

# Johanna Vorwerk

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## Research Profile

Since joining DTU as an Assistant Professor in 2024, I have established a research program on AI-enabled modelling, simulation, and control of renewable power systems. My activities currently span **seven funded research projects** and scholarships, co-supervision of **eight PhD students**, several completed MSc theses, **course responsibility** for Power Grid Analysis, and leadership roles in national and international research initiatives. The programme is built on collaborations with universities, transmission system operators, research institutes, and industrial partners across Europe, Australia, and India, and is complemented by **12 invited tutorials, panels, and workshop contributions** at conferences, universities, and research events across Europe, Australia, India, and North America.

My long-term research vision is to develop the **methods and tools required to ensure that future power systems remain stable, secure, and trustworthy despite the integration of millions of uncertain and flexible devices**. As renewable generation and converter-interfaced resources increasingly replace conventional power plants and loads, many of the assumptions underlying traditional power system analysis and operation are being challenged. My research therefore combines **physical modeling, machine learning, advanced computational methods, system identification, and control theory** to develop next-generation methods for understanding, predicting, and managing power system dynamics. Ultimately, this work aims to enable reliable operation and planning of future renewable power systems while maintaining trustworthiness, scalability, and physical consistency.

## Research Positions

**Technical University of Denmark, Denmark**  
Department of Wind and Energy Systems, Division for Power and Energy Systems  
• Assistant Professor, Tenure Track May 2024-current  
• Postdoctoral Researcher Nov 2023 - Apr 2024

**ETH Zürich, Switzerland** 2018 - 2023  
Doctoral Candidate  
Demand response for fast frequency ancillary services, integrating massive amounts of converter-interfaced resources into the power system; designed machine-learning solutions to enable faster computation.

**University of Melbourne, Australia** 2022  
Visiting Researcher  
Studied the impact of electrification of residential heating on power system frequency stability; compared potential against batteries by designing and studying a large, multi-layer dynamic test case.

## Education

**ETH Zürich, Switzerland** 2023  
**PhD in Electrical Engineering**, Power Systems Laboratory  
Advisor: Prof. Gabriela HUG; 2nd advisor: Prof. Petros ARISTIDOU  
Examiners: Prof. Mads ALMASSALKHI, Prof. Pierluigi MANCARELLA  
Dissertation: "Integration of Fast Demand Response into Renewable Power System", 

**ETH Zürich, Switzerland** 2018  
**M.Sc. in Energy Science and Technology**  
Thesis advisor: Prof. Christian FRANCK; Study advisor: Prof. Gabriela HUG  
Thesis: "Effect of Electric Field in Droplets Impacting Surfaces with Different Wettabilities"  
awarded the **Willi-Studer Prize** for the best graduate of the year

**University of Applied Sciences Hannover, Germany** 2015  
**B.Eng. in Electrical Engineering and Information Technology**  
Thesis advisor: Prof. Joachim PAULKE  
Thesis: "Examination of the Maintenance-related voltage and load situation in a 20-kV substation area", in cooperation with Avacon AG, Nienburg, Germany

