

# Curriculum Vitae

## PERSONAL INFORMATION

|                           |                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| First name, Surname:      | Hossein Farahmand                                                                                                                               |
| Birth Date:               | September 16th, 1979                                                                                                                            |
| Gender                    | Male                                                                                                                                            |
| Marital Status            | Married (2 children)                                                                                                                            |
| Address                   | Room E-465, Electrical Engineering Building, O.S. Bragstads plass 2E, Gløshaugen Campus, NO-7491 Trondheim, Norway                              |
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| Scopus Author ID:         | 22634565400                                                                                                                                     |
| Google Scholar:           | <a href="https://scholar.google.com/citations?user=CL-oBUcAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=CL-oBUcAAAAJ&amp;hl=en</a> |
| URL for personal website: | <a href="https://www.ntnu.no/ansatte/hossein.farahmand">https://www.ntnu.no/ansatte/hossein.farahmand</a>                                       |

## BIOGRAPHY

I am the head of the "[Electricity Markets and Energy Systems Planning](#)" (EMESP) research group at the Department of Electric Energy, Norwegian University of Science and Technology (NTNU), Trondheim, Norway. I have performed research on various topics in power system economics, electricity demand flexibility, and smart grids. My research activities centre around the following aspects:

- Power market analysis and hydropower scheduling
- Power system balancing
- Local flexibility markets and flexibility operation in smart systems

I am a senior member of IEEE and an active member of the International Energy Agency (IEA) Wind Task 25. It is an international forum formed for international cooperation and knowledge sharing between experts in the field. In 2021, I was promoted to join the International Smart Grid Action Network (ISGAN) to represent Norway as an expert in Flexibility Markets in Annex 9 – Aspects of market design for power system flexibility.

I serve as an Associate Editor for [IEEE Transactions on Energy Markets, Policy and Regulation](#).

## EDUCATION

| Year      | Degree, Department, University, City, Country<br><i>Thesis title</i>                                                                                                                                                                                                                |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2007-2012 | <b>PhD</b> , Department of Electric Power Engineering, Norwegian University of Science and Technology (NTNU), Trondheim, Norway<br><i>Thesis: "Integrated Power System Balancing in Northern Europe - Models and Case Studies", (<a href="#">link to the online PhD thesis</a>)</i> |
| 2002-2005 | <b>Master of Science (M.Sc.)</b> , Department of Electrical Engineering, Shahid Bahonar University of Kerman, Kerman, Iran<br><i>Thesis: " Available Transfer Capability Enhancement Using Optimal Parallel &amp; Series FACTS Location".</i>                                       |
| 1997-2002 | <b>Bachelor of Science (B.Sc.)</b> , Department of Electrical Engineering, Ferdowsi University of Mashad, Mashahd, Iran<br><i>Thesis: " Assessment of Induction Motor Efficiency through Air-Gap Torque "</i>                                                                       |

## PROFESSIONAL EXPERIENCE

| Year      | Title                                                                                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2021-Now  | Head of Research Group – <a href="#">Electricity Markets and Energy System Planning</a> (EMESP), Department of Electric Energy, NTNU, Norway                   |
| 2021-Now  | Professor, <a href="#">Department of Electric Energy</a> , NTNU, Norway                                                                                        |
| 2017-2021 | Deputy head of Research Group – <a href="#">Electricity Markets and Energy System Planning</a> (EMESP), Department of Electric Power Engineering, NTNU, Norway |
| 2015-2021 | Associate Professor, <a href="#">Department of Electric Power Engineering</a> , NTNU, Norway                                                                   |
| 2012-2015 | Research Scientist, <a href="#">Department of Energy Systems</a> , SINTEF Energy Research, Norway                                                              |
| 2007-2011 | PhD Research Fellow, <a href="#">Department of Electric Power Engineering</a> , NTNU, Norway                                                                   |

## PROJECT MANAGEMENT EXPERIENCE

| Year     | Project, role, funding source                                                                                                      |
|----------|------------------------------------------------------------------------------------------------------------------------------------|
| 2021-Now | PowerDig, Project partner, The Research Council of Norway (RCN)                                                                    |
| 2020-Now | IntHydro, Project leader, RCN                                                                                                      |
| 2020-Now | FINE, Project partner and PhD supervisor, RCN                                                                                      |
| 2019-Now | HONOR, WP leader, ERA-Net Smart Energy Systems with support from the European Union Horizon 2020 research and innovation programme |

|           |                                                                                      |
|-----------|--------------------------------------------------------------------------------------|
| 2019-Now  | FME NTRANS, IEL representative in RA3 and PhD supervisor, RCN                        |
| 2018-Now  | Digital Economy (DigEco), Project partner, NTNU                                      |
| 2017-2019 | H2020 INVADE, WP leader, EU                                                          |
| 2107-Now  | PRIBAS, Advisor & Project partner & PhD supervisor, RCN                              |
| 2016-Now  | FME CINELDI, Task leader, RCN                                                        |
| 2016-Now  | FME ZEN, PhD supervisor, RCN                                                         |
| 2014-2015 | EU-IEE IRPWIND, WP leader, EU                                                        |
| 2013-2015 | EU FP7 eHighway2050, WP leader, EU                                                   |
| 2012-2013 | EU FP7 TWENTIES project- WP16.2 & WP16.3, Project Partner, EU                        |
| 2008-2011 | Balance Management in Multinational Power Markets, Project Partner & PhD fellow, RCN |

## TEACHING ACTIVITIES

| Year     | Teaching position                                                                                                            |
|----------|------------------------------------------------------------------------------------------------------------------------------|
| 2015-now | Course Coordinator and lecturer-TET4185, Power Markets, Resources and Environment, NTNU, Norway                              |
| 2018-now | Course Coordinator and lecturer-TET4565, Electricity Markets and Energy System Planning, Specialisation Course, NTNU, Norway |
| 2019     | Invited lecturer-TET 4135, Energy Systems Planning and Operation, NTNU, Norway                                               |
| 2020-now | Invited lecturer- ET8209, Methods for Power Production Scheduling, NTNU, Norway                                              |
| 2017-now | Invited lecturer- ET8208, Power Market Theory, NTNU, Norway                                                                  |

