Transactions of China Electrotechnical Society, Vol. 1, No. 1, pp. 62-70, Mar. 2016.

[39] X. Zheng,…, **Z. Li**, *et al.*, "A Mixed-Integer SDP Solution Approach to Distributional Robust Unit Commitment with Second-Order Moment Constraints", *CSEE Journal Of Power And Energy Systems*, 2019.

[40] S. Fang, Y. Xu, **Z. Li**, "Optimal Sizing of Shipboard Carbon Capture System for Maritime Greenhouse Emission Control", *IEEE Transactions on Industrial Applications*, vol. 55, No. 6, pp. 5543-5553, Nov. 2019.

[41] Y. Wang, Y. Xu, **Z. Li,** "Cyber-Physical Design and Implementation of Distributed Event-Triggered Secondary

Control in Islanded Microgrids", *IEEE Transactions on Industry Applications*. vol. 55, no. 6, pp. 5631-5642, Nov. 2019.

Conference Publications

[1] Z. Fei, **Z. Li***, "Coordinated Operation of A Green Multi-Energy Ship Microgrid with Hydrogen and Seawater Desalination", *IEEE PES General Meeting*, 2024, USA (accepted).

[2] **Z. Li**, Y. Lin, et al, "Resilience-Oriented Operation of Power Distribution Networks with Line Hardening and Comprehensive Reconfiguration Measures", *IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids*, Nov. 2023 // Glasgow, Scotland

[3] **Z. Li**, Y Xu, et al. "Cooperative Operation of Renewable-Integrated Multi-Energy Microgrids Under Dynamic Rolling Horizon Strategy, *EPE'23 ECCE Europe*, 2023.

[4] **Z. Li**, Y. Xu, Sidun F, *et al.*, "Multi-objective Coordinated Energy Dispatch and Voyage Scheduling for a Multi-energy Cruising Ship, in Proceedings of *2019 IEEE/IAS 55th Industrial and Commercial Power Systems Technical Conference (I&CPS)*, May 2019, Calgary, Canada.

[5] **Z. Li**, Y. Xu, "Dynamic dispatch of grid-connected multi-energy microgrids considering opportunity profit" in Proceedings of *2017 IEEE Power & Energy Society General Meeting*, July 2017, Chicago.

[6] D. Zhao, **Z. Li**, "Improving Building Temperature Forecasting: A Data-driven Approach with System Scenario Clustering", Proceedings of *2017 IEEE Power & Energy Society General Meeting*, July 2024, Seattle.

[7] R. Leng, **Z. Li**, Yan Xu, "A Comprehensive Literature Review for Optimal Planning of Distributed Energy Resources in Distribution Grids," in Proceedings of 2022 IEEE ISGT Asia, 2022.

[8] H Fan, Z Li, Z Li, J Rodriguez, B Wang, "Model-Free Predictive Current Control for Voltage Source Inverter using Luenberger Observer", *2023 IEEE International Conference on Predictive Control of Electrical Drives and Power Electronics (PRECEDE)*, 2023

[9] Y. Wang, Y. Xu, **Z. Li**, *et al.*, "Distributed Event-Triggered Control for Islanded Microgrids: Cyber-Physical Design and Implementation" in Proceedings of *2019 IEEE/IAS 55th Industrial and Commercial Power Systems Technical Conference (I&CPS)*, May 2019, Calgary, Canada.

[10] S. Fang, Y. Xu, **Z. Li**, "Joint Generation and Demand-side Management for Shipboard Carbon Capture and Storage System" in Proceedings of *2019 IEEE/IAS 55th Industrial and Commercial Power Systems Technical Conference (I&CPS)*, May 2019, Calgary, Canada.

[11] Chen Y, Y. Xu, **Z. Li**, *et al.*, "Optimally Coordinated Operation of a Multi-Energy Microgrid with Coupled Electrical and Heat Networks" in Proceedings of *2018 International Conference on Power System Technology (POWERCON)*, November 2018, Guangzhou, China.

[12] Zhou. Z, Chen Y, **Z. Li**, Y. Xu, "Optimal Operation of a Multi-energy Microgrid with Multiple Demand Response Programs" in Proceedings of *TCCT(Accepted)*, 2018.

Paper under Review or Revision

[1] Z. Shi, **Z. Li**, Y Xu, et al. Coordinated Repair and Restoration for A Resilient Multi-Energy Distribution System with Joint Network Reconfiguration under Multiple Uncertainties", *IEEE Transactions on Smart Grid*, (under review), 2023

[2] Y. Yang, **Z. Li**, E. Lo, et al. "Robust Coordination of the Coupled Power and Water Systems With Three Layer of Restoration Timescales", *IEEE Transactions on Power Systems*, 2023.

