Overskousvej 6, 4th.
2500 Valby, Denmark
+45 24650961
kdas@dtu.dk
ORCID
WoS
DTU Orbit
ResearchGate
Google Scholar
Personal Website
LinkedIn

Kaushik Das

Curriculum Vitæ

Education

2013 – 2016

PhD, *Wind Energy, Technical University of Denmark*, Denmark
Thesis- Integration of Renewable Generation in Power System Defence Plans
Supervisors - Prof. Poul E Sørensen (DTU), Dr. Anca D. Hansen (DTU), Mr. Hans Abildgaard (Energinet)

2009 – 2011

Master of Technology - Power Systems Engineering, *Indian Institute of Technology (IIT) Kharagpur*, India
Thesis- A Real Time Hybrid State Estimator Incorporating Synchrophasor Measurements
Supervisor - Prof. A. K. Sinha

2005 – 2009

Bachelor of Technology - Electrical Engineering, *West Bengal University of Technology*, India

Further Education

2022

The PhD Supervision Process: Methods and Tools, *Technical University of Denmark*, Denmark
The course focuses on the relationship between PhD student and supervisor and covers models and possible actions related to - supervision style, insights into your PhD students' own perspectives, active listening, different types of questions to be used in supervision, mutual expectations and collaboration agreement, feedback methods, cross-cultural dimensions in supervision, exchange of experiences with other supervisors

2021 – 2022

University Teacher Training Programme at DTU (UDTU), *Technical University of Denmark*, Denmark
Course to acquire knowledge, methods, and tools that enable to teach with proficiency at university level.

2020 – 2021

Project Management for Researchers, *Technical University of Denmark*, Denmark
Course on project development and project management including stakeholder analysis, milestone planning, risk analysis, time estimation, economy, roles and responsibilities of project manager, project review, and conflict resolution.

2019

Supervision of PhD students at DTU, *Technical University of Denmark*, DTU
overview of the rules and processes that occur throughout the PhD study at DTU

Appointments

2023 — **Associate Professor**, *Wind and Energy Systems, Technical University of Denmark (DTU)*, Denmark

- **Research on Hybrid Power Plants**
- **Lead - IEA Wind Task on Hybrid Power Plants**
- Coordinator - MSc in Sustainable Energy Technology - Wind Energy study line
- Coordinator - Nordic Five Tech Master in Innovative Sustainable Energy Engineering - System Integration of Wind Power study line
- Research activities in integration of renewables to power systems including power system balancing, wind power in distribution systems, ancillary services
- Teaching activities including course responsible at DTU
- Supervision of MSc and PhD students

2024 — **Scientific director**, *DTU-TotalEnergies Excellence Center*, Denmark

- Scientific director in DTEC (DTU-TotalEnergies Excellence Center) in Clean Energy; responsible of "Hybrids, Grids and Storage" programme, member of DTEC's scientific committee

2022 – 2023 — **Senior Researcher**, *Wind and Energy Systems, Technical University of Denmark (DTU)*, Denmark

- **Research on Hybrid Power Plants**
- **Lead - IEA Wind Task on Hybrid Power Plants**
- Coordinator - MSc in Sustainable Energy - Wind Energy study line
- Coordinator - Nordic Five Tech Master in Innovative Sustainable Energy Engineering - System Integration of Wind Power study line
- Research activities in integration of renewables to power systems including power system balancing, wind power in distribution systems, ancillary services
- Teaching activities at DTU
- Supervision of MSc and PhD students

2019 – 2022 — **Tenure-Track Researcher**, *Wind Energy, Technical University of Denmark (DTU)*, Denmark

- **Leading research activities in Hybrid Power Plants**
- Coordinator - MSc in Sustainable Energy - Wind Energy study line
- Coordinator - Nordic Five Tech Master in Innovative Sustainable Energy Engineering - System Integration of Wind Power study line
- Research activities in integration of renewables to power systems including wind power in distribution systems, weather dependent power systems, ancillary services
- Teaching activities at DTU
- Co-supervision of MSc and PhD students
- Lead and support Danish, Indo-Danish, European and International project proposals
- Establishment of Danish Hybrid Wind Power Plant Forum (https://hybrid-vindenergi.dtu.dk/)
- Lead - IEA Wind Task on Hybrid Power Plants
- Member of Coordination Committee for Education at DTU Wind
- Professional activities involving organizing/representing/review in meetings, journals & conferences

2016 – 2019 — **Postdoc**, *Wind Energy, Technical University of Denmark (DTU)*, Denmark

- Research activities in multiple Danish and International projects
- Teaching activities at DTU
- Co-supervision of MSc and PhD students
- Lead and support Danish, Indo-Danish, European and International project proposals
- Key role in development of collaboration (MoU): DTU Wind Energy and National Institute of Wind Energy (NIWE), India
- Professional activities involving organizing/representing/review in meetings, journals and conferences

2013–2016 **PhD Student**, *Wind Energy, Technical University of Denmark (DTU)*, Denmark
- Research activities in EU fp7 project - iTesla
- Teaching activities at DTU
- Co-supervision of MSc students

2011–2013 **Software Engineer (Research)**, *IBM India Research Lab*, India
- Multiple commercial research projects
- Open collaborative research with IIT Kharagpur and IIT Madras
- Supervision of interns

2010–2011 **Teaching Assistant**, *Indian Institute of Technology Kharagpur*, India
- Power System Laboratory for Master of Technology students

Visiting Positions

2012 **Electricity Research Center, University College Dublin**, *Ireland*, Sep-Dec

Activities:
- Research on "Over-frequency Emergency Control Using Wind Power"
  - Impact analysis of different agents on over-frequency control from wind power
  - Development of over-frequency defense strategy during an emergency using wind power
  - Study the impact of developed methodology in Danish and Irish power systems

Awards and Distinctions

AEG Elektronfonden's Elektron Award in 2022

Selection Committee Member for Hydrogen TCP Awards of Excellence in 2022

Best paper in MPCE journal in the year 2020

Top cited article in WIREs Energy and Environment in the year 2019-2020

Best poster award at Wind Offshore 2019, Copenhagen

Young member paper award at CIGRE Symposium, Aalborg, 2019

Funding for foreign research stay by Otto Mønsted Foundation in 2015

Certificate of Appreciation for Outstanding Contribution in Synchrophasor Analytics by IBM-IRL in 2012

All India Rank-114 in Graduate Aptitude Test of Engineering (GATE), 2009 for Electrical Engineering out of 21,783 students

Projects

2024–2028 **GREAT: GRid Enhancement for Ancillaries in Tomorrow's power systems**, *DTEC sponsored project*, **PI**

Partners: DTU, TotalEnergies
- Flexibility quantification for future sector-coupled energy systems
- Provision of grid services in power distribution systems
- Provision of grid services in power transmission systems
- Modelling of electrical performance from converter-connected technologies

2024–2028 **National Energy System Transition Facilities (NEST)** , *National Council on Research Infrastructure, NUFI*, **Data Management Coordinator**

Partners: DTU, AAU, AU, Greenlab Skive, LORC
- Participation through DTU Risø HPP facility

2024–2027 **DTWO: Federated Digital Twins for Wind-Offshore**, *Horizon Europe project*, **Work Package leader**

Partners: DTU, IWES, ENFOR, Siemens, ECMWF, and many others
- Digital twin of power and energy system

2024–2026 **H2BRIDGE: Indo-Danish Bilateral Research Initiative on Digitalized Green Hydrogen Ecosystems**, *Gloval Innovation Networking Program*, **DTU PI**

Partners: ITU, DTU, IITM, MNIT Jaipur, IITR, FIDE, ICDK

- To identify possible solutions and research gaps related to both energy and software aspects for green H2 ecosystem