## SUPERVISION OF PHD CANDIDATES

### Main Supervisor:

| Name                       | Thesis title                                                                                                         | Completed year |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|----------------|
| Martin Andre Hystad Håberg | <a href="#">Activation Optimization and Congestion Management in the European Balancing Energy Market</a>            | 2019           |
| Christian Øyn Naversen     | <a href="#">Modelling Approaches for Hydro-Dominated System Balancing</a>                                            | 2021           |
| Sigurd Bjarghov            | <a href="#">Designing grid tariffs and local electricity markets for peak demand reduction in distribution grids</a> | 2022           |
| Kasper Emil Thorvaldsen    | <a href="#">A Long-term Strategy Framework for Flexible Energy Operation of Residential Buildings</a>                | 2022           |

|              |                                                                                            |   |
|--------------|--------------------------------------------------------------------------------------------|---|
| Kjersti Berg | Integration of Local Energy Communities into the Norwegian Electricity Distribution System | - |
| Mari Haugen  | Advanced Modelling Techniques for Power Market with a Large Share of Hydropower            | - |
| Jinghao Wang | A New Hydropower Scheduling Tool Based on Machine Learning Techniques                      | - |
| Dana Reulein | Ocean Grid-Energy Market Design                                                            | - |

**Co- supervisor:**

| Name                | Thesis title                                                                                                                                                   | Completed year |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Markus Löschenbrand | Dynamic Electricity Market Games Modeling Competition under Large-Scale Storage                                                                                | 2019           |
| Salman Zaferanlouei | Integration of Electric Vehicles into Power Distribution Systems--- The Norwegian Case Study; Using High-Performance Multi-Period AC Optimal Power Flow Solver | 2020           |
| Güray Kara          | Techno-economic Optimisation for Analysing Consumer Flexibility and Related Market Structures                                                                  | -              |

**SUPERVISION OF GRADUATE MASTER STUDENTS**

**Main Supervisor:**

| Student(s)                              | Thesis title                                                                                                  | Year |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------|------|
| Svein Grimholt & Fredrik Åsatun Solheim | Assessing the impacts of large-scale RES integration in the European Power System                             | 2016 |
| Arne Øvrebø Lie & Eirik Andre Rye       | Analysing the Integration of Renewable Energy in Interconnected Power Systems Using a Flow-based Market Model | 2016 |
| Oda Karoline Sunde                      | Optimal Scheduling of Battery Storage in the Future Power System                                              | 2016 |
| Cecilia Bringedal                       | Quantifying Norway's Carbon Footprint from Electricity Imports in 2020                                        | 2017 |
| Amaia Larrañaga Arregui                 | Cost benefit analysis of different offshore grid topologies in the North                                      | 2017 |
| Ingrid Tjellaug Løvstad                 | Balancing Market Integration in Northern European System                                                      | 2017 |
| Tale Marie Astad Paulshus               | Analyses of Reserve Procurement Costs Using the EMPS Model                                                    | 2017 |
| Audun Tysnes                            | Norwegian Energy Scenarios                                                                                    | 2017 |

|                                 |                                                                                                                                                                |      |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Fredrik Blom                    | A Feasibility Study of Blockchain Technology As Local Energy Market Infrastructure                                                                             | 2018 |
| Martin Lillebo                  | Impact of EV Integration and Fast Chargers in a Norwegian LV Grid                                                                                              | 2018 |
| Andres Antonio Seijas Fernandez | Flexibility from Batteries at End-User Level: Implications for Distribution Grids                                                                              | 2018 |
| Ada Elisabet Strand             | Optimising weekly hydropower scheduling in a future power system                                                                                               | 2018 |
| Vegard Paulsen Særen            | The Academic Version of a Fundamental Market Model                                                                                                             | 2018 |
| Eirik Schjander Torhaug         | Balancing Market Integration in Northern Europe                                                                                                                | 2018 |
| Elise Tveita                    | Methods for Cost Allocation Among Prosumers and Consumers Using Cooperative Game Theory                                                                        | 2018 |
| Ola Mathias Almenning           | Reducing Neighborhood Peak Load with a Peer-to-Peer Approach under Subscribed Capacity Tariffs                                                                 | 2019 |
| Martin Hergot Festøy            | Voltage Control for Distribution Systems using Chance Constrained Linear AC OPF                                                                                | 2019 |
| Mina Mathilde Grøterud          | Transmission investments under uncertainty: Assessment of how different European energy scenarios for 2030 influence the North Sea Offshore Grid               | 2019 |
| Magnus Aas Hagebø               | Enabling Flexiramp Capability in Unit Commitment Formulation                                                                                                   | 2019 |
| Andreas Rise Mathisen           | Continuous-Time Unit Commitment using spline interpolation                                                                                                     | 2019 |
| Rodrigo Villanueva Revenga      | A Short-term Assessment of Flexibility Analysing Different Levels of VRES Deployment in a Unit Commitment Model                                                | 2019 |
| Solveig Bækken Hefte            | Demand Response in a Short-term Hydro-thermal Multi-market Model                                                                                               | 2020 |
| Thomas Kallevik                 | Optimisation of Cost and Emissions of an EV Parking Lot within a Zero Emission Neighbourhood by Utilising Demand Response Programs, PV and an External Battery | 2020 |
| Mari Lund Øvstebø               | The Impact of Offshore Wind Power Variations on Continuous-time Scheduling of a Hydrothermal System                                                            | 2020 |
| Sander Holt Günther             | The Impact of Green Hydrogen Production on the Offshore Wind Business Case- A case study of a North Sea offshore grid                                          | 2021 |
| Lars Falsen Habostad            | Evaluating the Optimal Portfolio of VRE Capacity to be Integrated into the Power System- A Case Study of Zambia                                                | 2021 |
| Aksel Holbek Sørbye &           | Modelling Multi-Sectoral Decarbonisation Scenarios for the Norwegian Energy System                                                                             | 2021 |

|                         |                                                                            |      |
|-------------------------|----------------------------------------------------------------------------|------|
| Signy Undine Dost Weisz |                                                                            |      |
| Ine Solsvik Vågane      | Local Flexibility Market - TSO and DSO coordination                        | 2022 |
| Runar Hillestad         | A co-simulation framework to coordinate battery optimisation and load flow | 2022 |