[3] Y. Dong, **Z. Li**, et al. "Robust Coordinated Planning of Multi-Region IntegratedEnergy Systems with Categorized Demand Response", *IEEE Transactions on Smart Grid*, (under review), 2023.

[4] D. Zhao, Z. Chen, **Z. Li**, "Improving Building Temperature Forecasting: A Data-driven Approach with System Scenario Clustering", *IEEE PES General Meeting*, 2024, USA.

Paper to be submitted soon.

[1] X. Jia, **Z. Li***, et al. "Data-driven Two-layer Coordinated Stochastic Operation of Multi-energy ships via the Hybrid MPC and Approximate Dynamic Programming Method", *IEEE Transactions on Power Systems*, 2024.

[2] Z. Fei, **Z. Li***, et al. "Optimal Planning of Multi-energy Ships via the Stochastic and Robust Optimization Method", *IEEE Transactions on Smart Grid*, 2024.

[3] W. Li, **Z. Li***, et al. "Optimal Operation of Multi-energy Rurual Microgrid with Smart Rual Equapiments", *IEEE Transactions on Power Systems*, 2024.

[4] Z. Li, **Z. Li***, et al. "Optimal Operation of Green Hydrogen Based Multi-energy Airport Microgrid with Wake Effects from Wind Farms", *IEEE Transactions on Power Systems*, 2024.

[5] H. Huang, **Z. Li**, et al. "Network Reconfiguration Aware Peer-to-Peer Ancillary Energy Trading Under Uncertainties", *IEEE Transactions on Power Systems*, 2022.

[6] Y. Yang, **Z. Li**, E. Lo, et al. "Multi-timescale Risk-averse Restoration of Interdependent Water and Power Networks with Joint Network Reconfiguration and Diverse Uncertainties", *IEEE Transactions on Power Systems*, 2023.

[7] Y. Yang, **Z. Li**, E. Lo, et al. "Distributionally Robust Optimization based Restoration of Joint Power and Thermal network with Diverse uncertainties", *IEEE Transactions on Power Systems*, 2023.

BOOKS

1. Y. Xu, Y. Wang, C. Zhang, **Z. Li**, "Coordination of Distributed Energy Resources in Microgrids: optimization, control, and hardware-in-the-loop validation," (published), 2021. (Popular around the world)

2. Y Xu, **Z. Li**, et al, "Optimally Coordinated Operation of a Combined-Heat-and-Electrical Microgrid with Multi-Energy Demand Response" (chapter 15) for the book "Coordinated Operation and Planning of the Modern Heat and Electricity Incorporated Networks", in Wiley-IEEE Press, 2022.

3. **Z. Li,** Y Xu, L. Wu, "Creating a Greener Shipping Industry with a Multi-energy Solution", Innovation spotlight for the IEEE Xplore 2021

PATENTS

1. J. Liang, **Z. Li**, "A method that based on the optimization of microgrid with combined heat and power plant," Patent #ZL 2015 1 01127 62.5, Issued on March 13, 2015.

2. J. Liang, **Z. Li**, "An optimization method considering the operational strategy of energy storage and combined heat and power plant," Patent #ZL 2014 1 0724835.1, Issued on December 13, 2014.

INTERNATIONAL ACADEMIC AWARDS

1. Web of Science- highly cited paper (TSE paper) 2024

2. Associate Editor for IET Renewable Power Generation 2024

3. Associate Editor for PLUS one 2024

4. Associate Editor for IEEE Transactions on Industry Applications 2024

5. Associate Editor for IEEE Access 2024

6. Associate Editor for Heliyon 2024

7. Best Reviewer Award for CSEE JPES 2024

8. Best Editor Award for IET ECE 2024

9. Best Reviewer Award for IET ECE 2024

10. Best Reviewer Award for Global Energy Interconnection 2024

11. Web of Science- highly cited paper (AE paper) 2024

12. Best Reviewer Award for IEEE Transactions on Sustainable Energy 2023

13. Best Reviewer Award for IEEE Transactions on Power Systems 2023

14. Best Reviewer Award for MPCE 2023

15. World top 2% scientists-2022 (**Rank**: 173359) 2023
16. Web of Science- highly cited paper (TSG paper) 2023
17. Web of Science- highly cited paper (TII paper) 2023
18. The ECE premium awards 2023
19. Applied Energy 2018 "Highly Cited Research Paper" Award 2020
20. Web of Science- highly cited paper (TPS paper) 2021
21. Web of Science- highly cited paper (Applied Energy paper) 2019
22. The ECE Premium Awards 2021
23. Chinese government award for Outstanding self-finance students abroad 2021
24. Shortlisted candidate for Wallenberg - NTU Presidential Postdoctoral Fellows 2020
25. The 2nd prize of Outstanding Practice Achievement for provincial professional degree postgraduates 2016