2023–2027 **HAVEN**, *Horizon Europe project*

Partners: BRING, DTU, TTE, IKERLAN, IFG, and many others

- Demonstration of Hybrid energy storage system (HESS) inside an HPP for ancillary service provision

2022–2026 **SolarX: Dispatchable concentrated Solar-to-X energy solution for high penetration of renewable energy** , *Horizon Europe project*

Partners: UDL, HyGear, ACCIONA, EMD, F-ISE, accelCH, DTU, CNRS

- Optimization and economic assessment of SolarX

2022–2026 **TwinSolar: Bridging the research gaps on solar energy to accelerate the energy transition in La Reunion**, *Horizon Europe Twinning project*

Partners: University of Reunion, DTU, Fraunhofer ISE, CPMR, NEXA

- Design, sizing and modelling of energy systems highly penetrated by solar renewables

2022–2025 **COMPAS**, *Innomission project*, **DTU PI**

Partners: DTU, Haldar Topsøe, AU, KU

- Design and operation of hybrid power plants for ammonia production using SOEC elctrolysers

2022–2024 **REALISE: Renewable Energy Analytics for Lifetime Investment and Systems Engineering**, *EUDP project*, **DTU PI**

Partners: DTU, Vattenfall, Aegir Insights, ECD

- Design tool for renewable energy parks and hybrid power plants

2021–2025 **IEA Wind Task 50 (Hybrid Power Plants)**, *IEA*, **PI**

Partners: DTU, NREL and many others

- Operating Agent
- Coordinate international research and development in the field of hybrid wind power plants to accelerate the growth of HPP industry

2021–2025 **IEA Wind Task 50 (Hybrid Power Plants) - Danish Consortium**, *EUDP project*, **PI**

Partners: DTU, AAU, AU, SDU

- Project Leader
- Facilitating, contributing and supporting Danish participation in IEA Wind Task 50

2021–2025 **Hybrid Power Plants Lifecycle Project**, *DTEC sponsored research project* , **Work Package leader**

Partners: DTU, Total

- Sizing of Hybrid Power Plants
- Physical Design of Hybrid Power Plants
- Supervisory control and Energy Management System of Hybrid Power Plants

2020–2023 **Hybrid Energy Storage**, *EUDP project*

Partners: DTU, Vestas

- Ancillary service provision from hybrid energy storage system consisting of Battery and Supercapacitor connected with wind turbine

2020–2024 **WinGrid: Researching the wind farm of grid interactions: exploration and development**, *Marie-Curie ITN project*

Partners: Warwick University (lead), DTU, UCD, Imperial College London, Aalborg University, CAU, Tel Aviv University, DNV-GL

- Coordination of wind-hybrid power plants, with energy storage, for enhanced balancing market participation in support of power systems with a high share of renewables
- WPP support for weather dependent active distribution network"

2019–2022 **HYBRIDize**, *Indo-Danish Innovationsfonden Project*, **Project Coordinator**, https://orbit.dtu.dk/en/projects/optimized-design-and-operation-of-hybrid-power-plant

Partners:
Danish: Suzlon, Hybrid GreenTech
Indian: National Institute of Wind Energy (NIWE), IIT Kharagpur

- Idea inception; Forming alliance and collaboration; Leading proposal development
- Project coordination
- Optimal sizing of Wind-Solar-Storage Hybrid Power Plant
- Energy Management System and supervisory control for Hybrid Power Plant
- Forecasting of power for Hybrid Power Plant

2019–2021 **FarmConners**, *EU H2020 Project*, https://www.windfarmcontrol.info/

Partners: DTU (lead), CENER, DNV-GL, Engie, ForWind, Innogy, KU Leuven, ORE Catapult, SINTEF, TUD, TUM, Vestas

- Integration of farm flow control with electrical control for market and grid integration

2019–2020 **TOPFARM**, *DTU Wind Energy Cross-Cutting Activity Project*, **Work Package Manager**

- Optimal electrical infrastructure design for wind/hybrid power plants.

2018–2021 **TotalControl**, *EU Horizon 2020*

Partners: DTU, DNV, Equinor, ORE Catapult, Siemens Wind Power, SINTEF, KUL, Vattenfall

- Optimization of reactive power dispatch from wind power plants

2016–2020 **NSON-DK**, *Danish Forskel Project*, **Work Package Leader**

Partners: DTU Management Engineering, Ea Energy Analyses

- Work package management
- Study system operation aspects in relation to "balancing and need for reserves" and "interconnection of electricity markets"

2017–2020 **OffshoreWake: Large scale offshore wake impact on Danish Power System**, *Danish Forskel Project*

- Study the impact of offshore wake on power system balancing.

2016–2019 **NetVind**, *Danish Forskel Project*

Partners: ENIIG(lead), Dansk Energi

- Loss minimization in a distribution network through reactive power control of wind farms
- Network reconfiguration in distribution networks to maximize power output from wind farms

2016–2019 **Baltic InteGrid**, *European InterReg Project*, **GoA lead**

Partners: IKEM(lead) and 13 other research partners from Baltic countries

- Development of Technology Catalogue for Offshore Wind Farms
- Cost optimization of offshore wind farm clusters
- Hosting and organising thematic working group workshop on "Technology & Grid Design"

2013–2016 **iTesla: Innovative Tools for Electrical System Security within Large Areas**, *EU FP7 Project*, PhD research

Partners: RTE(lead) and other research partners (6 TSOs, 1 Regional coordination service centre, 12 R&D providers, 1 innovation management expert)

- Analysis of opportunities and threats of renewables in power system defence plans.
- Assessment of adequacy of frequency reserves to handle uncertainties in wind power.
- Development of over-frequency control strategy from wind power during power system emergency
- Optimal load shedding scheme considering large penetration of distributed generations

2011–2013 **Smarter Energy Platform**, *IBM commercial research projects for multiple clients*

- Development of Smarter Energy Platform
  - Wide-Area Situational Awareness (WASA) - WASA uses descriptive and prescriptive analytics to interpret and summarize electrical events in the transmission system, and provide insights during post-event analysis.
  - Outage Prediction and Response Optimization (OPRO) - OPRO uses advanced weather prediction, predictive damage estimates, and optimized crew positioning and response planning to improve a utility's preparation for and response to weather-related power outages
- Optimal allocation of land area for Hybrid Solar Wind Power Systems
- Development of Test bed for analyzing Synchrophasor Applications(Open Collaborative Research with IIT Kharagpur, IIT Madras)

Patents

5. 2024 Assaad C, Murcia Leon JP, **Das, Kaushik**, Ghazouani S, and Sørensen P. Surrogate based hybrid system sizing optimization under uncertainty. Submitted for filing.
4. 2017 Arya V, **Das, Kaushik**, Hazra J, Kalyanaraman S, Narayanaswamy B, and Seetharamakrish DP. Non-technical loss detection and localization. US Patent 9,536,198.
3. 2017 Basu C, **Das, Kaushik**, Finkler UA, Hazra J, Kumar AP, Seetharamakrishnan DP, and Singhee A. Electric outage detection and localization. US Patent 9,841,456.
2. 2016 **Das, Kaushik**, Hazra J, Jespersen N, Narayanaswamy B, and Seetharamakrishnan DP. Condition-based management of power transformers. US Patent 9,312,695.
1. 2015 Basu C, **Das, Kaushik**, Hazra J, and Seetharamakrishnan DP. System and method for cognitive alarm management for the power grid. US Patent App. 14/015,426 - *Applied*.