#### Co- supervisor:

| Student(s)                               | Thesis title                                                                            | Year |
|------------------------------------------|-----------------------------------------------------------------------------------------|------|
| Torbjørn Røed Meberg                     | Flow-Based Market Coupling in Short-Term Hydro-Thermal Scheduling                       | 2019 |
| Vegard Viken Kallset & Andreas Hovde Bø  | Investigating the impact of Flow-based market coupling on the Nordic area<br><br>Prices | 2020 |
| Ole Kjærland Olsen & Damian Sieraszewski | Model Development for DSO-TSO Coordination in a Local Flexibility Market                | 2021 |

#### Postdocs:

| Name                     | Research area                                                                            | Completed year |
|--------------------------|------------------------------------------------------------------------------------------|----------------|
| Venkatachalam Lakshmanan | Flexibility operation algorithms (INVADE H2020 project)                                  | 2020           |
| Jamshid Aghaei           | Placement and Sizing of Batteries in Low and Medium Voltage Grids (INVADE H2020 project) | 2019           |
| Dmytro Ivanko            | TSO-DSO coordination (ERA-Net HONOR project)                                             | 2022           |

#### PHD COMMITTEE

| Year | PhD candidate/Thesis title/University/Country                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2019 | Abdollah Ahmadi/ Day-ahead scheduling of power sources integrated in a smart grid/UNSW/ Australia                                                                                                               |
| 2021 | Felipe Gonzalez Venegas/Electric vehicle integration into distribution systems. Considerations of user behaviour and frameworks for flexibility implementation/Université Paris-Saclay, CentraleSupélec/ France |
| 2021 | Ingrid Munné /Flexibility service for distribution network operation/UPC Barcelona/Spain                                                                                                                        |
| 2022 | Techno-Economic Modelling and Analysis of an Evolution of Bidding Zones for Wholesale Electricity Markets in the European Power System/Université Paris-Saclay, CentraleSupélec/ France                         |

## ACADEMIC MANAGEMENT EXPERIENCES AND PROFESSIONAL COMMITTEE MEMBERSHIPS

| Year        | Role                                                                                                                                                            |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2021-now    | Head of the EMESP research group, IEL department, NTNU                                                                                                          |
| 2018-2021   | Deputy head of the EMESP research group, IEL department, NTNU                                                                                                   |
| 2016-now    | Course coordinator for TET4185 - Power Markets, Resources and Environment                                                                                       |
| 2018-now    | Course coordinator for ELK 15- Hydro Power Scheduling and Miscellaneous Topics on Electricity Markets                                                           |
| 2022-now    | Associate Editor of IEEE Transactions on Energy Markets, Policy and Regulation                                                                                  |
| 2015- now   | PhD committee administrator for 4 PhD dissertations, NTNU, Norway                                                                                               |
| 2016 & 2019 | Search Committees for Faculty Appointments at the Department of Electric Power Engineering, NTNU, Norway.                                                       |
| 2018        | Assessment committee of Research Scientist, DTU, Denmark                                                                                                        |
| 2015-now    | Scientific advisor, SINTEF Energy Research, Norway                                                                                                              |
| 2012-now    | Reviewer, several international conferences, and journals, e.g., IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid, Applied Energy, and more. |

## TECHNICAL COMMITTEE OF INTERNATIONAL CONFERENCES

| Year     | Role/Conference                                                                                                                                          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2011     | Member of Local Organizing Committee (Paper & review chair) /2011 IEEE PES PowerTech-Trondheim conference, 700, Norway                                   |
| 2019-now | Series Steering Committee/ International Conference on Smart Energy Systems and Technologies (SEST)                                                      |
| 2019     | Technical Programme Committee Member/ 9th International Conference on Power and Energy Systems (ICPES 2019) conference, in Perth, Australia              |
| 2020     | Technical Programme Committee Member and session chair/ 17th international conference on the European Energy Market (EEM 2020), Stocholm, Sweden         |
| 2021     | Technical Programme Committee Member/ IEEE PES Innovative Smart Grid Technologies (ISGT) Europe 2021, Espoo, Finland                                     |
| 2021     | Organiser and Moderator for a panel session on "Hydropower flexibility for large-scale integration of renewable energy sources"/IEEE PES General Meeting |

## MEMBERSHIPS OF ACADEMIES / SCIENTIFIC SOCIETIES / NETWORKS

| Year     | Membership                                                                                                                            |
|----------|---------------------------------------------------------------------------------------------------------------------------------------|
| 2020-now | IEEE Senior Member (2020), IEEE PES member                                                                                            |
| 2015-now | IEA Wind Task 25 and WP3: Balancing challenge: Operational or short-term planning issues (2021)                                       |
| 2021-now | International Smart Grid Action Network (ISGAN), Flexibility Markets in Annex 9-Aspects of market design for power system flexibility |

## LANGUAGES

| Languages          | Verbal skills   | Written skills  |
|--------------------|-----------------|-----------------|
| English            | Fluent          | Fluent          |
| Norwegian - bokmål | Good knowledge  | Good knowledge  |
| Farsi              | Native language | Native language |

## Track Record

- My h-index in Google Scholar is 25, and there are 1670 citations to my research papers

### 2023

1. Crespo del Granado, Pedro Andres; Rajasekharan, Jayaprakash; Pandiyan, Surya Venkatesh; Tomasgard, Asgeir; Kara, Güray; Farahmand, Hossein; Jaehnert, Stefan, . "[Flexibility Characterization, Aggregation, and Market Design Trends with a High Share of Renewables: a Review.](#)" *Current Sustainable/Renewable Energy Reports*, Vol. 10 (1), pp.12-21