EDITORIAL & REVIEWER EXPERIENCES

1. **Worshop Chair** for "2024 ADVANCE Workshop - Assembling Digital Solutions for Inclusive and Net-Zero Transition of Community Energy Systems" May.2024
2. **Guest editor** for International Journal of Electrical Power & Energy Systems May.2024
- Host a special issue "AI-Empowered Scientific Computing for Analysis, Planning and Operation of Electrical
- Power and Energy Systems (AI4PES)"
- Call for paper submissions

3. **Guest editor** for "Energies", "Smart cities", "Electricity", "Forecating" and "Processes" May-2024
- Wrote proposals as the guest editor.
- Hosted a special issue "Intelligent, Flexible, and Effective Operation of Smart Grids with Novel Energy Technologies and Equipment"
- Handled 10+ papers and called for participation

4. **Guest editor** for "Frontiers in Energy Research" May.2024
- Wrote proposals as the guest editor.
- Hosted a special issue "Enhancing Resilience in Smart Grids: Cyber-Physical Systems Security, Simulations, and Adaptive Defense Strategies"

5. **Guest editor** for Journal of Energy Storage Mar.2024
- Host a special issue "The Role of Hybrid Energy Storage in the Operation and Planning of Multi-energy Systems"
- Call for paper submissions

6. **Associate Editor** in Heliyon journal Feb.2024
- Identify reviewers using the various tools provided
- Making publishing recommendations
- contribute ideas for special issues

7. **Workshop Chair** of the IEEE SmartGridComm'24 Workshop Sep.2024
- Hold the section on "Optimal Operation of Hydrogen Integrated Multi-energy Systems"
- Distribute papers to reviewers as the task chair.
- Host the whole process for the workshop

8. **Topical Advisory Panel member** for MDPI office Nov.-2023
- Pre-screen and take decisions on new submissions, especially in cases of conflict of interest;
- Suggest topics for Special Issues and launch new Sections for the journal;
- Provide input or feedback regarding journal policies;
- Help to promote the journal among their peers or at conferences;

9. **Guest editor** for "IET Energy Conversion and Economics" Nov.-2023
   - Wrote proposals as the guest editor.
   - Hosted a special issue "Transitioning to a Smart Decarbonized Future: AI-Enhanced Integration of Advanced Energy Management in Building-integrated Microgrids and Carbon Markets"
   - Call for Participation of papers
10. **Guest editor** for "IET Renewable Power Generation" Oct.-2023
    - Wrote proposals as the guest editor.
    - Hosted a special issue "Statistical Machine-learning-based Uncertainty Analysis of Renewable Power Generation"
    - Call for Participation of papers
11. Organizing committee for BUILDSIM NORDIC 2024 Oct.2023
12. 2022 Best Reviewer Award for CSEE JPES Feb 2023
13. 2021 Best Reviewer Award for CSEE JPES Jan 2022
14. **Chair** at the IEEE Conference on Energy Internet and Energy System Integration Oct.2023
    - Technical committee member of the IEEE Conference on Energy Internet and Energy System Integration
    - Organized the Special Session "Enhancing Grid Resilience through DERs and Active Distribution Networks"
15. **Assistant editor** for the official WeChat account of Applied Energy Apr.2023
16. **TPC** of the IEEE SmartGridComm'23 Workshop Oct.2023
    - Hold the section on "Learning and Optimization for Power Distribution System Resilience"
    - Distribute papers to reviewers as the task chair.
17. **Task chair** of IEEE GCCE 2023 (IEEE 12th Global Conference on Consumer Electronics (GCCE)) Oct.2023
    - Hold the section on "AI and green energy management"
    - Distribute papers to reviewers as the task chair.
18. **Guest editor** for "IET Smart Grid" Jul.-2023
    - Wrote proposals as the guest editor.
    - Hosted a special issue "Application of swarm intelligence for multi-vector energy microgrids"
    - Call for Participation
19. **Guest editor** for "Frontiers in Energy Research" Aug.2023
    - Wrote proposals as the guest editor.
    - Hosted a special issue "Advanced Operation of Smart Energy System"
20. **Guest editor** for "Electronics" Aug.2023
    - Wrote proposals as the guest editor.
    - Hosted a special issue "Hydrogen and Fuel Cells: Innovations and Challenges "
21. **Guest editor** for "IET Generation Transmission & Distribution" Sep.2023
    - Wrote proposals as the guest editor.
    - Hosted a special issue "Statistical machine-learning-based uncertainty analysis of new energy generation"
    - Call for Participation
22. **Guest editor** for "Energies", "Resources", "Electricity", "Electronics" and "Processes" Jan-2023
    - Wrote proposals as the guest editor.
    - Hosted a special issue "Advanced Operation, Control, and Planning of Intelligent Energy Systems"
    - Handled 100+ papers and called for participation
23. **Associate editor** for "Frontiers in energy research" Aug 2022
    - Wrote the proposal for the special issue independently.
    - In preparation for a special issue "Low-Carbon Oriented Market Mechanism and Reliability Improvement of