Book Chapter

4. 2024 Guo Larsen X, Rutgersson A, Karimi F, Lange B, Nilsson E, Sīle T, Hahmann A, Koivisto M, Cutululis NA, **Das, Kaushik**, Fischereit J, Wenau S, and Badger J. Climate change and offshore wind energy in the Baltic Sea. In: *Oxford Research Encyclopedia of Climate Science*. Oxford University Press.
3. 2021 Cutululis NA, Koivisto M, and **Das, Kaushik**. Power systems of the future with very large shares of renewable energy sources. In: *DTU International Energy Report 2021: Perspectives on Wind Energy*. DTU Wind Energy:54–62.
2. 2021 Dykes K, Göçmen T, **Das, Kaushik**, Pérez-Rúa JA, Larsen GC, and Réthoré PE. Technology in context: optimization of wind farm and hybrid power plant design, operation and control. In: *DTU International Energy Report 2021: Perspectives on Wind Energy*. DTU Wind Energy:63–74.
1. 2019 **Das, Kaushik**, Altin M, and Hansen AD. Wind Power Plant System Services. In: *Handbook of Renewable Energy Technology*. Ed. by Zobaa AF and Bansal RC. Singapore: World Scientific Publishers.

Journal Publications

36. 2025 Obradovic K, El Sied M, Dkhili N, Réthoré PE, and **Das, Kaushik**. From the Idea to Construction: Aspects of Relevance of the Optimized Physical Design of Renewable Hybrid Power Plants. Sustainable Energy Technologies and Assessments.

35. 2025 Shahnazian F, **Das, Kaushik**, Yan R, and Sørensen PE. Aspects of relevance of hybrid power plants in control and stability of weak grids. Energies.

34. 2025 **Das, Kaushik**, Hansen AD, Murcia Leon JP, Zhu R, Gupta M, Pérez-Rúa JA, Long Q, Pombo DV, Barlas A, Gocmen T, Sogachev A, Koivisto M, Cutululis NA, and Sørensen PE. Research Challenges and Opportunities of Utility-Scale Hybrid Power Plants. Wiley Interdisciplinary Reviews: Energy and Environment.

33. 2024 Assaad C, Murcia Leon JP, Quick J, Göçmen T, Ghazouani S, and **Das, Kaushik**. Enabling Efficient Sizing of Hybrid Power Plants: A Surrogate-Based Approach to Energy Management System Modeling. Wind Energy Science Discussions. 2024:1–33.

32. 2024 Baviskar A, Nazir FU, Hansen AD, **Das, Kaushik**, and Pal BC. Strategic Optimization Framework Considering Unobservability in Multi-Voltage Active Distribution Networks. International Journal of Electrical Power and Energy Systems.

31. 2024 Quick J, Murcia Leon JP, Kanellas P, Yamujala S, **Das, Kaushik**, and Koivisto MJ. Surrogate-Based Modeling and Sensitivity Analysis of Future European Electricity Spot Market Prices. Electric Power Systems Research.

30. 2024 Zhu R, **Das, Kaushik**, Sørensen P, and Hansen A. A Review on Energy Management System for Grid-connected Utility-scale Renewable Hybrid Power Plants. Wiley Interdisciplinary Reviews: Energy and Environment.

29. 2024 Zhu R, **Das, Kaushik**, Sørensen P, and Hansen AD. Enhancing Profits of Hybrid Wind-battery Plants in Spot and Balancing Markets using Data-driven Two-level Optimization. International Journal of Electrical Power and Energy Systems.

28. 2023 Baviskar A, Hansen AD, **Das, Kaushik**, and Nazir FU. Reactive Power Potential of Converter-Connected Renewables using Convex Power Flow Optimization. International Journal of Electrical Power and Energy Systems.

27. 2023 Murcia Leon JP, Habbou H, Friis-Møller M, Gupta M, Zhu R, and **Das, Kaushik**. HyDesign: a tool for sizing optimization for grid-connected hybrid power plants including wind, solar photovoltaic, and Li-ion batteries. Wind Energy Science Discussions. 2023:1–22.

26. 2023 Zhu R, **Das, Kaushik**, Sørensen PE, and Hansen AD. Optimal Participation of Co-Located Wind–Battery Plants in Sequential Electricity Markets. Energies.

25. 2022 Baviskar A, **Das, Kaushik**, Koivisto M, and Hansen A. Multi-Voltage Level Active Distribution Network with Large Share of Weather-Dependent Generation. IEEE Transactions on Power Systems.

24. 2022 Gea-Bermúdez J, Kitzing L, Koivisto M, **Das, Kaushik**, Murcia Leon JP, and Sørensen PE. The value of sector coupling for the development of offshore power grids. Energies.

23. 2022 Long Q, **Das, Kaushik**, Pombo DV, and Sørensen P. Hierarchical Control Architecture of Co-located Hybrid Power Plants. International Journal of Electrical Power and Energy Systems.

22. 2022 Long Q, **Das, Kaushik**, and Sørensen PE. Hierarchical Frequency Control of Hybrid Power Plants Using Frequency Response Observer. IEEE Transactions on Sustainable Energy.

21. 2021 Eguinoa I, Gocmen T, Garcia-Rosa PB, **Das, Kaushik**, Petrovic V, Kolle K, Manjock A, Koivisto MJ, and Smailes M. Wind farm flow control oriented to electricity markets and grid integration: initial perspective analysis. Wiley Advanced Control for Applications.

20. 2021 Hansen AD, **Das, Kaushik**, Sørensen PE, Singh P, and Gavrilovic A. European and Indian Grid Codes for Utility Scale Wind Hybrid Power Plants. Energies.

19. 2021 Long Q, Celna A, **Das, Kaushik**, and Sørensen P. Fast frequency support from hybrid wind power plants using supercapacitors. Energies. 14:3495.

18. 2020 Gea-Bermúdez J, **Das, Kaushik**, Koduvere H, and Koivisto M. Day-ahead market modelling of large-scale highly-renewable multi-energy systems: analysis of the North Sea region towards 2050. Energies. 14:88.

17. 2020 Koivisto M, Gea-Bermúdez J, Kanellas P, **Das, Kaushik**, and Sørensen P. North Sea region energy system towards 2050: integrated offshore grid and sector coupling drive offshore wind installations. Wind Energy Science Discussions:1–11.

16. 2020 Perez-Rua JA, Stolpe M, **Das, Kaushik**, and Cutululis NA. Global Optimization of Offshore Wind Farm Collection Systems. IEEE Transactions on Power Systems. 35.

15. 2020 **Das, Kaushik**, Grapperon A, Sørensen PE, and Hansen AD. Optimal operation of battery for wind-storage hybrid power plant. Electric Power Systems Research.

14. 2020 **Das, Kaushik**, Guo F, Nuno E, and Cutululis NA. Frequency Stability of Power System with Large Share of Wind Power during Storm Conditions. Journal of Modern Power Systems and Clean Energy:1–10 (**Best Paper Award**).

13. 2019 Fernandez-Guillamon A, **Das, Kaushik**, Cutululis NA, and Molina-García A. Offshore Wind Power Integration into Future Power Systems: Overview and Trends. Journal of Marine Science and Engineering. 7:399.

12. 2019 Perez-Rua JA, **Das, Kaushik**, and Cutululis NA. Optimum Sizing of Offshore Wind Farm Export Cables. International Journal of Electrical Power and Energy Systems. 113:982–90.

11. 2019 Söder L, Tomasson E, Estanqueiro A, Flynn D, Hodge BM, Kiviluoma J, Korpas M, Neau E, Couto A, Pudjianto D, Strbac G, Burke DL, Gomez T, **Das, Kaushik**, Cutululis NA, et al. Review of wind generation within adequacy calculations and capacity markets for different power systems. Renewable and Sustainable Energy Reviews.

10. 2019 **Das, Kaushik**, Altin M, Hansen AD, and Sørensen P. Inertia Dependent Droop Based Frequency Containment Process. Energies. 12:1648.

9. 2018 Altin M, Hansen AD, Barlas TK, **Das, Kaushik**, and Sakamuri JN. Optimization of Short-term Overproduction Response of Variable Speed Wind Turbines. IEEE Transactions on Sustainable Energy. 9:1732 –1739.