|                                 |                                                                                                                                                                                                                                                                                                                                                                           |             |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
|                                 | <b>University of New South Wales</b> , Australia<br>Study abroad semester                                                                                                                                                                                                                                                                                                 | 2014        |
| <b>Professional Development</b> | <b>TenMoreIn</b> , Visibility Program, Germany<br>6-week public speaking and strategic visibility training for women                                                                                                                                                                                                                                                      | 2026        |
|                                 | <b>TenMoreIn</b> , Leadership Core Program, Germany<br>6-week leadership academy for women                                                                                                                                                                                                                                                                                | 2025        |
|                                 | <b>DTU</b> , The DTU Supervision Program, Denmark<br>Supervisor training at DTU consisting of 4 modules                                                                                                                                                                                                                                                                   | 2025        |
|                                 | <b>ETH Zürich</b> , Switzerland<br>Teaching Certificate<br>Certificate for teaching in electrical engineering at apprenticeship schools and Universities of Applied Sciences in Switzerland; besides courses, the education included a teaching internship at University of Applied Sciences and Arts Northwestern Switzerland,<br>Internship advisor: Prof. Martin GEIDL | 2020 - 2024 |
| <b>Industrial Experience</b>    | <b>ABB Schweiz AG</b> , Switzerland<br>Student employee at high voltage technology department<br>Inventing, improving, and programming various applications for the high voltage routine testing laboratory, digitized and automated part of the testing routines for transformer bushings.                                                                               | 2016 - 2018 |
|                                 | <b>Avacon AG (E.ON SE)</b> , Germany<br>Specialist<br>Analysis of voltage stability in distribution systems, grid expansion planning for a 20-kV-distribution grid area, data maintenance of grid assets.                                                                                                                                                                 | 2015        |
|                                 | <b>E.ON Netz GmbH</b> , Germany<br>Cooperative program with University of Applied Sciences Hannover<br>Various appointments during semester breaks, including independent projects in 100-kV grid operation and 20-kV grid planning departments, e.g. designing a black-start plan for the 110-kV grid layer.                                                             | 2011-2015   |
| <b>Awards &amp; Recognition</b> | <b>DTU PES Award</b> , DTU<br>Bi-annually awarded on division level, recognition for my engagement in diversity, as well as activities in teaching, supervision and scientific advice.                                                                                                                                                                                    | 2025        |
|                                 | <b>Frontiers Best Presentation Award</b> , ETH Zürich<br>Best presentation during the Frontiers in Energy Seminar Series                                                                                                                                                                                                                                                  | 2021        |
|                                 | <b>Willi Studer Prize</b> , ETH Zürich, Switzerland<br>Best student of the year in the Master in Energy Science and Technology                                                                                                                                                                                                                                            | 2018        |
|                                 | <b>Femtec Scholarship</b> , Femtec GmbH, Germany<br>Career-Building Program for females in STEM, consisting of soft-skill training at Femtec GmbH in Berlin and an innovation project at Daimler AG                                                                                                                                                                       | 2016 - 2017 |
|                                 | <b>UNSW Scholarship</b> , UNSW Sydney, Australia<br>Scholarship for tuition fees                                                                                                                                                                                                                                                                                          | 2014        |
|                                 | <b>Fulbright Scholarship</b> , German-American Fulbright Commission<br>Summer school in entrepreneurship and innovation at University of Greensboro, North Carolina, USA                                                                                                                                                                                                  | 2012        |
|                                 | <b>Awards for Outstanding Performance &amp; Outstanding Engagement</b><br>University of Applied Sciences Hannover                                                                                                                                                                                                                                                         | 2012        |
|                                 |                                                                                                                                                                                                                                                                                                                                                                           |             |

## Funding

Contributions to **7 funded projects and scholarships** exceeding 18 MDkk for DTU, including proposal leadership activities associated with more than 7 MDkk for DTU.

7. **NordicSec**, IFD Grand Solutions, 5 MDkk for DTU 2026-2030  
*Closing the Loop in Nordic TSO Coordination for Enhanced Grid Security and Cost Efficiency*  
**Project Partners:** DTU, Energinet, Nordic RCC  
 Proposal Contributor, WP lead
6. **NU-ACTIS, CETP, 2.2 MDkk** 2025-2028  
*Navigating Uncertainties: Advanced Control Solutions for Inverter-Dominated Power Systems*  
**Project Partners:** RISE, DTU, Siemens Gamesa, UCD, eRoots, Uppsala University, Aalto University, Hitachi Energy  
 DTU Proposal Lead
5. **ROADnet**, DFF, 3 MDkk 2025-2028  
*Enhancing Power System Resilience with Reduced-Order Models for Active Distribution Networks*  
 Proposal Contributor
4. **DTU Strategic PhD Scholarship, DTU, 1.6 MDkk** 2025-2028  
*Developing AI-based Dynamic Blackout Anticipation and Prevention Methods on a Digital Twin of Future Power Systems*  
**Project Partners:** DTU Wind and DTU Compute  
 Proposal Lead
3. **DTU Alliance PhD Scholarship, DTU, 2 MDkk** 2025-2028  
*AI-based Equivalents for Fast Dynamic Simulations of Renewable Power Systems*  
**Project Partners:** DTU and IIT Bombay  
 Proposal Lead
2. **DANIDA, DANIDA Fellowship Centre, ≈4.5kDkk for DTU annually** 2024-ongoing  
*Physical and Financial Power Markets*  
 A 3-week continuous education course for professionals from the Global South  
 Annual renewal, secured the 4th edition of the course for 2027  
 Proposal Lead
1. **AI-EFFECT**, Horizon, 2.5 MDkk for DTU Wind 2024-2027  
*Artificial Intelligence Experimentation Facility For the Energy seCTor*  
**Project Partners:** DTU, EPRI, INESC TEC, TU Delft, Fraunhofer, RWTH Aachen, IKIM, Maynooth University, DNV, EnliteAI, WATT-IS, Bornholm Varme, ENEL, Hertie School, Center Denmark, TenneT  
 Proposal Contributor, [WP1 Lead](#), [Danish Node Lead](#)