Multi-energy Systems" as the chief editor

24. **Guest editor** for "IET Energy Conversion and Economics" Sep 2022
    - Wrote proposal with Prof. Dong Chaoyang (**IEEE Fellow**).
    - Hosted a special issue "Cyber-Physical-Social Power Systems in Smart City Towards Carbon Neutrality" as a guest editor
    - Wrote the "Guest Editorial" for the special issue
25. **Guest editor** for "Energies" Feb-2022
    - Wrote proposals as the leading editor.
    - Hosted two special issues 1) "Recent Advances in Industrial Mathematics and Applications for Current Smart Energy Systems" and 2) "Analysis of Electricity Distribution Network and Distribion Markets" as guest editors
26. **Guest editor** for "Energies", "Resources", "Electricity" and "Sustainability" Feb-2022
    - Wrote proposals as the leading editor.
    - Hosted a special issue "Distributed Energy Systems and Resources"
    - Handled 30+ papers and called for participation
27. **Editor** for "Journal of Modern Industry and Manufacturing" Aug-2021
28. **Editor** for "World Journal of Electrical and Electronic Engineering" Jun-2021
29. **Associate editor** and **review editor** for "Frontiers In Electronics" Aug-2020
    - Wrote proposals as the leading editor.
    - Hosted 2 special issues "Intelligent and Optimal Planning, Operation, and Control of Modern Mobile Energy Systems" (leading editor) and "Optimal Planning and Operation of Multi-energy Systems"
30. 800+ papers reviewed for IEEE Transactions on Smart Grid, IET Generation, Transmission & Distribution, IEEE Access, Applied Energy, IEEE Transactions on Industrial Electronics, CSEE Journal of Power and Energy Systems, International Transactions on Electrical Energy Systems, et al.

FUNDING APPLICATIONS WITH PROPOSALS

1. Aalto-IIT Madras visiting funding applications (applied) 2023-2024
2. Academic research fellowship project (applied) 2024-2028
3. Proposal TKH mobility funding project (applied) 2024-2025
4. **Proposal:** Optimal energy management of Green hydrogen microgrid with ships under **The Research Council of Finland AKA Mobility calls** for collaboration with South China University of Technology (SCUT), China, Teams of Prof. Zhu Jizhong 2023-2025
    - Wrote proposal as the leading PI and applied for funding with Prof. Zhu Jizhong (IEEE fellow) at SCUT.
    - Investigate the Optimal Coordinated Operation of Multi-Energy Microgrids with Green Hydrogen Technology.
    - Project management: workshops given, progress updates, recruitment, project discussion, and dissemination.
5. **Proposal:** Optimal energy management of offshore microgrid with ships under Maritime & Port Authority of Singapore (MPA) 2023-2025
    - Wrote proposal and applied for the funding with main principal investigator, Prof. Xu Yan at NTU.
    - Investigate the optimal energy management of offshore Microgrid with cruising ship and tidal energy.
    - Project management: meeting arrangement, progress update with members under this project, recruitment, and interview of research fellow and Ph.D. candidates, and project dissemination.
6. **Proposal:** Recovery of Cyber-Physical System from Disasters and Attacks under NTU and ETH 2021-2023
    - Wrote proposal with main principal investigator, **Prof. Hug Gabriela at ETH** and **Prof. Wang Peng (IEEE fellow) at NTU**.
    - Co-supervise 2 Ph.D. on "Resilience Operation Of The Combined Power And Water Energy Network" and "Optimal Planning Of Power System Considering Capacity Degradation Effect".

- Project management: meeting arrangement, progress update with members from NTU and ETH, recruitment and interview of Ph.D. candidates, and project dissemination.
- 3 journal papers were published, 3 in preparation, and 1 conference paper was published.