8. 2018 Altin M, Kuhlmann J, **Das, Kaushik**, and Hansen A. Optimization of Synthetic Inertial Response from Wind Power Plants. Energies. 11:1051.

7. 2018 Koivisto M, **Das, Kaushik**, Guo F, Sørensen P, Nuño E, Cutululis NA, and Maule P. Using time series simulation tool for assessing the effects of variable renewable energy generation on power and energy systems. Wiley Interdisciplinary Reviews: Energy and Environment:e329.

6. 2017 **Das, Kaushik**, Altin M, Hansen AD, Sørensen PE, Flynn D, and Abildgaard H. Wind power support during overfrequency emergency events. CIGRE Science & Engineering. 9:73–83.

5. 2017 **Das, Kaushik**, Nitsas A, Altin M, Hansen AD, and Sørensen PE. Improved load shedding scheme considering distributed generation. IEEE Transactions on Power Delivery. 32:515–24.

4. 2016 De Boeck S, **Das, Kaushik**, Trovato V, Turunen J, Halat M, Sorensen P, and Van Hertem D. Review of defence plans in europe: Current status, strenghts and opportunities. CIGRE Science & Engineering. 5:6–16.

3. 2016 **Das, Kaushik**, Hansen AD, and Sørensen PE. Understanding IEC standard wind turbine models using SimPowerSystems. Wind Engineering. 40. DOI: `https://doi.org/10.1177%2F0309524X16642058`:212–27.

2. 2016 **Das, Kaushik**, Litong-Palima M, Maule P, Altin M, Hansen AD, Sørensen PE, and Abildgaard H. Adequacy of frequency reserves for high wind power generation. IET Renewable Power Generation. 11:1286–94.

1. 2016 Zhao J, Zhang G, **Das, Kaushik**, Korres GN, Manousakis NM, Sinha AK, and He Z. Power system real-time monitoring by using PMU-based robust state estimation method. IEEE Transactions on Smart Grid. 7:300–9.

Conference Publications (Peer-Reviewed)

63. 2024 Celna A, Gryning MPS, Bakhshizadeh MK, Hansen AD, Afkhamimeybodi S, Sørensen PE, and **Das, Kaushik**. Centralized Frequency Control of Offshore Hybrid Power Plant. In: *2024 International Hybrid Power Plants & Systems Workshop*.

62. 2024 Gupta M, Murcia Leon JP, Friis-Møller M, and **Das, Kaushik**. Evaluation of Grid-Connected and Off-Grid Operations of Hybrid Power Plant with P2H Integration. In: *2024 International Hybrid Power Plants & Systems Workshop*.

61. 2024 Gupta M, Murcia Leon JP, Friis-Møller M, and **Das, Kaushik**. Profitability of Solar-based Hybrid Power Plant in Northern Europe. In: *33rd Wind & Solar Integration Workshop*.

60. 2024 Iov F, Petersen L, Martinez Rico J, Raducu GA, Pombo DV, and **Das, Kaushik**. Control Architectures for Co-Located Hybrid Power Plants. In: *2024 International Hybrid Power Plants & Systems Workshop*.

59. 2024 Obradovic K, Perez-Rua JA, Dykes K, and **Das, Kaushik**. Electrical Collection System Design Optimization for Hybrid Power Plants. In: *PES General Meeting*.

58. 2024 Pouraltafi-Kheljan S, El-Sied M, Rahmani MA, **Das, Kaushik**, and Sorensen PE. Frequency Services from Hybrid Storage Wind Turbines. In: *2024 International Hybrid Power Plants & Systems Workshop*.

57. 2024 Pouraltafi-Kheljan S, El-Sied M, Rahmani MA, **Das, Kaushik**, and Sørensen P. Hybrid Power Plants' Contribution to Alleviate Frequency Nadir in Low-Inertia Power Systems. In: *IEEE Innovative Smart Grid Technologies Europe 2024*.

56. 2024 Shahnazian F, **Das, Kaushik**, Yan R, and Sørensen PE. Hybrid Power Plant Control in Weak Grids: Grid Following vs.Grid Forming. In: *33rd Wind & Solar Integration Workshop*.

55. 2023 Baviskar A, Gupta M, and **Das, Kaushik**. Synergy of Hydrogen Production in Active Distribution Networks. In: *22nd Wind and Solar Integration Workshop*.

54. 2023 Baviskar A, **Das, Kaushik**, Hansen AD, and Anand A. Opportunities of Battery Energy Storage in Stand-Alone and Co-Located Hybrid Power Plant in Distribution Grid. In: *22nd Wind and Solar Integration Workshop*.

53. 2023 Celna A, **Das, Kaushik**, Gryning M, Bakhshizadeh MK, Sørensen PE, and Hansen AD. Control of Hybrid Power Plants with Offshore Wind and P2X for Active and Reactive Power Generation. In: *22nd Wind and Solar Integration Workshop*.

52. 2023 David M, Andriamandroso MN, Poulsen PB, Castaing-Lasvignottes J, Cutululis N, **Das, Kaushik**, Durif-Aboukali C, Francou J, Lauret P, La Salle JLG, et al. A set of study cases for the massive integration of solar renewables in non-interconnected areas. In: *Solar World Congress 2023*.

51. 2023 Gupta M, **Das, Kaushik**, Friis-Møller M, and Murcia León JP. Assessment of Hybrid Power Plant Operation including P2H in Future Energy Markets. In: *22nd Wind and Solar Integration Workshop*.

50. 2023 Habbou H, Leon JPM, and **Das, Kaushik**. Profitability of hybrid power plants in European markets. In: *Journal of Physics: Conference Series*. Vol. 2507. 1. IOP Publishing:012009.

49. 2023 Lindberg O, Zhu R, **Das, Kaushik**, Lingfors D, and Sørensen PE. Optimal Operation of Hybrid Power Plants: A Case Study of an Operation Park in Sweden. In: *Hybrid Power Systems Workshop, 2023*. Energynautics GmbH.

48. 2023 Murcia León JP and **Das, Kaushik**. Profitability of Hybrid Power Plants in Europe. In: *22nd Wind and Solar Integration Workshop*.

47. 2023 Pouraltafi-kheljan S, Moataz El-Seid M, Rahmani MA, **Das, Kaushik**, and Sørensen PE. A Comprehensive Review of the Control Architecture of Co-Located Utility-Scale Hybrid Power Plants: State-of-the-Art and Future Directions. In: *22nd Wind and Solar Integration Workshop*.

46. 2023 Shahnazian F, **Das, Kaushik**, Yan R, and Sørensen PE. Challenges of Renewable Energy Integration to Weak Grids. In: *22nd Wind and Solar Integration Workshop*.

45. 2023 Yamujala S, **Das, Kaushik**, Koivisto M, Gupta M, and Kanellas P. Requirements of Future European Balancing Markets: Insights into Imbalance Volumes and Generation Availability. In: *22nd Wind and Solar Integration Workshop*.

44. 2023 Zhu R, Lindberg O, **Das, Kaushik**, Sørensen PE, and Hansen AD. Impact of Renewable Power and Market Price Forecasts on the Operational Profitability of Hybrid Power Plants. In: *22nd Wind and Solar Integration Workshop*.

43. 2022 Baviskar A, Hansen A, and **Das, Kaushik**. Reactive power support from converter connected renewable generation in an active distribution network. In: *13th International Symposium on Power Electronics for Distributed Generation Systems*. IEEE.

42. 2022 **Das, Kaushik**, Cossu A, Murcia Leon JP, and Sørensen PE. Component Sizing of an utility scale hybrid power plant. In: *Hybrid Power Systems Workshop, 2022*. Energynautics GmbH.