## Teaching

**Power Grid Analysis** since 2026  
 Regular MSc-level course, [Teacher and course responsible](#), Number of students ~60

**Physical and Financial Power Markets** since 2024  
 Continuous education course funded through the DFC, [Teacher and course responsible](#), Number of participants ~25 per year

### Guest Lectures

- High Performance Computing for Wind Energy: Lecture and Assignment on Time-Series Forecasting with Advanced AI Tools, DTU, MSc level Spring 2025
- Power System Dynamics, Control and Operation: Lecture on Wind Turbines, ETH Zürich, MSc level Spring 2022

### Teaching Assistant, ETH Zürich

- Power System Dynamics, Control and Operation, MSc level Spring 2019 - 2022
- Introduction to Electric Power Transmission, BSc & MSc level Fall 2018 - 2021
- Technical and Economic Aspects of Renewable Energy Supply Seminar, Lead Teaching Assistant, BSc level Spring 2019 - Fall 2020

## Coach for Case Study Team, ETH Zürich

Fall 2018 - Spring 2019

Case Studies: Energy Systems and Technology (Graduate level)

The team was awarded a peer-to-peer award for the best presentation

## Teaching Assistant, The University of Applied Sciences Hannover

- Physics 1, BEng Level

Spring 2012

- Physics 2, BEng Level

Fall 2012 - Fall 2013

## Supervision & Mentoring

**Ongoing:** 8 PhDs, 1 Special course

**Incoming:** 1 PostDoc (Sep 2026), 1 PhD (Oct 2026)

**Completed:** 13 MSc theses, 5 MSc special courses and semester projects, 6 Bachelor projects  
**5 out of 13 MSc thesis students subsequently continued towards a PhD position.**

## PostDocs

1. **Petros Ellinas**   starting Sep 2026  
Industrial PostDoc at Nordic RCC as part of the NordicSec project

## PhD Students

8. **Alberto Magagna**  starting Sep 2026 Aug 2026 - ongoing  
*Trustworthy AI for System Identification in Renewable Power Grids*  
Main Supervisor: Nicolaos Cutululis, Co-supervisors: Daniel Müller and Kim Hoey Jenssen (Siemens Gamesa), Industrial PhD Position
7. **Andrea Fratini**  Aug 2026 - ongoing  
*Trustworthy AI for Control of Renewable Power Grids*  
Main Supervisor: Nicolaos Cutululis, Co-supervisors: Daniel Müller and Kim Hoey Jenssen (Siemens Gamesa)
6. **Bruno Gelfort**  Jan 2026 - ongoing  
*Data-Driven Operation of Future Power Systems dominated by Active Distribution Networks*  
Main Supervisor: Tilman Weckesser, Co-supervisor: Henrik Bindner
5. **Ioannis Papadopoulos**  Oct 2025 - ongoing  
*Developing AI-based Dynamic Blackout Anticipation and Prevention Methods on a Digital Twin of Future Power Systems*  
Main Supervisor: Guangya Yang, Co-supervisor: Georgios Tsaousoglou (DTU Compute)
4. **Freeman Martin** Sep 2025 - ongoing  
*Accelerating Critical Security Assessments: Machine Learning Solutions for Renewable Power Systems*  
Main Supervisor: Spyros Chatzivasileiadis, Co-supervisor: Zakir Rather (IIT Bombay)
3. **Ioannis Karampinis**   Nov 2024 - ongoing  
*Physics-Informed Neural Network (PINN) Simulator for Power System Dynamics*  
Main Supervisor: Spyros Chatzivasileiadis, Co-Supervisor: Rahul Nellikkath. I joined the supervision team in early 2026
2. **Bastien Giraud**   May 2024 - ongoing  
*Trustworthy Machine Learning and Neural Network Verification for Power Systems*  
Main Supervisor: Spyros Chatzivasileiadis
1. **Petros Ellinas**   Sep 2023 - Aug 2026  
*Neural Network Verification and Quantum Computing for Power Systems*  
Main Supervisor: Spyros Chatzivasileiadis, Co-Supervisor: Sam Chevalier (University of Vermont); I joined the supervision team in 2024