7. **Proposal:** Supporting Sustainable Evolution of Electrical Energy Systems via Closed-Loop Consumer Behavior and Market System in the USA 2020-2022
   - Wrote a proposal with the main principle investigator Prof. Wu Lei (**an IEEE fellow**).
   - Project management: online and face-to-face meetings, recruitment and interview of Ph.D. candidates and postdoctoral researchers, management of partnerships and collaborations, and project dissemination.
   - 3 journal papers were published and 1 in minor revision.
8. **Proposal:** Data-based resilience of multi-energy Microgrid (DR-MEMG), Marie-Curie Postdoctoral Fellowship 2022 (pending) 2023-2024
   - Wrote proposal independently and applied with the **IEEE Fellow Prof. Bikash Pal at Imperial College London**.
   - Expected project management: online and face-to-face meetings, project dissemination, visits, and collaborations.
   - Expected outcomes: 3 journal papers and 2 conferences with some workshops.
9. **Proposal:** Optimal smart online resilient planning and operation of various multi-energy systems under heterogeneous uncertainties and contingencies. Lee Kuan Yew Postdoctoral Fellowship (pending) 2021-2023
   - Wrote proposals independently.
   - Expected project management: online and face-to-face meetings, Ph.D. recruitment, project dissemination, visits, and collaborations.
   - Expected outcomes: 3 journal papers and 2 conferences with some workshops.
10. **Proposal:** How Can We Activate the Flexibility Market in Singapore? - A City-scale Analysis for Demand-side Flexibility Considering the High Penetration of PV Generation and EV Charging Demand in Singapore (Pending) 2020-2021
    - Wrote a proposal with the main principle investigator in Singapore and **Technische Universität München (TUM)** and went through the funding application process.
11. **Proposal:** A holistic building-microgrid energy management (BMEM) solution with multi-energy demand response and automated virtual audit in Singapore (Pending) 2020-2021
    - Wrote a proposal with the main principle investigator in Singapore and went through the funding application process.

GRANT APPLICATIONS

1. Aalto startup funding, Aalto University, PI: Li Zhengmao 2023
2. **Travel Grant for internal conference** **$300, MDPI office** 2023
   - Serve as senior editor for MDPI journals such as Energies, Sustainability, and Electronics
   - Publicize the MDPI journals to all the conference participants in ECCE EPE 2022
3. **Travel Grant for internal conference** **$300, MDPI office** 2022
   - Serve as senior editor for MDPI journals such as Energies, Sustainability, and Electronics
   - Publicize the MDPI journals to all the conference participants in ISGT Asia 2022

PARTICIPATED PROJECT AND RESEARCH EXPERIENCE

1. **Project #1** Methods for resilience assessment and capacity expansion of power system under State Grid Corporation of China

Role: Research consultant. **Time:** Jan. 2022-now

Key task #1: Technical Support

- Provide technical instructions on the resilience assessment and capacity expansion of China
- Implementation support for the assessment method on the power system.

2. Project #2: Recovery of Cyber-Physical System from Disasters and Attacks under NTU and ETH project.

Role: Research fellow. **Time**: April. 2021-now

Key task #1: Data-driven Resilience-oriented Operation of Multi-energy Distribution Systems

- Investigate the different properties of distinct energy for resilience enhancement after natural disasters.
- Apply data-driven-based methods such as reinforcement learning or machine learning methods to recover the multi-energy distribution system.
- Include the thermal inertia and reconfiguration methods for the system resilience-oriented operation.

Key task #2: Optimal operation of a more resilient multi-energy microgrid under disasters with the transportable heterogeneous energy storage system

- Study the resilience performance (like how different energy systems can support each other when disasters happen) of multi-energy networks and operation characteristics of transportable heterogeneous energy storage.
- Develop the multi-energy configuration model for microgrids and investigate the effect that the transportable heterogeneous energy storage can have on the system reliability enhancement and cost-saving.

3. Project #3: Supporting Sustainable Evolution of Electrical Energy Systems via Closed-Loop Consumer Behavior and Market System under the National Science Foundation in the USA.

Role: Participator/research fellow. **Time**: Nov. 2019-Apr. 2021

Key task #1: Privacy-Preserving (distributed) Game Approach for Energy Trading between Multiple Energy Systems Considering thermal inertia and heterogeneous uncertainty sources

- Study the energy trading behavior and mode for three multi-energy systems in the energy market by the game theory approach (Nash equilibrium).
- Involve the practical thermal network constraints in the system's optimal operation.
- Investigate the day-ahead and real-time energy market operation for the multi-energy systems to tackle the diverse uncertainties.

Key task #2: Risk-averse stochastic operation of a multi-energy system (integrated power and thermal networks) through approximate dynamic programming/ reinforcement learning approach

- Investigate the approximate dynamic programming method and its application in the operation of integrated power and thermal networks.
- Implement the approximate dynamic programming method with the direct policy search method or the deep reinforcement learning method in the multi-energy system.