41. 2022 **Das, Kaushik**, Murcia Leon JP, Habbou H, Assaad C, Perez-Rua JA, Zhu R, and Sorensen PE. HyDesign: A Tool For Design and Operation of Renewable Hybrid Renewable Plants. In: *21st Wind and Solar Integration Workshop*.

40. 2022 Zhu R, **Das, Kaushik**, Sørensen PE, and Hansen A. Energy Management of Hybrid Power Plants in Balancing Market. In: *Hybrid Power Systems Workshop, 2022*. Energynautics GmbH.

39. 2021 Baviskar A, Hansen AD, **Das, Kaushik**, and Douglass P. Open-Source Active Distribution Grid Model with a large share of RES- features, and studies. In: *9th International Conference on Power Systems*.

38. 2021 Baviskar A, **Das, Kaushik**, and Hansen AD. Minimize Distribution Network Losses using Wind Power. In: *CIRED 2021*.

37. 2021 Long Q, Zhu R, **Das, Kaushik**, and Sø rensen P. Interfacing Energy Management with Supervisory Control for Hybrid Power Plants. In: *20th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

36. 2021 Moolman J, **Das, Kaushik**, and Sørensen P. Operation of Battery Storage in Hybrid Power Plant in Australian Electricity Market. In: *IET Renewable Power Generation*.

35. 2021 Pombo DV, Gocmen T, **Das, Kaushik**, and Sø rensen P. Multi-Horizon Data-Driven Wind Power Forecast: From Nowcast to 2 Days-Ahead. In: *4th International Conference on Smart Energy Systems and Technologies (SEST)*.

34. 2020 Baviskar A, Hansen A, **Das, Kaushik**, and Koivisto MJ. Challenges of future distribution systems with a large share of RES – A Review. In: *19th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

33. 2020 Kölle K, Göçmen T, Eguinoa I, **Das, Kaushik**, Koivisto MJ, Leon JPM, Smailes M, and Kanellas P. FarmConners market showcases for wind farm control. In: *19th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

32. 2020 **Das, Kaushik**, Bermudez JG, Kanellas P, Koivisto MJ, Murcia Leon JP, and Sørensen P. Recommendations for balancing requirements for future North Sea countries towards 2050. In: *19th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

31. 2019 Fernandez-Guillamon A, Molina-Garcıa A, **Das, Kaushik**, and Altin M. Comparison of different tools for power flow analysis with high wind power integration. In: *7th International Conference on Clean Electrical Power (ICCEP)*. IEEE:82–6.

30. 2019 Jain A, Sakamuri JN, **Das, Kaushik**, Goksu O, and Cutululis NA. Functional Requirements for Blackstart and Power System Restoration from Wind Power Plants. In: *2nd International Conference on Large-Scale Grid Integration of Renewable Energy in India*. Energynautics GmbH.

29. 2019 Kanellas P, **Das, Kaushik**, Sørensen PE, and Bermudez JG. Modeling the Intra-Hour power system balancing of the Danish Power System for 2020, 2030 & 2050. In: *18th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

28. 2019 Kavimandan A, **Das, Kaushik**, Hansen AD, and Cutululis NA. Hierarchy and complexity in control of large offshore wind power plant clusters. In: *Journal of Physics- Conference Series*. Vol. 1356. 1. IOPScience.

27. 2019 Mancarella P, Martinez-Cesena EA, Gianni Celli G, **Das, Kaushik**, Ledwich G, Lombardi P, Negnevitsky M, Saviozzi M, Soares FJ, G Z, and N Z. Modelling flexibility from distributed energy resources. In: *CIGRE Symposium, Chengdu*.

26. 2019 Minguijon DH, Perez-Rua JA, **Das, Kaushik**, and Cutululis NA. Metaheuristic-based Design and Optimization of Offshore Wind Farms Collection Systems. In: *PowerTech, 2019 IEEE Milan*. IEEE.

25. 2019 Perez-Rua JA, Minguijon DH, **Das, Kaushik**, and Cutululis NA. Heuristics-based design and optimization of offshore wind farms collection systems. In: *Journal of Physics- Conference Series*. Vol. 1356. 1. IOPScience.

24. 2019 Perez-Rua JA, **Das, Kaushik**, and Cutululis NA. Improved Method for Calculating Power-Transfer Capability Curves of Offshore Wind Farms Cables. In: *CIGRE Symposium, Aalborg*. **Young Member Paper Award**. CIGRE.

23. 2019 Pérez-Rúa JA, **Das, Kaushik**, and Cutululis NA. Lifetime estimation and performance evaluation for offshore wind farms transmission cables. In: *15th IET international conference on AC and DC Power Transmission*.

22. 2019 **Das, Kaushik**, Hansen AD, Adamou P, Giagkou X, Rigas F, Sakamuri J, Sørensen PE, Altin M, and Nuno E. Dynamic modelling of wind-solar-storage based Hybrid Power Plant. In: *18th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

21. 2019 **Das, Kaushik**, Vangari D, Koivisto M, Altin M, Hansen AD, and Sørensen PE. Enhanced Features of Wind based Hybrid Power Plants. In: *Hybrid Power Systems Workshop, 2019*. Energynautics GmbH.

20. 2018 Jain A, **Das, Kaushik**, Göksu Ö, and Cutululis NA. Control Solutions for Blackstart Capability and Islanding Operation of Offshore Wind Power Plants. In: *17th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

19. 2018 Söder L, Estanqueiro A, Flynn D, Hodge BM, Kiviluoma J, Korpas M, Neau E, Couto A, Pudjianto D, Strbac G, Burke DL, Gomez T, and **Das, Kaushik**. Wind Generation in Adequacy Calculations and Capacity Markets in Different Power System Control Zones. In: *17th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

18. 2018 **Das, Kaushik**, Koivisto MJ, Sørensen PE, and Bermudez JG. Balancing Challenges for Future North Sea Offshore Network. In: *17th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*.

17. 2017 Altin M, **Das, Kaushik**, Hansen AD, and Thybo GW. Optimal Control of Wind Turbines in Active Distribution Networks during Network Maintenance. In: *16th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*. Energynautics GmbH.

16. 2017 Hazra J, **Das, Kaushik**, Roy BKS, Padmanaban M, and Sinha AK. Multistage optimal PMU placement for hybrid state estimation. In: *Power & Energy Society General Meeting, 2017 IEEE*. IEEE:1–5.

15. 2017 **Das, Kaushik**, Altin M, Hansen AD, and Sørensen PE. Future Defence Plan Requirements with High Penetration of Renewable Generations. In: *1st International Conference on Large-Scale Grid Integration of Renewable Energy in India*.

14. 2017 **Das, Kaushik**, Martinez EN, Altin M, Hansen AD, Thybo GW, Rangård M, et al. Facing the challenges of distribution systems operation with high wind power penetration. In: *PowerTech, 2017 IEEE Manchester*. IEEE:1–6.

13. 2016 Sakamuri JN, **Das, Kaushik**, Altin M, Cutululis NA, Hansen AD, Tielens P, and Van Hertem D. Improved frequency control from wind power plants considering wind speed variation. In: *Power Systems Computation Conference (PSCC), 2016*. IEEE:1–7.

12. 2015 **Das, Kaushik**, Altin M, Hansen AD, Sørensen PE, and Abildgaard H. Primary reserve studies for high wind power penetrated systems. In: *PowerTech, 2015 IEEE Eindhoven*. IEEE:1–6.

11. 2015 **Das, Kaushik**, Litong-Palima M, Maule P, and Sørensen PE. Adequacy of operating reserves for power systems in future European wind power scenarios. In: *Power & Energy Society General Meeting, 2015 IEEE*. IEEE:1–5.

10. 2013 Basu C, Hazra J, **Das, Kaushik**, and Seetharam DP. Real-time alarm management system for wide-area monitoring. In: *Innovative Smart Grid Technologies-Asia (ISGT Asia), 2013 IEEE*. IEEE:1–6.