### 2022

2. Naversen, Christian Øyn; Parvania, Masood; Helseth, Arild; Farahmand, Hossein" [Continuous Hydrothermal Flexibility Coordination under Wind Power Uncertainty](#)", IEEE Transactions on Sustainable Energy 2022; Vol. 13.(4) s.1900-1912
3. Berg, Kjersti; Bjarghov, Sigurd Nikolai; Rana, Rubi; Farahmand, Hossein, "[The impact of degradation on the investment and operation of a community battery for multiple services](#)", 2022 18th International Conference on the European Energy Market - EEM. Institute of Electrical and Electronics Engineers (IEEE) 2022 ISBN 978-1-6654-0896-7.
4. Bjarghov, Sigurd; Farahmand, Hossein; Doorman, Gerard, "[Capacity subscription grid tariff efficiency and the impact of uncertainty on the subscribed level](#)", Energy Policy 2022 ;Vol. 165.
5. Afzali, Peyman; Rashidinejad, Masoud; Abdollahi, Amir; Salehizadeh, Mohammad Reza; Farahmand, Hossein, "[A stochastic multi-objective model for energy efficiency and renewable resource planning in energy communities: A sustainably cost-effective trade-off](#)", IET Renewable Power Generation 2022
6. Ivanko, Dmytro; Vågane, Ine Solsvik; Hashemipour, Seyed Naser; Oleinikova, Irina; Crespo del Granado, Pedro Andres; Farahmand, Hossein, "[Hybrid AC/DC-OPF ADMM model for TSO coordination with multiple DSOs in Flexibility Market](#)". 2022 18th International Conference on the European Energy Market - EEM. Institute of Electrical and Electronics Engineers (IEEE) 2022 ISBN 978-1-6654-0896-7.
7. Kara, Güray; Pisciella, Paolo; Tomasgard, Asgeir; Farahmand, Hossein; Crespo del Granado, Pedro, "[Stochastic local flexibility market design, bidding, and dispatch for distribution grid operations](#)", Energy 2022;Vol. 253.
8. Kara, Güray; Tomasgard, Asgeir; Farahmand, Hossein, "[Characterizing flexibility in power markets and systems](#)", Utilities Policy 2022;Vol. 75.
9. Kraft, Oliver; Pohl, Oliver; Häger, Ulf; Heussen, Kai; Müller, Nils; Afzal, Zeeshan; Ekstedt, Mathias; Farahmand, Hossein; Ivanko, Dmytro; Singh, Ankit; Leksawat, Sasiphong; Kubis, Andreas, "[Development and Implementation of a Holistic Flexibility Market Architecture](#)", 2022 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT) 2022
10. Pan, Xueping; Zhou, Jieyang; Sun, Xiaorong; Cao, Yang; Cheng, Xiaomei; Farahmand, Hossein, "[A hybrid method for day-ahead photovoltaic power forecasting based on generative adversarial network combined with convolutional autoencoder](#)", IET Renewable Power Generation 2022
11. Thorvaldsen, Kasper Emil; Korpås, Magnus; Farahmand, Hossein, "[Long-term Value of Flexibility from Flexible Assets in Building Operation](#)", International Journal of Electrical Power & Energy Systems 2022 ;Vol. 138.
12. Wang, Jinghao; Yousefi, Mojtaba; Cheng, Xiaomei; Rajasekharan, Jayaprakash; Arghandeh, Reza; Pan,

- Xueping; Farahmand, Hossein, "[Self-organizing maps for scenario reduction in long-term hydropower scheduling](#)", IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society; 2022-10-17 - 2022-10-20
13. Yang, Shuangshuang; Sun, Xiaorong; Pan, Xueping; Xu, Qijie; Xu, Yi; Farahmand, Hossein; Rajasekharan, Jayaprakash, "[Multi-objective Day-ahead Scheduling of Regional Integrated Energy Systems Considering Energy Sharing](#)", 2022 IEEE/IAS Industrial and Commercial Power System Asia (I&CPS Asia); 2022-07-08 - 2022-07-11
  14. Yousefi, Mojtaba; Cheng, Xiaomei; Gazzea, Michele; Wierling, August Hubert; Rajasekharan, Jayaprakash; Helseth, Arild; Farahmand, Hossein; Arghandeh, Reza, "[Day-ahead inflow forecasting using causal empirical decomposition](#)", *Journal of Hydrology* 2022 ;Vol. 613.
  15. Zaferanlouei, Salman; Lakshmanan, Venkatachalam; Bjarghov, Sigurd; Farahmand, Hossein; Korpås, Magnus, "[BATTPower application: Large-scale integration of EVs in an active distribution grid – A Norwegian case study](#)", *Electric power systems research* 2022 ;Vol. 209.