Key task #3: MPC-based optimal operation of multi-energy coordinated smart buildings under diverse uncertainties

- Investigate the basic operational properties of multi-energy smart buildings and the application of the MPC method.
- Develop the optimal operation model for smart buildings with multi-energy demand response with the uncertainties tackled via the distributional robust optimization method.

4. Project #4: Singapore Ministry of Education under Academic Research Fund Tier-1 project

Role: Participator. **Time**: April. 2016-2019

Key task #1: Multi-objective coordinated energy dispatch and voyage scheduling of hybrid AC/DC multi-energy ship microgrid under diverse uncertainties

- Studied the characteristics of ship voyage scheduling, AC/DC microgrids, diverse uncertainties, methods for multi-objective optimization, etc.

- Developed the multi-objective joint energy dispatch and voyage scheduling models for hybrid AC/DC multi-energy ship microgrids under diverse uncertainties.
- Handled the uncertainties from renewables, multi-energy loads, and ship swinging in hybrid AC/DC multi-energy ship microgrids via stochastic and robust optimization methods.

Key task #2: Optimal planning of heterogeneous distributed generators and energy storage in grid-connected multi-energy microgrid under diverse uncertainties

- Incorporated the investment phase selection and multi-energy uncertainties in the planning of heterogeneous distributed generators and energy storage in multi-energy microgrids.
- Developed a planning model with diverse uncertainties handled by the stochastic programming method.

Key task #3: Temporally coordinated operation of multi-energy microgrids under the system uncertainties from heterogeneous energy systems

- Analyzed the characteristics of heterogeneous energies in terms of response speeds in multi-energy microgrids
- Grasped the scenario generation and reduction methods for renewable energy sources and multi-energy loads
- Handled the uncertainties of renewables and loads via the stochastic programming method in a test microgrid.

5. **Project #5:** Powering the City project, Future Cities Lab Global, Singapore-ETH Centre 2022
   - Analyze the cost-benefit of solar energy investment in an urban context
   - Propose a model of an advanced energy community for policy evaluation
6. **Project #6: Optimal operation, design, and simulation of power systems under the project** Science and Technology Foundation for Middle-aged and Young Scientists of Shandong Province
   Role: Participator. **Time**: Sep. 2013- Jun. 2016

Key task #1: Multi-energy coordination in multi-energy microgrids of both grid-connected and islanded modes

- Investigated the dispatch flexibility enhancement of multi-energy microgrids with heterogeneous distributed generators and energy storage.
- Proposed the optimal system-wide dispatch model for the grid-connected and islanded multi-energy microgrid.
- Achieved the optimal scheduling of the distributed units in a text microgrid.

Key task #3: High-voltage direct current (HVDC) system design and simulation

- Designed the HVDC simulation model based on the CIGRE system in PSCAD/EMTDC.
- Tested some basic control methods in the HVDC system and analyzed the cause of failure of phase changing by the simulation.

TRAINING AND DEVELOPMENT

1. **Aalto Leadership Assessment Training** **2023**
2. **Project Management course by Dr. Galli Marxer and ETH Zurich** **2022**
   - Discover and apply the necessary methods to successfully manage your projects
   - Analyze the system of the project and its stakeholders
   - Create the Work Breakdown Structure and get the first Gantt chart for the entire project
3. **Intellectual Property and Safty Training, Nanyang Technological University** **2021**
   - Importance of intellectual property protection (patents, copyright, etc.)
   - Routes to the commercialization of research
   - Ways for research safety as a new researcher
4. **Teaching Skills Workshop and Training Class (half a year), Nanyang Technological University** **2017**
   - How to promote the active learning of students.
   - How to engage in a more effective teaching
   - How to develop the student's ability to critically thinking

INDUSTRIAL ACTIVITIES

1. **Workshop with ABB for the research day** Nov 2023
2. **Workshop with KONE for a research day** May 2023
3. **Electricity Power Research Institute, Shandong Province** Sep.2014-Jun.2015
   - Economic dispatch model of the microgrid with renewable and heterogeneous energy storage.
   - District combined cooling, heating, and power plant modeling for efficiency enhancement.
4. **State Grid Corporation, Shandong Province** Aug.2014-Sep. 2014
   - Power line loss calculation and line loss software design.
   - Power flow divergence analysis.