## MSc Level Supervision

### Master Thesis Supervision

13. **Wiktor Wojciechowicz**, DTU Feb 2026  
*Impact of aggregate modeling choices on fault propagation in PV-dominated systems*  
In collaboration with Rambøll Group
12. **Daniel Visti Saugbjerg**, DTU Feb 2026  
*Fault propagation in PV-dominated large-scale distribution systems*  
In collaboration with Rambøll Group

11. **Leonie Meier**, DTU Jan 2026  
*Tracing stability boundaries in renewable power systems*  
In collaboration with Rambøll Group
10. **Bruno Gelfort**, DTU Oct 2025  
*Integration of Neural Networks in Dynamic Power System Simulators*  
In collaboration with ETH Zürich
9. **Eiad Joudeh**, DTU Mar 2025  
*Designing black start strategies for the Bornholm power system*
8. **Lola Charles**, DTU Jul 2024  
*High-quality dataset generation for data-driven security assessment of power systems: a toolbox*
7. **Michael Kratz**, ETH Zürich Oct 2022  
*Forecast the Availability of Thermal Loads for Demand Response*
6. **Carlo Tajoli**, ETH Zürich Apr 2022  
*Intelligent Coordination Scheme for Fast Demand Response with Flexible Loads*
5. **Dawn Virgnillo**, ETH Zürich Apr 2022  
*Optimization Strategies for Reactive Power Compensation*  
in collaboration with Swissgrid AG, Switzerland
4. **Baris Bilgic**, ETH Zürich Apr 2022  
*Online Inertia Estimation for the Synchronous Zone of Continental Europe*  
in collaboration with Swissgrid AG, Switzerland
3. **Moritz Danninger**, ETH Zürich Oct 2021  
*Optimization-based nonlinear controls of inverter-interfaced thermal loads*
2. **Katharina Kaiser**, ETH Zürich Sep 2021  
*Robust Voltage Bounds to Guarantee Voltage Stability*  
in collaboration with Swissgrid AG, Switzerland,  
was awarded the [ETH Medal 2022](#)
1. **Julie Rousseau**, ETH Zürich Sep 2021  
*Ancillary Services for Deterministic Frequency Deviations*  
in collaboration with Swissgrid AG, Switzerland

#### Master Level Special Courses and Semester Projects

6. **Noa Hvid Shiv**, Special Course, DTU Aug 2026  
*Dynamic modeling of power systems with neural ordinary differential equations*
5. **Nicolai Nørregaard**, Special Course, DTU Aug 2026  
*Development of a Dynamic Model of the Bornholm Power System*
4. **Lola Charles**, Special Course, DTU Feb 2024  
*Small-signal stability toolbox for large-scale electric power systems*
3. **Simon Schnellmann**, Graduate Semester Thesis, ETH Zürich Jan 2021  
*Assessing Nonlinear Stability of Inverter-Interfaced Demand Response*
2. **Benjamin Bossy**, Graduate Semester Thesis, ETH Zürich Dec 2020  
*Availability Analysis of Demand Technologies for Grid Ancillary Services*
1. **Guozheng Zhang**, Graduate Semester Thesis, ETH Zürich Jan 2020  
*Exploring the Potential of Frequency Estimation Techniques*