## 2021

16. Bjarghov, Sigurd; Kalantar-Neyestanaki, Mohsen; Cherkaoui, Rachid; Farahmand, Hossein, "[Battery Degradation-Aware Congestion Management in Local Flexibility Markets](#)", 2021 IEEE Madrid PowerTech. IEEE 2021 ISBN 978-1-6654- 3597-0. s.1-6
17. Bjarghov, Sigurd; Löschenbrand, Markus; Ibn Saif, A.U.N.; Pedrero, Raquel Alonso; Pfeiffer, Christian; Khadem, Shafiuzzaman K.; Rabelhofer, Marion; Revheim, Frida Huglen; Farahmand, Hossein, "[Developments and Challenges in Local Electricity Markets: A Comprehensive Review](#)", *IEEE Access* 2021 ;Vol. 9. s.58910-58943
18. Cheng, Xiaomei; Farahmand, Hossein; Yousefi, Mojtaba; Arghandeh, Reza; Wang, Hao, "[Inflow Forecasting Based On Principal Component Analysis and Long Short Term Memory](#)", 2021 IEEE Intl Conf on Dependable, Autonomic and Secure Computing, Intl Conf on Pervasive Intelligence and Computing, Intl Conf on Cloud and Big Data Computing, Intl Conf on Cyber Science and Technology 2021
19. Dorahaki, Sobhan; Rashidinejad, Masoud; Farahmand, Hossein; MollahassaniPour, Mojgan; Pourakbari-Kasmaei, Mahdi; Catalao, João P.S., "[An Optimal Flexible Partitioning of Smart Distribution System Considering Electrical and Gas Infrastructure](#)", 2021 IEEE Madrid PowerTech; 2021- 06-28 - 2021-07-02
20. Emarati, Mohammadreza; Barani, Mostafa; Farahmand, Hossein; Aghaei, Jamshid; Crespo del Granado, Pedro, "[A two-level over-voltage control strategy in distribution networks with high PV penetration](#)", *International Journal of Electrical Power & Energy Systems* 2021 ;Vol. 130.
21. Farahmand, Hossein; Mohamed, Farooq; Oleinikova, Irina; Crespo del Granado, Pedro; Ivanko, Dmytro, "[Specification of flexibility need and services \(under TSO-DSO coordination\)](#)", D4.1: HONOR Project 2021
22. Habostad, Lars Falsen; Haugstenrød, Thomas; Farahmand, Hossein, "[Evaluating the optimal portfolio of VRE capacity to be integrated into the power system: A case study of Zambia](#)", 20th International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Power Plants (WIW 2021); 2021-09-27 - 2021-10-01
23. Helseth, Arild; Haugen, Mari; Farahmand, Hossein; Mo, Birger; Jaehnert, Stefan; Stenkløv, Inge" "[Assessing the benefits of exchanging spinning reserve capacity within the hydro-Dominated Nordic market](#)", *Electric power systems research* 2021 ;Vol. 199. s.1-9
24. Kara, Güray; Pisciella, Paolo; Tomasgard, Asgeir; Farahmand, Hossein, "The impact of uncertainty and time structure on optimal flexibility scheduling in active distribution networks", *IEEE Access* 2021 ;Vol. 9. s.82966- 82978
25. Olsen, Ole Kjærland; Sieraszewski, Damian; Ivanko, Dmytro; Oleinikova, Irina; Farahmand, Hossein, "[Hybrid AC/DC Optimal Power Flow Modelling Approach for Coordination in Flexibility Market](#)", 2021 International Conference on Smart Energy Systems and Technologies - SEST. IEEE 2021 ISBN 978-1-7281-7660-4.
26. Stave, Viljar Stensaker; Dynge, Marthe Fogstad; Farahmand, Hossein; Korpås, Magnus; Cali, Umit, "[Optimal Utilisation of Grid Capacity for Connection of New Renewable Power Plants in Norway](#)", 2021 International Conference on Smart Energy Systems and Technologies - SEST. IEEE 2021 ISBN 978-1-7281-7660-4. s.1-6

27. Thorvaldsen, Kasper Emil; Korpås, Magnus; Lindberg, Karen Byskov; Farahmand, Hossein, "[A stochastic operational planning model for a zero emission building with emission compensation](#)", *Applied Energy* 2021 ;Vol. 302. SINTEF NTNU
28. Zaferanlouei, Salman; Farahmand, Hossein; Vadlamudi, Vijay Venu; Korpås, Magnus, "[BATTPOWER Toolbox: Memory-Efficient and High-Performance Multi-Period AC Optimal Power Flow Solver](#)", *IEEE Transactions on Power Systems* 2021 ;Vol. 36.(5) s.3921-3937

## 2020

29. Bremdal, Bernt Arild; Farahmand, Hossein; Lloret-Gallego, Pau; Ottesen, Stig Ødegaard; Puranik, Sanket; Pellerin, Bryan; Waage, Dagfinn, "[Towards a Reference Architecture for Cloud Based Flexibility Services in the Electricity Domain](#)", *CIGRE Conference Proceedings* 2020
30. Bø, Andreas Hovde; Kallset, Vegard Viken; Oleinikova, Irina; Farahmand, Hossein; Refsnæs, Karl Ludvig, "[The impact of Flow-Based Market Coupling on the Nordic region](#)", *International Conference on the European Energy Market* 2020
31. Barzegar, Mohammadreza; Rashidinejad, Masoud; MollahassaniPour, Mojgan; Bakhshai, Alireza; Farahmand, Hossein, "[A techno-economic assessment of energy efficiency in energy management of a micro grid considering green-virtual resources](#)", *Sustainable Cities and Society (SCS)* 2020 ;Vol. 61.
32. Haugen, Mari; Helseth, Arild; Jaehnert, Stefan; Mo, Birger; Farahmand, Hossein; Naversen, Christian Øyn, "[On the Importance of Detailed Thermal Modeling for Price Forecasting in Hydro-Thermal Power Systems](#)", *2019 IEEE Electrical Power and Energy Conference - EPEC 2019*. IEEE 2020 ISBN 978-1-7281-3406-2.
33. Bozorgavari, Seyed Aboozar; Aghaei, Jamshid; Pirouzi, Sasan; Nikoobakht, Ahmad; Farahmand, Hossein; Korpås, Magnus, "[Robust planning of distributed battery energy storage systems in flexible smart distribution networks: A comprehensive study](#)", *Renewable and Sustainable Energy Reviews* 2020 ;Vol. 123:109739. s.1-17
34. Naversen, Christian Øyn; Farahmand, Hossein; Helseth, Arild, "[Accounting for reserve capacity activation when scheduling a hydropower dominated system](#)", *International Journal of Electrical Power & Energy Systems* 2020 ;Vol. 119.
35. Naversen, Christian Øyn; Helseth, Arild; Li, Bosong; Parvania, Masood; Farahmand, Hossein; Catalao, João P.S, "[Hydrothermal scheduling in the continuous-time framework](#)", *Electric power systems research* 2020 ;Vol. 189.
36. Thorvaldsen, Kasper Emil; Bjarghov, Sigurd; Farahmand, Hossein, "[Representing Long-term Impact of Residential Building Energy Management using Stochastic Dynamic Programming](#)", *2020 International Conference on Probabilistic Methods Applied to Power Systems - PMAPS*. IEEE 2020 ISBN 978-1-7281-2822-1.
37. Øvstebø, Mari Lund; Naversen, Christian Øyn; Helseth, Arild; Farahmand, Hossein, "[Continuous-time scheduling of a hydrothermal system with integration of offshore wind power](#)", *2020 17th International Conference on the European Energy Market - EEM*. IEEE 2020 ISBN 978-1-7281-6919-4.