9. 2013 Basu C, **Das, Kaushik**, Hazra J, and Seetharam DP. Enhancing wide-area monitoring and control with intelligent alarm handling. In: *Innovative Smart Grid Technologies Europe (ISGT EUROPE), 2013 4th IEEE/PES*. IEEE:1–5.

8. 2013 Hazra J, **Das, Kaushik**, Kumar AP, Narayanaswamy B, Seetharam DP, and Jespersen N. Optimal utilization of power transformers through virtual sensing. In: *Innovative Smart Grid Technologies Europe (ISGT EUROPE), 2013 4th IEEE/PES*. IEEE:1–5.

7. 2013 **Das, Kaushik**, Hansen AD, and Sørensen PE. Aspects of relevance of wind power in power system defense plans. In: *12th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants*. Energynautics GmbH:416–21.

6. 2012 Hazra J, Narayanaswamy B, **Das, Kaushik**, Kumar AP, Seetharam DP, Liyanage DS, and Mathew S. Decentralized power factor correction. In: *Sustainable Future Energy*.

5. 2012 Hazra J, Reddi RK, **Das, Kaushik**, Seetharam DP, and Sinha AK. Power grid transient stability prediction using wide area synchrophasor measurements. In: *Innovative Smart Grid Technologies (ISGT Europe), 2012 3rd IEEE PES International Conference and Exhibition on*. IEEE:1–8.

4. 2012 Hazra J, **Das, Kaushik**, and Seetharam DP. Smart grid congestion management through demand response. In: *Smart Grid Communications (SmartGridComm), 2012 IEEE Third International Conference on*. IEEE:109–14.

3. 2012 Sengupta N, **Das, Kaushik**, Jayram T, and Seetharam DP. Optimal allocation of land area for a hybrid solar wind power plant. In: *2012 IEEE Third International Conference on Smart Grid Communications (SmartGridComm)*. IEEE:522–7.

2. 2012 **Das, Kaushik**, Hazra J, Seetharam DP, Reddi RK, and Sinha AK. Real-time hybrid state estimation incorporating SCADA and PMU measurements. In: *Innovative Smart Grid Technologies (ISGT Europe), 2012 3rd IEEE PES International Conference and Exhibition on*. IEEE:1–8.

1. 2011 Hazra J, **Das, Kaushik**, Seetharam DP, and Singhee A. Stream computing based synchrophasor application for power grids. In: *Proceedings of the first international workshop on High performance computing, networking and analytics for the power grid*. ACM:43–50.

Reports

11. 2023 Baviskar AU, **Das, Kaushik**, and Hansen AD. EUDP IEA Task 41. Delivarable 3.1 - Control strategies of wind turbines in future distribution systems.

10. 2021 Holttinen H et al. Design and Operation of Energy Systems with Large Amounts of Variable Generation. Final Summary Report, IEA Wind TCP Task 25.

9. 2021 Larsén XG, Fischereit J, Du J, Volker P, Sørensen PE, Das K, Koivisto MJ, Hahmann AN, Imberger M, Ott S, et al. Large Scale Offshore Wake Impact on the Danish Power System.
8. 2020 Kanellas P, **Das, Kaushik**, Gea-Bermudez J, and Sørensen P. Balancing Tool Chain: Balancing and automatic control in North Sea Countries in 2020, 2030 and 2050.
7. 2019 Avdic DB, Stahl P, **Das, Kaushik**, et al. Baltic InteGrid review: towards a meshed offshore grid in the Baltic Sea.
6. 2019 Gea-Bermudez J, **Das, Kaushik**, Pade LL, Koivisto M, and Kanellas P. NSON-DK Day-Ahead market operation analysis in the North Sea region towards 2050.
5. 2019 **Das, Kaushik** and Cutululis NA. Advanced integrated supervisory and wind turbine control for optimal operation of large Wind Power Plants.
4. 2019 **Das, Kaushik** and Cutululis NA. Optimization of reactive power dispatch.
3. 2017 **Das, Kaushik**, Altin M, and Hansen AD. Technical methodology for minimization of network losses.
2. 2017 **Das, Kaushik** and Cutululis NA. Offshore Wind Power Plant Technology Catalogue-Components of wind power plants, AC collection systems and HVDC systems.
1. 2015 Sørensen PE, **Das, Kaushik**, Llopis R, Gaitán V, Halat M, Fustero X, Zamarreño LM, Van Hertem D, De Boeck S, Hillberg E, et al. Improvement of defence plans in European power systems - Proposed harmonization, coordination and inclusion of RES, distributed resources and PMU information.

Presentations/Invited Talks/Posters (Selected)

32. 2024 **Das, Kaushik**. Open-Source Modelling of Electrical Control of Hybrid Power Plants. 33rd Wind & Solar Integration Workshop.
31. 2023 **Das, Kaushik**. Multi-technology multi-commodity renewable hybrid plants. US-DK PTX Webinar Series - Hybrid Energy Systems, **Invited Talk**.
30. 2023 **Das, Kaushik**. Utility-Scale Hybrid Power Plants. **Keynote Speech**, International Conference on Energy, Systems, Drives, Power Electronics, Measurement & Sensors, Kolkata, India.
29. 2023 Zhu R, **Das, Kaushik**, Sørensen P, and Hansen AD. Long-term economic analysis of wind-battery hybrid power plant considering balancing market. Wind Europe Annual Event, Copenhagen.
28. 2022 **Das, Kaushik**. Hybrid power plants with PTX. MegaVind - PTX working group meeting.
27. 2022 **Das, Kaushik**. Utility-scale hybrid power plants. **Invited Talk** - TotalEnergies MATHIAS Conference.
26. 2021 Larsen XG, Fischereit J, **Das, Kaushik**, Koivisto M, et al. Large-scale Offshore Wind Farm Wakes on power integration system. Wind Offshore, Copenhagen.
25. 2021 **Das, Kaushik**. Ancillary Services. **Invited Talk**, "EERA JP Wind SP4 Aerodynamics Loads & Control – FALCON 30 50 Workshop".
24. 2021 **Das, Kaushik**. Expert Elicitation on Hybrid Power Plants, **Keynote Speech**. 5th International Hybrid Power Systems Workshop.
23. 2020 **Das, Kaushik**. Utility Scale Hybrid Wind Power Plant. AICTE Online Faculty Development Program, NIT Silchar, India.
22. 2020 **Das, Kaushik**. Utility Scale Hybrid Wind Power Plant. Guest Lecture, University of Calcutta, India.
21. 2020 **Das, Kaushik**. Utility Scale Hybrid Wind Power Plant. Power The Future: Regional Program, a US Agency for International Development project in Central Asia.
20. 2020 **Das, Kaushik**, Grapperon A, and Sørensen PE. Operation of Wind-Storage Hybrid Power Plants in Energy Markets. EERA JP Wind & SETWind Workshop on Wind Power in Energy Systems.