#### Bachelor Level Supervision

6. **Jan Akermann**, P&S Course Advisor, ETH Zürich Spring 2022  
*A Grid Dominated by Renewables: How are PV Power Plants and Wind Turbines Integrated to Ensure Frequency Stability?*
5. **Anne Matthijs**, Bachelor Thesis, ETH Zürich Jan 2022  
*Efficacy of Fast Demand Response with Nonlinear Thermal Loads*
4. **Jan Heldmann**, Bachelor Thesis, ETH Zürich Jan 2022  
*Robust Ancillary Service Market Clearing with Distributed Resources*

3. **David Klaassen**, P&S Course Advisor, ETH Zürich Fall 2021  
*How can DERs, such as electric vehicles and heating panels, provide flexibility services to the power network?*
2. **Natalija Für**, P&S Course Advisor, ETH Zürich Fall 2019  
*Integration of Renewable Energy Resources in Developing Countries*
1. **Mehmet Ucar**, P&S Course Advisor, ETH Zürich Spring 2019  
*Power Systems with High Levels of Variable Renewable Energy*

#### Visiting Students

3. **Sarra Bouchkati**, Visiting PhD Student 2026 (4 months)  
RWTH Aachen University, starting mid Sep 2026
2. **Akash Khashei**, Visiting PhD Student 2026(3 weeks)  
Monash University, starting end of Aug 2026
1. **Savvina Filtsooglou**, Aristotle University of Thessaloniki 2026(6 months)  
MSc student visiting for an internship

#### Citation

**Google Scholar** (Aug 2026) [\[Link\]](#) Total  $\geq 150$ , H-index: 7  
**Scopus** (Aug 2026) [\[Link\]](#) Total  $\geq 70$ , H-index 5  
**Web of Science** (Aug 2026) [\[Link\]](#) Total  $\geq 50$ , H-index 4

#### Peer-Reviewed Journal Articles

7. I. Karampinis, P. Ellinas, **J. Vorwerk**, S. Chatzivasileiadis, "Neural Operators for Power Systems: A Physics-Informed Framework for Modeling Power System Components", *Electric Power Systems Research*, Volume 263, 2026, 113755, presented at the 24th Power Systems Computation Conference (PSCC 2026), Cyprus, [\[A\]](#)
6. P. Ellinas, I. Karampinis, I. Ventura Nadal, R. Nellikkath, **J. Vorwerk**, S. Chatzivasileiadis, "Physics-informed machine learning for power system dynamics: A framework incorporating trustworthiness", *Sustainable Energy, Grids and Networks*, Volume 43, 2025, 101818, presented at the 12th Bulk Power System Dynamics and Control Symposium (IREP 2025), 22-27 June 2025, Sorrento, Italy, [\[A\]](#)
5. B. Giraud, L. Charles, AM Nakiganda, **J. Vorwerk**, S. Chatzivasileiadis, "A Dataset Generation Toolbox for Dynamic Security Assessment: On the Role of the Security Boundary", *Sustainable Energy, Grids and Networks*, Volume 43, 2025, 101833, presented at the 12th Bulk Power System Dynamics and Control Symposium (IREP 2025), Sorrento, Italy, [\[A\]](#)
4. **J. Vorwerk**, I. Saedi, P. Mancarella, G. Hug, "Electrifying thermal loads vs. installing batteries: A case study on fast frequency resource potentials of the Victorian power system", *Electric Power Systems Research*, Volume 235, 2024, 110622, presented at the 23rd Power Systems Computation Conference (PSCC 2024), Paris-Saclay, France, [\[A\]](#)
3. **J. Vorwerk**, C. Tajoli, G. Hug, "Hierarchical coordination scheme for voltage-aware fast frequency provision with flexible loads", *Electric Power Systems Research*, Volume 235, 2024, 110614, presented at the 23rd Power Systems Computation Conference (PSCC 2024), Paris-Saclay, France, [\[A\]](#)
2. **J. Vorwerk**, U. Markovic, P. Aristidou, G. Hug, "Quantifying the uncertainty imposed by inaccurate modeling of active distribution grids", *Electric Power Systems Research*, 2022, presented at 22nd Power Systems Computation Conference, Porto, June 2022, [\[A\]](#)
1. **J. Vorwerk**, U. Markovic, P. Aristidou, G. Hug, "Modeling of variable-speed refrigeration for fast-frequency control in low-inertia systems", *IET Smart Grid*, 2020, [\[A\]](#)