## 2019

38. Almenning, Ola Mathias; Bjarghov, Sigurd; Farahmand, Hossein, "[Reducing Neighborhood Peak Loads with implicit Peer-to-Peer energy trading under Subscribed Capacity tariffs](#)", *2019 International Conference on Smart Energy Systems and Technologies - SEST*. IEEE 2019 ISBN 978-1-7281-1156-8.
39. Bozorgavari, Seyed Aboozar; Aghaei, Jamshid; Pirouzi, Sasan; Vahidinasab, Vahid; Farahmand, Hossein; Korpås, Magnus, "[Two-stage hybrid stochastic/robust optimal coordination of distributed battery storage planning and flexible energy management in smart distribution network](#)", *Journal of Energy Storage* 2019 ; Vol. 26.
40. Farahmand, Hossein, "[Consumer and prosumer cooperation may equal reduced electricity prices](#)", *SINTEF Energy Blog*
41. Lillebo, Martin; Zaferanlouei, Salman; Zecchino, Antonio; Farahmand, Hossein, "[Impact of large-scale EV integration and fast chargers in a Norwegian LV grid](#)", *The Journal of Engineering* 2019
42. Nikoobakht, Ahmad; Aghaei, Jamshid; Farahmand, Hossein; Lakshmanan, Venkatachalam; Korpås, Magnus, "[Flexibility of controllable power transformers for managing wind uncertainty using robust adjustable linearised optimal power flow](#)", *IET Renewable Power Generation* 2019 ; Vol. 13.(2) s.262-272
43. Aghaei, Jamshid; Bozorgavari, Seyed Aboozar; Pirouzi, Sasan; Farahmand, Hossein; Korpås, Magnus,

- ["Flexibility Planning of Distributed Battery Energy Storage Systems in Smart Distribution Networks"](#), *Iranian Journal of Science and Technology - Transactions of Electrical Engineering* 2019
44. Nikoobakht, Ahmad; Aghaei, Jamshid; Niknam, Taher; Farahmand, Hossein; Korpås, Magnus, ["Electric vehicle mobility and optimal grid reconfiguration as flexibility tools in wind integrated power systems"](#), *International Journal of Electrical Power & Energy Systems* 2019; Vol. 110. s.83-94
  45. Pirouzi, Sasan; Aghaei, Jamshid; Niknam, Taher; Khooban, Mohammad Hassan; Dragicevic, Tomislav; Farahmand, Hossein; Korpås, Magnus; Blaabjerg, Frede, ["Power Conditioning of Distribution Networks via Single-Phase Electric Vehicles Equipped"](#), *IEEE Systems Journal* 2019 ;Vol. 13.(3) s.3433-3442
  46. Seijas Fernandez, Andres Antonio; Crespo del Granado, Pedro; Farahmand, Hossein; Rueda, Jose, ["Optimal battery systems designs for Distribution Grids: What size and location to invest in?"](#), 2019 *International Conference on Smart Energy Systems and Technologies - SEST*. IEEE 2019 ISBN 978-1-7281-1156-8. s.1-6
  47. Villanueva Revenga, Rodrigo; Crespo del Granado, Pedro; Oleinikova, Irina; Farahmand, Hossein, ["A Minute-To-Minute Unit Commitment Model to Analyze Generators Performance"](#), *International Conference on the European Energy Market*, 2019 ;Vol. 2019-September

## 2018

48. Akbari, Mohammad Amin; Aghaei, Jamshid; Barani, Mostafa; Niknam, Taher; Ghavidel, Sahand; Farahmand, Hossein; Korpås, Magnus; Li, Li, ["Convex Models for Optimal Utility-Based Distributed Generation Allocation in Radial Distribution Systems"](#), *IEEE Systems Journal* 2018 ; Vol. 12.(4) s.3497-3508
49. Barani, Mostafa; Aghaei, Jamshid; Akbari, Mohammad Amin; Niknam, Taher; Farahmand, Hossein; Korpås, Magnus, ["Optimal partitioning of smart distribution systems into supply-sufficient microgrid"](#), *IEEE Transactions on Smart Grid* 2018 s.1-10
50. Bellenbaum, Julia; Weber, Christoph; Doorman, Gerard L.; Farahmand, Hossein, ["Balancing Market Integration - Model-Based Analysis of Potential Cross-Border Reserve Exchange Between Norway and Germany"](#), *International Conference on the European Energy Market* 2018 ; Vol. 2018-June. s.1-5
51. Bjarghov, Sigurd; Crespo del Granado, Pedro; Farahmand, Hossein; Korpås, Magnus, ["Value of prosumer house batteries: Experiences across the EU"](#), *IAEE International Conference* 2018 (41st), 2018-06-10 - 2018-08-13
52. Blom, Fredrik; Farahmand, Hossein, ["On the Scalability of Blockchain-Supported Local Energy Markets"](#), 2018 *International Conference on Smart Energy Systems and Technologies SEST*. IEEE conference proceedings 2018 ISBN 978-1-5386-5326-5
53. Helseth, Arild; Haugen, Mari; Jaehnert, Stefan; Mo, Birger; Farahmand, Hossein; Naversen, Christian Øyn, ["Multi-Market Price Forecasting in Hydro-Thermal Power Systems"](#), 2018 *15th International Conference on the European Energy Market – EEM*, IEEE conference proceedings 2018 ISBN 978-1-5386-1488-4.
54. Kristiansen, Martin; Korpås, Magnus; Farahmand, Hossein, ["Economic and environmental benefits from integrated power grid infrastructure designs in the North Sea"](#), *Journal of Physics: Conference Series (JPCS)* 2018 ;Vol. 1104.(1)
55. Kristiansen, Martin; Korpås, Magnus; Farahmand, Hossein, ["Towards a fully integrated North Sea offshore grid: An engineering economic assessment of a power link island"](#), *Wiley Interdisciplinary Reviews: Energy and Environment* 2018 ;Vol. 7.(4)
56. Nikoobakht, Ahmad; Aghaei, Jamshid; Niknam, Taher; Vahidinasab, Vahid; Farahmand, Hossein; Korpås, Magnus, ["Towards robust OPF solution strategy for the future AC/DC grids: Case of VSC-HVDC-connected offshore wind farms"](#), *IET Renewable Power Generation* 2018 ;Vol. 12.(6) s.691-701
57. Sasan, Pirouzi; Aghaei, Jamshid; Niknam, Taher; Farahmand, Hossein; Korpås, Magnus, ["Exploring prospective benefits of electric vehicles for optimal energy conditioning in distribution networks"](#), *Energy* 2018 ;Vol. 157. s.679-689
58. Sasan, Pirouzi; Aghaei, Jamshid; Niknam, Taher; Farahmand, Hossein; Korpås, Magnus, ["Proactive operation of electric vehicles in harmonic polluted smart distribution networks"](#), *IET Generation, Transmission & Distribution* 2018 ;Vol. 12.(4) s.967-975
59. Tveita, Elise; Löschenbrand, Markus; Bjarghov, Sigurd; Farahmand, Hossein, ["Comparison of Cost Allocation Strategies among Prosumers and Consumers in a Cooperative Game"](#), 2018 *International*

*Conference on Smart Energy Systems and Technologies - SEST*. IEEE conference proceedings 2018 ISBN 978-1-5386-5326-5.