RESPONSIBLE ACADEMIC ACTIVITIES

Main Organizers for Seminars of International Research Sharing

1. **Invited speaker**: Dr. Shang Yitong Dec.2023
   Presentation topic " Towards Scalable and Privacy-Preserving Distributed Vehicle-to-Grid Services".
2. **Invited speaker**: Ms. Leng Ruoxuan Nov.2023
   Presentation topic "Two-stage Stochastic Programming for Coordinated Operation of Distributed Energy Resources in Unbalanced Active Distribution Networks with Diverse Correlated Uncertainties".

INTERNATIONAL ACADEMIC ACTIVITIES

3. Workshops for Aalto Hydrogen Center Sep.2023
4. Workshops for Aalto Hydrogen Breakfast Series Oct.2023
5. Nordic Roadmap Workshop Oct.2023
6. Guest editor for the special session in "IEEE ICEI 2023" in Shenyang China" 20-22 Nov 2023
7. Organizing committee for Panel Session of "2023 IEEE International Conference on Energy Technologies for Future Grids (IEEE ETFG 2023)" Nov.2023
8. Guest editor for special session in "2023 IEEE International Conference on Energy Technologies for Future Grids (IEEE ETFG 2023)" "Multi-Energy Systems to Facilitate Low-Carbon Energy Transition"- 3-6 Dec 2023
9. Volunteer for the 11th International Conference on Innovative Smart Grid Technologies (ISGT-Asia) 2022
   - Prepare the arrangement for all participants
   - Assist all professors around the work for accommodation and presentation
10. Technical Program Committee member of 4th Annual International Conference on Energy Development and Environmental Protection [EDEP 2021] Jul-2021
11. Attended the Distinguished Lecture on the "Dynamic Estimation and Control of Power System" by Prof Bikash Pal at Imperial College London 2020
12. Attended the webinar "2021 Top 5 Papers of the IEEE Transactions on Smart Grid" 2022
13. Workshop for future resilience project midterm review with researchers from NTU, NUS, ETH, and all kinds of industrial companies
    - Present the research to the industrial partners
    - Attend workshops and webinars
    - Discuss the research progress and future work with industrial and academy members
14. IEEE PES student member 2016-2019

INVITED TALK AND PRESENTATION

1. Invited guest lecture "Optimization of Microgrid", Nanyang Technological University, Singapore Sep.2023
2. Invited talk: "Optimal Operation of Mobile and land-based Multi-energy Microgrid," Southeast University,

Nanjing China, May. 2023

3. Invited talk: "Optimal Smart Operation of Ship Energy Systems," China Three Gorges University, Yi Chang, China, Sep. 2021
4. "Smart operation of the multi-energy system via reinforcement learning", Shanghai Insitute of Technology, Shanghai, 2022
5. Presentation at ISGT-Asia 2022, Singapore 2022
6. Invited talk for iSPEC conference Nov-2020
7. 2019 IEEE/IAS 55th Industrial & Commercial Power Systems Technical Conference, CA. Oral presentation
8. 2017 IEEE Power & Energy Society General Meeting, USA. Poster presentation

SKILLS

1. **Coding**: MATLAB (including Simulink and GUI), GAMS, LINGO, YALMIP, CPLEX, GUROBI.
2. **Simulation**: Keil C51, PSCAD.

TEACHING EXPERIENCE

Course design and marketing for hydrogen major for master and PhD, 2023

Course: Elements of hydrogen systems and storage, Master and PhD, ~30 students

Main Content: basic elements of all the hydrogen systems and components.

Duty: 1: Design the course from zero; 2: Teach the students all contents. 3: Prepare the examination 4: mark their final examination and performance.

Course: Power Systems and Conversion, Year 3, ~30 students

Main Content: The energy conversion and efficiency performance of all the components in the power system.

Duty: 1: Help the student get acquainted with the basic course content; 2: Arrange students with experiments to further go into the knowledge taught. 3: Answer the questions from students and also mark their assignments.

Course: Design of Clean Energy Systems, Year 4, ~25 students

Main Content: How to incorporate clean energy technologies such as wind turbines, biomass, photovoltaic cells, etc., into the current energy system

Duty: 1: Prepare the curriculum for the course and also the teaching outcomes; 2: Design the experiments for the student to apply the knowledge of this course to the application. 3: Mark the attendance and assignment of all students.

Course: Power Systems & Protection, Year 3, ~30 students

Main Content: Introduce the functionality of basic protection devices in the power system and design the basic protection framework for the power system.

Duty: 1: Teach the basic contents to the student; 2: Assist the professor in arranging the design work for the course. 3: Answer questions from students and also mark their final project.

Course: Power quality analysis, Year 4, ~30 students

Main Content: Analyze the power quality of the power system in terms of frequency and voltage deviation.