19. 2020 **Das, Kaushik**, Minguijon DH, and Cutululis NA. Optimization of reactive power dispatch in offshore wind power plants. EERA DeepWind, Trondheim, Norway.
18. 2019 Koivisto M, Gea-Bermudez J, Kanellas P, **Das, Kaushik**, and Sørensen P. North Sea region energy system towards 2050: Offshore grid and sector coupling drive offshore wind installations. Wind Offshore, Copenhagen.
17. 2019 Koivisto M, **Das, Kaushik**, and Sørensen PE. Modelling wind power variability: The reanalysis and stochastic simulation approaches and how to combine them. Wind Energy Science Conference, Cork, Ireland.
16. 2019 Larsen XG, Volker P, Imberger M, Fischereit J, Koivisto M, **Das, Kaushik**, et al. Linking calculation of wakes from offshore wind farm cluster to the Danish power integration system. Wind Offshore, Copenhagen (**Best Poster Award**).
15. 2019 Perez-Rua JA, Cutululis NA, Stolpe M, Minguijon D, and **Das, Kaushik**. Optimum sizing and Topological network Optimisation of cables in offshore wind farms. Wind Offshore, Copenhagen.
14. 2019 Perez-Rua JA, Minguijon D, **Das, Kaushik**, and Cutululis NA. Advanced heuristics for design and optimization of offshore wind farms collection systems. Wind Energy Science Conference, Cork, Ireland.
13. 2019 **Das, Kaushik**, Hansen AD, and Sø rensen PE. Aspects of relevance for utility scale wind-solar hybrid power plants. Wind Energy Science Conference, Cork, Ireland.
12. 2018 **Das, Kaushik**, Koivisto M, Gea-Bermudez J, and Sørensen PE. Effects of Future North Sea Grid Development on Danish Power System. **Invited Talk**, IEEE PES General Meeting, Oregon, USA.
11. 2017 **Das, Kaushik**. Integration of Wind Power in Future Defence Plans. **Invited Talk**, Indian Institute of Technology Kharagpur, India.
10. 2017 **Das, Kaushik**, Nitsas A, Altin M, Hansen AD, and Sørensen PE. Improved Load Shedding Scheme Considering Distributed Generation. **Invited Talk**, IEEE PowerTech, Manchester, UK.
9. 2017 **Das, Kaushik**, Sofianopoulos T, Altin M, Hansen AD, Sø rensen PE, and Thybo GW. Optimal reactive power control of distributed wind power plants for loss minimization in medium voltage network. Panel Discussion, IEEE PES General Meeting, Chicago, USA.
8. 2017 **Das, Kaushik**, Sofianopoulos T, Altin M, Hansen AD, and Sø rensen PE. Optimal Control of Wind Turbines in Active Distribution Networks. **Invited Talk**, Wind Energy Science Conference, Lyngby, Denmark.
7. 2017 **Das, Kaushik**, Sofianopoulos T, Altin M, Hansen AD, Sø rensen PE, and Thybo GW. System Service Provision through Optimal Control of Distributed Wind Turbines. **Invited Talk**, IRPWind conference, Amsterdam, The Netherlands.
6. 2016 **Das, Kaushik**. Integration of renewables in power system defence plans. **Invited Talk**, IEEE Invited Talk, Meghnad Saha Institute of Technology, Kolkata, India.
5. 2015 **Das, Kaushik**. Emergency Over-frequency Control using Wind Power. Poster Presentation, The Energy Institute and Electricity Research Centre Annual Symposium, University College Dublin, Dublin, Ireland.
4. 2015 **Das, Kaushik**. Renewables in System Stability and Defence Plans. **Invited Talk**, Electricity Research Center, University College Dublin, Dublin, Ireland.
3. 2014 **Das, Kaushik**. Aspects of relevance for wind power in power system defense plans. **Invited Talk**, R&D Conference, Danish Research Consortium for Wind Energy, Herning, Denmark.
2. 2014 **Das, Kaushik**. Primary Reserve Requirement for Future Networks. Poster Presentation, Danish Smart Grid Research Network event: "Wind and the Smart Grid", Vestas Technology, Aarhus, Denmark.
1. 2011 **Das, Kaushik**. A Real Time Hybrid State Estimator Incorporating Synchrophasor Measurements. **Invited Talk**, IBM Research, India.

Author-level Metrics (as on 28-01-2025)

Citations	Web of Science	= 644 (h-index = 13)
	Scopus	= 964 (h-index = 15)
	Google Scholar	= 1752 (h-index = 22)
	ResearchGate	= 1309 (h-index = 19)

Professional Activities

Editor	Energies: Special issue on "Coordinated Control of Wind Power in Power Systems with a Large Share of Renewables"
PhD Evaluation	Ana Fergui, Universidad Politecnica de Cartagena, Spain Jan Engelhardt, Technical University of Denmark Nicholas Christopher Riedel-Lyngskær, Technical University of Denmark Johann Francou, University of Reunion Island Jon Martínez Rico, University of the Basque Country
Task Group	**Operating agent of IEA Wind Task on "Hybrid Power Plant"** IEC 61400-27
Joint Working Group	Member of CIGRE JWG C6/C2.34: "Flexibility provision from Distributed Energy Resources"
Advisory Committee	**International Hybrid Power Plants & Systems Workshop** Wind & Solar Integration Workshop 1st International Conference on Large-Scale Grid Integration of Renewable Energy in India, New Delhi, India, 2017 14th IEEE PES Asia-Pacific and Energy Engineering Conference, Melbourne, Australia, 2022 Technical program committee member of 3rd International Conference on Control, Instrumentation, Energy & Communication, Kolkata, India, 2024
Membership	IEA Wind, Member (Task 25: Design and operation of power systems with large amounts of wind power, Task 41: Distributed Wind) CIGRE, Member IEEE, Senior Member (Power & Energy Society)
Chair	Wind Energy Denmark 2017 MiniSymposium in Wind Energy Science Conference 2019
Reviewer	IEEE Transaction on Power Systems, IET Renewable Power Generation, MDPI Energies, Elsevier International Journal of Electrical Power & Energy Systems, Wiley Wind Energy, Elsevier Renewable Energy, IEEE Transaction on Smart Grid, Wind Energy Science, Power System Computation Conference (PSCC) and others
Mentor	IIT Kharagpur Mentorship Program

Teaching Activities

2024	Hybrid Power Plant Design Project, *BSc course*, DTU, Course Responsible.
2023	Hybrid Power Plants, *Online master*, DTU, Course Responsible.
2015	Power system balancing with large scale wind power, *MSc course*, DTU.
2018	Grid connection and integration of wind power, *Online master*, DTU.
2020	Hybrid Wind Power Plant, *MSc special course*, DTU, Course Responsible.
2021–2022	Optimization in Wind Energy, *MSc and PhD course*, DTU.
2021	Modelling and control of wind and solar power plants, *MSc special course*, DTU.

2019
2017
Modelling and control of wind power, *PhD special course*, DTU.

2018
The impact of wind turbine rotor sizes on power system integration, *MSc special course*, DTU.

2017
Modelling & Control of Wind Power in Voltage Stability Studies, *PhD special course*, DTU.

Supervision Activities

Postdoc Supervision (1 completed, 4 ongoing)

1. 2022 "Power system balancing and energy system modelling", *Sumanth Yamujala*, DTU.
2. 2022 "Sizing and energy management system of hybrid power plants", *Megha Gupta*, DTU.
3. 2023 "Power system balancing and energy management system of hybrid power plants", *Rujie Zhu*, DTU.
4. 2023 "Optimization and control of wind and hybrid power plants", *Aeishwarya Baviskar*, DTU.
5. 2023 2021 "Dynamic modelling and control of wind and hybrid power plants", *Qian Long*, DTU.

PhD Supervision (4 completed, 6 ongoing, 5 in Hybrid Power Plants)

1. 2024 2027 "Integration of balancing markets in the modelling of sector-coupled energy systems", *Mohammadhassan Bahmani*, DTU, (Co-Supervisor).
2. 2026 2023 "Physical and Electrical Design of Hybrid Power Plants", *Katarina Obradovic*, DTU, (Co-Supervisor).
3. 2025 2022 "Robust Control and Stability of Multi-vendor & Multi-technology Hybrid Power Plants", *Aivaras Celna*, DTU, (Main supervisor).
4. 2025 2022 "Operation and control of Hybrid Power Plants including Energy Management System", *Soheil Pouraltafi*, DTU, (Co-supervisor).
5. 2024 2021 "Sizing of Hybrid Power Plants", *Charbel Assad*, DTU, (Main Supervisor).
6. 2024 2021 "Control of Hybrid Power Plants connected to weak grids", *Fatemeh Shahnazian*, DTU, (Co-supervisor).
7. 2023 2020 "Optimal Energy Management of Hybrid Power Plants in Electricity Markets", *Rujie Zhu*, DTU, (Co-supervisor).
8. 2023 2020 "WPP support for weather dependent active distribution network", *Aeishwarya Baviskar*, DTU, (Co-supervisor).
9. 2021 2018 "Green & Black-starting HVDC-connected Offshore Wind Power Plants", *Anubhav Jain*, DTU, (Co-supervisor).
10. 2020 2017 "Design and optimization of electrical infrastructures in offshore wind power clusters", *Juan-Andres Perez-Rua*, DTU, (Co-supervisor).