60. Zaferanlouei, Salman; Korpås, Magnus; Aghaei, Jamshid; Farahmand, Hossein; Hashemipour, Naser, "[Computational Efficiency Assessment of Multi-Period AC Optimal Power Flow including Energy Storage Systems](#)", *2018 International Conference on Smart Energy Systems and Technologies - SEST*. IEEE conference proceedings 2018 ISBN 978-1-5386-5326-5. s.1-6
61. Pol Olivella-Rosell; Pau Lloret; Leon Haupt; Sara Barja; Sigurd Bjarghov; Venkatachalam Lakshmanan; Hossein Farahmand; Magnus Korpås; Juha Forsström; Victor Mukherjee; Ari Hentunen; Stig Ødegaard Ottesen; Terje Lundby, "[Advanced Optimal Battery operation and control algorithm](#)", D5.4, H2020 INVADE EU project Trondheim: NTNU, 2018, 170 s

## 2017

62. Bødal, Espen Flo; Del Granado, Pedro Crespo; Farahmand, Hossein; Korpås, Magnus; Olivella, Pol; Munné, Ingrid; Lloret, Pau, "[Challenges in distribution grid With high penetration of renewables](#)", D5.1, H2020 INVADE EU project Trondheim: NTNU, 2017 50 s.
63. Cheng, Xiaomei; Korpås, Magnus; Farahmand, Hossein, "[The impact of electrification on power system in Northern Europe](#)", *International Conference on the European Energy Market 2017*
64. Korpås, Magnus; Farahmand, Hossein; Del Granado, Pedro Crespo; Ottesen, Stig Ødegaard; Olivella, Pol; Lloret, Pau, "[Methods for assessing the value of flexibility in distribution grid](#)", D5.2, H2020 INVADE EU project Trondheim: NTNU, 2017 41 s.
65. Lie, Arne Øvrebø; Rye, Eirik Andre; Svendsen, Harald Georg; Farahmand, Hossein; Korpås, Magnus, "[Validation study of an approximate 2014 European power-flow model using PowerGAMA](#)", *IET Generation, Transmission & Distribution* 2017 ;Vol. 11.(2) s.392-400
66. Löschenbrand, Markus; Farahmand, Hossein; Korpås, Magnus, "[Impact of inertial response requirements on a multi area renewable network](#)", *12th IEEE Power and Energy Society PowerTech Conference PowerTech Manchester 2017*. IEEE Press 2017 ISBN 978-1-5090-4238-8.
67. Ottesen, Stig Ødegaard; Olivella, Pol; Lloret, Pau; Hentunen, Ari; Del Granado, Pedro Crespo; Bjarghov, Sigurd; Lakshmanan, Venkatachalam; Aghaei, Jamshid; Korpås, Magnus; Farahmand, Hossein, "[Simplified Battery operation and Control algorithm](#)", D5.3, H2020 INVADE EU project Trondheim: NTNU, 2017 154 s.
68. Ranaweera, Iromi; Midtgård, Ole-Morten; Korpås, Magnus; Farahmand, Hossein, "[Control strategies for residential battery energy storage systems coupled with PV systems](#)", *2017 IEEE International Conference on Environment and Electrical Engineering and 2017 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I & CPS Europe*. IEEE Press 2017 ISBN 978-1-5386-3916-0. s.1-6
69. Riboldi, Luca; Cheng, Xiaomei; Farahmand, Hossein; Korpås, Magnus; Nord, Lars O, "[Effective Concepts for Supplying Energy to a Large Offshore Oil and Gas Area under Different Future Scenarios](#)", *Chemical Engineering Transactions* 2017 ;Vol. 61. s.1597-1602
70. Zaferanlouei, Salman; Korpås, Magnus; Farahmand, Hossein; Vadlamudi, Vijay Venu, "[Integration of PEV and PV in Norway Using Multi-Period ACOPF — Case Study](#)", *12th IEEE Power and Energy Society PowerTech Conference PowerTech Manchester 2017*. IEEE Press 2017 ISBN 978-1-5090-4238-8.

## 2016

71. Cutululis, Nicolaos Antonio; Farahmand, Hossein; Jaehnert, Stefan; Detlefsen, Nina K. S.; Byriel, I.P.; Sørensen, Poul, "[Hydropower flexibility and transmission expansion to support integration of offshore wind](#)", *Offshore Wind Farms: Technologies, Design and Operation*. Woodhead Publishing Limited 2016 ISBN 978-0-08-100779-2. s.495-523
72. Dorn, Frederic; Farahmand, Hossein; Skjelbred, Hans Ivar; Belsnes, Michael Martin, "[Modelling Minimum Pressure Height in Short-term Hydropower Production Planning](#)", *Energy Procedia* 2016 ;Vol. 87. s.69-76
73. Eirik A., Rye; Arne Ø., Lie; Svendsen, Harald Georg; Korpås, Magnus; Farahmand, Hossein, "[Analyzing large-scale renewable energy integration and energy storage in Morocco using a flow-based market model](#)", *2016 13th International Conference on the European Energy Market : EEM2016*. IEEE conference proceedings 2016 ISBN 978-1-5090-1298-5.
74. Holttinen, Hannele; Kiviluoma, Juha; Forcione, Alain; Milligan, Michael; Smith, Charles J; Dobschinski, Jan; van Roon, Serafin; Dillon, Jody; Cutululis, Nicolaos Antonio; Orths, Antje; Eriksen, Peter Børre; Carlini, Enrico Maria; Estanqueiro, Ana; Bessa, Ricardo; Söder, Lennart; Farahmand, Hossein; Vrana,