#### Peer-Reviewed Conference Papers

9. P. Ellinas, I. Chaudhuri, **J. Vorwerk**, S. Chatzivasileiadis, "Verification and Validation of Physics-Informed Surrogate Component Models for Dynamic Power-System Simulation", accepted for presentation at the 65th IEEE Conference on Decision and Control (CDC 2026), [\[A\]](#)
8. B. Gelfort, I. Karampinis, M. Desai, P. Aristidou, G. Hug, **J. Vorwerk**, "Embedding Neural Surrogates into Established Power System Simulators", accepted for presentation at the PowerUp Conference 2026, Boulder, USA,

7. J. Rousseau, **J. Vorwerk**, I. Avramiotis, C. Welti, G. Hug, "Imbalance Forecasts to Counteract Deterministic Frequency Deviations: A Swiss Case Study", *2023 IEEE PowerTech Belgrade*, 
6. K. Kaiser, **J. Vorwerk**, M. Hohmann, S. Karagiannopoulos, F. Streiff, G. Hug, "Determination of a Robust Lower Bound on Voltage Magnitudes", *2023 IEEE PowerTech Belgrade*, 
5. **J. Vorwerk**, M.G. Dozein, P. Mancarella, G. Hug, "Analytical Discussion on Dynamics of Inverter-Based Resources under Small-Signal Conditions", *2023 IEEE PowerTech Belgrade*, 
4. **J. Vorwerk**, T. Zufferey, P. Aristidou, G. Hug, "Using Quantile Forecasts for Dynamic Equivalents of Active Distribution Grids under Uncertainty", *2022 IREP Bulk Power System Dynamics and Control Symposium*, Banff, Canada, July 25-30, 2022, 
3. **J. Vorwerk**, U. Markovic, G. Hug, "Fast Demand Response with Variable Speed Thermal Loads -Towards Universal Modeling for Stability Assessment", *The 53rd North American Power Symposium*, College Station, Texas, USA, November 2021, 
2. **J. Vorwerk**, U. Markovic, G. Hug, "Comparing the Damping Capabilities of different Fast-Frequency Controlled Demand Technologies", *2021 IEEE Madrid PowerTech*, Madrid, Spain, June 2021, 
1. U. Markovic, **J. Vorwerk**, P. Aristidou, G. Hug, "Stability Analysis of Converter Control Modes in Low-Inertia Power Systems", *2018 IEEE PES Innovative Smart Grid Technologies Conference Europe*, Sarajevo, Bosnia and Herzegovina, October 2018, 

#### Working and Submitted Manuscripts

7. F. Martin, **J. Vorwerk**, "Closing the Loop: Training and Integrating Neural Surrogates into Power System Dynamic Simulation", journal article, to be submitted by Oct 2026
6. B. Giraud, R. Nellikkath, **J. Vorwerk**, M. Alowaifee, S. Chatzivasileiadis, "Neural Networks for AC Optimal Power Flow: Improving Worst-Case Guarantees during Training", journal article, 
5. S. Bouchkati, P. Ellinas, A. Geisler, S. Kortmann, **J. Vorwerk**, S. Chatzivasileiadis, A. Ulbig, "Safety Screening for Voltage Control in Active Distribution Grids via Distributionally Robust Conformal Screening", journal article, to be submitted within Aug 2026
4. P. Ellinas, B. Vilman, S. Chatzivasileiadis, **J. Vorwerk**, "RAPTOR: RAndom-projection Physics-informed Transient sOLveR", journal article, to be submitted within Aug 2026
3. I. Papadopoulos, G. Tsousoglou, **J. Vorwerk**, conference article, submitted for review, details not included to respect the double-blind review process
2. F. Martin, I. Karampinis, **J. Vorwerk**, conference article, submitted for review, details not included to respect the double-blind review process
1. P. Ellinas, **J. Vorwerk**, S. Chatzivasileiadis, "Tools to Explain Neural Networks for Power System Dynamics", journal article, submitted for review, 

#### Invited Talks, Panels & Tutorials

**16 invited talks, tutorials and panel participations** at conferences, universities and workshops across Europe, Australia, India and North America, including one best presentation award.