Visiting PhD

1. 2019 "New contributions to frequency control based on virtual synchronous generators: application to power systems with high renewable energy sources integration", *Ana Fernandez-Guillamon*, Universidad Politecnica de Cartagena.

MSc Supervision/Co-supervision

1. 2025 "Power flow and topology optimization in meshed offshore HVDC Systems", *Mohammadpouya Mostashar*, DTU.
2. 2025 "Operation of hybrid power plants for value maximization though power purchase agreement and electricity market participation", *Laura Nørgaard Lund*, DTU.

3. 2025 "Role of storage for flexibility services in European balancing markets", *Mie Hansen Bahl*, DTU.
4. 2023 "Grid-forming control of hybrid power plants", *Marcus Andreas Hansen*, DTU.
5. 2023 "Dynamic modelling and control of hybrid power plant for ammonia production", *Kalyan Kafle*, DTU.
6. 2023 "Sizing of hybrid power plants for hydrogen production", *Fateme Faramarzi*, DTU.
7. 2023 "Sizing of hybrid power plant for maximizing values from electricity markets", *Marta Turmo Magri*, DTU.
8. 2023 "Modelling and control of hybrid power plants for ancillary services provision", *Enrique Garcia Rico*, DTU.
9. 2023 "Dynamic modelling of hybrid power plants with heat production", *Rebekka Claudi Grøn-Iversen*, DTU.
10. 2023 "Modelling and optimization of a hybrid microgrid system for maximizing energy self-sufficiency", *Brandon Soberon Sanchez*, DTU.
11. 2023 "Balancing of future Nordic power system", *Frederik Skov Petersen*, DTU.
12. 2022 "Impact of reliability on the electrical system design of hybrid power plants", *Julian Metzger*, DTU.
13. 2022 "Sizing of a hybrid power plant for the future energy market including P2X", *Krisztián Gérusz*, DTU.
14. 2022 "Sizing optimization of hybrid power plants", *Yvan T. A. Lanore*, DTU.
15. 2022 "Reactive power and voltage control of hybrid power plants", *Luis Larrosa Lopez*, DTU.
16. 2022 "Optimal sizing and design of a renewable hybrid power plant for methanization", *Artur Szymon Zebrowski*, DTU.
17. 2021–2022 "Modelling and control of wind turbines for fast frequency support", *James Liam Raymond Hakim*, DTU.
18. 2021 "Integration of planning aspects in hybrid power plant sizing", *Kasper Holck*, DTU.
19. 2021 "Energy storage extension for existing wind or hybrid power plants", *Sebastien I'Huillier*, DTU.
20. 2021 "Collection system optimization for hybrid power plants", *Claudia Abad*, DTU.
21. 2021 "Design and operation of wind turbine for hybrid power plant application including P2X", *Soheil Tahernejadledari*, DTU and University of Polimi.
22. 2020–2021 "Optimal sizing of a hybrid wind power plant incorporating Power to X technology", *Sam Nivin Deepa Rosaline*, DTU.
23. 2020 "Control strategies of hybrid power plants", *Shree Om Bade*, DTU.
24. 2020 "Impact of reliability on optimal sizing of hybrid power plant", *Jaber Ibne Mahboob* , DTU.
25. 2020 "Optimal sizing and control of wind based hybrid power plants", *Mathias Kirk Jensen*, DTU.
26. 2020 "Profitability analysis for wind/solar/hybrid plants in Europe", *Pablo Roberto Bustamante*, DTU.
27. 2020 "Controller Interaction of Wind Hybrid Power Plants for providing Ancillary Services", *Aivaras Celna*, DTU.
28. 2020 "Hybrid wind, solar and storage power plant in electricity market", *Emilio Barrachina Gascó*, DTU.
29. 2020 "Investigations of wind power frequency support in the Nordic Power System", *Abdelrahman Elhawash*, DTU.

30. 2020 "Sizing and Operational Optimization of Hybrid Power Plant", *Alessandra Cossu*, DTU.

31. 2020 2019 "Wind hybrid power plant design - case study", *Anton Elbæk Sloth*, DTU.

32. 2020 2019 "Using super capacitor to enhance short-term frequency control capabilities of hybrid power plant", *Giorgos Kalyviotis*, DTU.

33. 2019 "Optimal hybrid park control strategy", *Anatole Louis Théodore Philippe Grapperon* , DTU.

34. 2019 "Dynamic hybrid park simulation for DC-coupled HPP for frequency ancillary services", *Xenofon Giagkou*, DTU.

35. 2019 "Dynamic hybrid park simulation for co-located HPP for frequency ancillary services", *Panagiota Adamou*, DTU.

36. 2019 "Voltage ancillary services from Hybrid Power Plants", *Filippos Rigas*, DTU.

37. 2019 "Operating a Hybrid Power Plant in the Australian Electricity Market", *Johannes Moolman*, DTU.

38. 2019 "Frequency support from Hybrid Power Plant", *Swarnima Majumder*, DTU.

39. 2019 "Sizing of energy storage systems in order to support synthetic inertia of wind turbines", *Joaquín García Carretero*, DTU.

40. 2019 "Simulation of power system balancing", *Polyneikis Kanellas*, DTU.

41. 2018 "Development of algorithms to solve the wind farm electrical collection system design and optimization problem", *Daniel Hermosilla Minguijon*, DTU.

42. 2018 "Optimal loss reduction in a hybrid renewable power plant", *Alexandru Ion Dragalina*, DTU.

43. 2018 "Optimization for medium voltage distribution network using wind power capabilities", *Panagiotis Menegatos*, DTU.

44. 2018 "Weather impact on power system load shedding", *David Nieva Moreno*, DTU.

45. 2017 "Multi-objective mathematical optimization for medium voltage distribution network using wind power capabilities", *Luis Carlos Guajardo Gonzalez*, DTU.

46. 2017 "Frequency control in power systems without must-run units", *Guillermo Dominguez Lopez*, DTU.

47. 2017 "Multi-objective heuristic optimization for medium voltage distribution network using wind power capabilities", *Theofanis Sofianopoulos*, DTU.

48. 2017 "Frequency control in future Nordic Power System with high penetration of Wind Power", *Ehsan Fallahi Sichani*, DTU.

49. 2017 "Security and Stability of High Wind Penetrated Power System during Storm Conditions", *Feng Guo*, DTU.

50. 2014 "High penetration of distributed wind generation- Decision strategy for Load disconnection", *Antonios Nitsas*, DTU.

Skills

Power System Tools	Advanced: MATLAB Simulink, Eurostag, DigSilent PowerFactory, SIMBA Acquaintance: Simpow, PSCAD, PSPICE, PSIM, WAsP, WAsP Engineering, PLECS
General Programming	Advanced: MATLAB, Python, C, C++, Perl, InfoSphere Streams, LaTeX Acquaintance: ILOG CPLEX, GAMS, Java

Languages

Bengali : Mother tongue

English, Hindi : Fluent

Danish : Moderate

Hobbies

Chess - FIDE rated chess player (ELO Rating - 2029), Travelling