Duty: 1: Design the syllabus content, forms of assessment, tutorials, and demos. 2: Assist the students in their lab experiments to guarantee safety. 3: Mark their experiment results.

SUPERVISION FOR STUDENTS

Ph.D. Students (Date of graduation is given in parenthesis)

1. Z Fei (2023-2027) Green hydrogen-integrated multi-energy ships and shipboards
2. X Jia (2023-2027) Data-driven operation of Green hydrogen-integrated Multi-energy Microgrids
3. A. Saeid (2023-2027) Green hydrogen-integrated shipboards with port cranes
4. Z. Li (2021-2025) Green hydrogen-integrated Multi-energy Park Microgrids

5. H. Huang(2021-2022) Stochastic operation of the coal mine multi-energy system

- **1 joint journal** published in *Applied Energy*, **1 joint journal** submitted to the *IEEE Transaction on Sustainable Energy*. **1 joint journal** submitted to *IEEE Transactions on Smart Grid*.

6. Z. Shao(2021-2022) Data-driven approaches in smart grid and optimization of power systems

- **1 joint journal** in preparation and submitted to the *IEEE Transaction on Sustainable Energy*.

7. R. Leng (2021-2024) Optimal planning of microgrids with unit replacement

- **1 joint journal** published in *ISGT 2022 Asia*., **1 joint journal** submitted to the *CSEE Journal of Power and Energy Systems*. **1 joint journal** submitted to *Applied Energy*.

8. Y. Yang (2021-2024) Resilience-oriented operation of power and water network

- **1 1 joint journal** submitted to the *IEEE Transaction on Smart Grid*. **1 joint journal** submitted to *Applied Energy*.

M.S. Thesis Students (Date of graduation is given in parenthesis)

9. W Li (2022-2025) Green Hydrogen Integrated Multi-energy Rural Systems
10. X. Zhu (2022-2024) Forecasting of Green Hydrogen Integrated Multi-energy Systems
11. Y. Xu (2022-2024) Energy trading of Hydrogen based Multi-energy Systems
12. J Sinkkonen (2023-2024) PV and EV Coordination
13. W Anton (2023-2024) Machine optimal control and design
14. X. Zhang (2022) Optimal design of energy storage with GUI implement
15. X. Huang (2020) Optimal operation of smart home systems.
16. Y. Chen (2019) Optimal operation of the multi-energy microgrid.

- **1 joint journal** published in *IET Generation, Transmission, and Distribution*, and **1 joint journal** published in IET Energy Conversion and Economics.

17. X. Ren (2019) Optimal operation of multi-energy systems.
18. Z. Wang (2019) Optimal operation of CCHP systems in future energy networks.
19. X. Zhao (2019) Multi-energy systems with combined power and heat and demand response.

B.E. Thesis Students (Date of graduation is given in parenthesis)

20. Q. Wen (2022) Optimal design of energy storage with GUI implement
21. Y. Goo (2019) Optimal dispatch of multi-energy microgrids.
22. X. Ren (2018) Optimal planning and islanded microgrids.
23. Y. Chen (2019) Optimal operation of CCHP systems in future energy networks.

Bachelor Students Projects (Project date is given in parenthesis)

24. Mathew, *et al.* (2019) Optimal operation of multi-energy microgrids in islanded mode with GUI.
25. M. Rooban, *et al.* (2018) Optimal dispatch of multi-energy microgrids with GUI.
26. Q. Ke, *et al.* (2018) Optimal operation of microgrids without energy storage.
27. J. Koh, *et al* (2017) Optimal microgrid dispatch with GUI.
28. C. Cui, *et al* (2017) Optimal operation of CCHP systems in future energy networks.

High School Student projects

29. C. Cui, *et al.* (2019) Optimal control strategy of multi-energy microgrids.
30. Y. Gao, *et al.* (2018) Optimal dispatch of multi-energy microgrids with GUI.

LINKS AND CONNECTIONS

1. Singapore Power, Singapore
2. Agency for Science, Technology, and Research (A*STAR), Singapore
3. Energy Market Company (EMC), Singapore
4. Électricité de France (EDF), Singapore
5. ETH Zuich, Switzerland
6. Imperial College London, London, UK
7. Stevens Institute of Technology, Hoboken, USA
8. National University of Singapore, Singapore
9. Key Laboratory of Power System Intelligent Dispatch and Control, Shandong University, Ministry of Education, Jinan, China
10. College of Electrical Engineering and New Energy, China Three Gorges University, Yichang, China
11. Swanson School of Engineering, University of Pittsburgh, USA
12. Hongkong University, Hongkong, China
13. MDPI editorial office

HOBBIES

Dancing (Kpop), swimming, reading