16. **TC-ES Technical Workshop: Control and Optimization for Modern Energy Systems**, "Distributed Energy Resources: From Local Actions to System-Level Consequences", Adjacent to IEEE CDC Dec 2026 (confirmed speaker)
15. **AI in Power Systems Tutorial, Wind & Solar Integration Workshop 2026**, "Can we Trust ML for Power System Dynamic Simulations?", Sep 2026 (confirmed speaker)
14. **PSCC Panel 2026**, "Emerging risks of major power system supply interruption events: needs for new modelling and analysis", hosted by Keith Bell, University of Strathclyde, Jun 2026
13. **PSCC Tutorial 2026**, "Insights from Practice: How to conduct large-scale dynamic simulations of low-inertia power systems?", Jun 2026,
12. **DTU PES Summer School 2026**, "Rethinking Power System Dynamics with Machine Learning", May 2026,  

11. **ADoreD 6th Training School & Consortium Meeting**, "Stability in Renewable Power Systems: From System Failures to Control Strategies", May 2026
  10. Seminar, "Fast Frequency Response with Distributed Resources: Control Strategies, Case Studies and Modeling Uncertainty", NIT Calicut, Dec 2025
  9. **Advanced Battery Storage Systems: Design, Control and Integration Seminar**, "Integrated Operation of Renewable Power Systems", IIT Bombay, Nov 2025
  8. **CIGRE General Assembly**, Denmark, "On the Blackout of the Iberian Peninsula", Sep 2025
  7. **Food for Thought Seminar Series**, Baltic Energy Island, "On the Blackout of the Iberian Peninsula", Aug 2025
  6. **InnoCypes Panel Discussion**, "Looking into the Crystal Ball: How will Power System Resilience evolve in the next 10 years?", hosted by Guangya Yang, DTU, May 2025
  5. **IEEE PES Seminar**, "Fast Frequency Reserve Potentials: Batteries and Heat Pumps", Berkeley, July 2024
  4. **Third Champéry Power Conference**, "Fast Frequency Reserve Potentials: Assessing Batteries and Heat Pumps", Champéry, Feb 2024
  3. **Power Engineering Seminar**, "Quantile Dynamic Equivalents of Active Distribution Networks", The University of Sydney, Dec 2022
  2. **Power and Energy Systems Seminar**, "Providing Fast Frequency Response with Distributed Resources", The University of Melbourne, Oct 2022
  1. **Frontiers in Energy Research Seminar Series**, "Fast demand response in modern power systems", ETH Zürich, May 2021
- Best Presentation Award**

#### Advisory Activities

##### PhD Examination

1. **Valéria Monteiro de Souza**, "*Early Warning Early Prevention Strategy for Voltage Instability Phenomena*", NTNU, Supervisor: Kjetil Obstfelder Uhlen

##### Academic Services

**Member of the Technical Program Committee** of the newly established conference PowerUp (Sep 2026, Boulder)

**Professor Search Committee:** Member of the Search Committee for Full Professor of Energy Systems Analysis at the Department of Mechanical and Process Engineering, ETH Zürich

##### IEEE Task Forces:

- Member of the IEEE Task Force on Benchmark Networks for Low Inertia Systems
- Member of the IEEE Task Force on Behind-The-Meter DERs: Estimation, Uncertainty Quantification & Control

**Reviews of Journal Articles** for IEEE Transactions in Power Systems, IEEE Transactions on Sustainable Energy, IET Generation & Transmission & Distribution, IEEE Systems Journal

**Reviews of Conference Papers** for Power Systems Computation Conference (PSCC), IEEE PowerTech, International Conference on Networks, Communication and Information Technology (NCIT)

##### Professional Memberships

Member, CIGRE  
 Member, TenMoreIn Alumni Network  
 Member, Institute of Electrical and Electronics Engineers (IEEE)  
 Member, IEEE Power & Energy Society  
 Member, IEEE Women in Engineering Society  
 Member, IEEE Smart Grid Community  
 Member, Curia e.V., former Femtec Alumnae e.V.