- Til Kristian; Torres, Jose Rueda; Jianhua, Bai; Kondoh, Junji; Pineda, Ivan; Strbac, Goran, "[Design and operation of power systems with large amounts of wind power. Final summary report](#)", IEA WIND Task 25, Phase three 2012-2014. VTT Technology 2016 128 s.
75. Huertas-Hernando, Daniel; Farahmand, Hossein; Holttinen, Hannele; Kiviluoma, Juha; Rinne, Erkka; Söder, Lennart; Milligan, Michael; Ibanez, Eduardo; Martinez, Sergio Martin; Gómez-Lázaro, Emilio; Estanqueiro, Ana; Rodrigues, Luis; Carr, Luis; van Roon, Serafin; Orths, Antje; Eriksen, Peter Borre; Forcione, Alain; Menemenlis, Nickie, "[Hydro power flexibility for power systems with variable renewable energy sources: an IEA Task 25 collaboration](#)", *Wiley Interdisciplinary Reviews: Energy and Environment* 2016 ;Vol. 6:e220.(1) s.1-20
  76. Kristiansen, Martin; Korpås, Magnus; Farahmand, Hossein; Graabak, Ingeborg; Härtel, Philipp, "[Introducing System Flexibility to a Multinational Transmission Expansion Planning Model](#)", *19th Power Systems Computation Conference PSCC 2016*. IEEE conference proceedings 2016 ISBN 9788894105100.
  77. Uhlen, Kjetil; Jaehnert, Stefan; Hamon, Camille; Bruno, C; Farahmand, Hossein; Inoue, Takehiro; Matevosjana, I; Nobel, F. A.; Sørensen, P., "[Analytical Techniques and tools for power balancing assessments](#)", CIGRE (International Council on Large Electric Systems) 2016 (ISBN 978-2- 85873-351-4) 40 s. CIGRE Technical Brochure(648).
  78. Zaferanlouei, Salman; Ranaweera, Iromi; Korpås, Magnus; Farahmand, Hossein, "[Optimal Scheduling of Plug-in Electric Vehicles in Distribution Systems Including PV, Wind and Hydropower Generation](#)", *6th Solar Integration Workshop International Workshop on Integration of Solar Power into Power System*. Energynautics GmbH 2016 ISBN 978-3-9816549-3-6.s.462-467

## 2015

79. Farahmand, Hossein; Jaehnert, Stefan; Aigner, Tobias; Huertas-Hernando, Daniel, "[Nordic hydropower flexibility and transmission expansion to support integration of North European wind power](#)", *Wind Energy* 2015 ;Vol. 18.(6) s.1075-1103
80. Gebrekiros, Yonas Tesfay; Doorman, Gerard L.; Jaehnert, Stefan; Farahmand, Hossein, "Balancing Energy Market Integration Considering Grid Constraints", *PowerTech Eindhoven 2015*. IEEE Press 2015 ISBN 9781479976959. s.1-6
81. Gebrekiros, Yonas Tesfay; Doorman, Gerard L.; Jaehnert, Stefan; Farahmand, Hossein, "[Reserve procurement and transmission capacity reservation in the Northern European power market](#)", *International Journal of Electrical Power & Energy Systems* 2015 ;Vol. 67. s.546-559
82. Sanchis, Gerald; Bakken, Bjørn Harald; Anderski, Thomas; Peirano, Eric; Pestana, Rui; De Clercq, Bernard; Migliavacca, Gianluigi; Czernie, Marc; Panciatici, Patrick; Paun, Mihai; Grisey, Nathalie; Huertas-Hernando, Daniel; Warland, Leif; Vrana, Til Kristian; Farahmand, Hossein, "[Europe's future secure and sustainable electricity infrastructure : e-Highway2050 project results](#)", FINAL Deliverable H2020 e-Highway 2050 EU project.

## 2014

83. Farahmand, Hossein; Warland, Leif; Huertas-Hernando, Daniel, "[The Impact of Active Power Losses on the Wind Energy Exploitation of the North Sea](#)", *Energy Procedia* 2014 ;Vol. 53. s.70-85

## 2013

84. Farahmand, Hossein; Jaehnert, Stefan; Aigner, Tobias; Huertas-Hernando, Daniel, "[TWENTIES Task 16.3. Nordic hydro power generation flexibility and transmission capacity expansion to support North European wind power: 2020 and 2030 case studies](#)", H2020 TWENTIES EU project, 2013 158 s.
85. Endegnanew, Atsede Gualu; Farahmand, Hossein; Huertas-Hernando, Daniel, "[Frequency Quality in the Nordic Power System: Wind Variability, Hydro Power Pump Storage and Usage of HVDC Links](#)", *Energy Procedia* 2013 ;Vol. 35. s.62-68
86. Gebrekiros, Yonas Tesfay; Doorman, Gerard L.; Farahmand, Hossein; Jaehnert, Stefan, "[Benefits of cross-border reserve procurement based on pre-allocation of transmission capacity](#)", *2013 IEEE Grenoble PowerTech*. IEEE 2013 ISBN 9781467356688.
87. Gebrekiros, Yonas Tesfay; Doorman, Gerard L.; Jaehnert, Stefan; Farahmand, Hossein, "[Bidding in the Frequency Restoration Reserves \(FRR\) Market for a Hydropower Unit](#)", *2013 4th IEEE PES Innovative Smart Grid Technologies Europe (ISGT Europe, Lyngby, 6-9 Oct. 2013*. IEEE International Conference on Smart Grid Communications (SmartGridComm) 2013 ISBN, 978-1-4799-2984-9.

88. Jaehnert, Stefan; Wolfgang, Ove; Farahmand, Hossein; Völler, Steve; Huertas-Hernando, Daniel, "[Transmission expansion planning in Northern Europe in 2030-Methodology and analyses](#)", *Energy Policy* 2013 ;Vol. 61. s.125-139

## 2012

89. Farahmand, Hossein; Aigner, Tobias; Doorman, Gerard L.; Korpås, Magnus; Huertas-Hernando, Daniel, "[Balancing Market Integration in the Northern European Continent: A 2030 Case Study](#)", *IEEE Transactions on Sustainable Energy* 2012 ; Vol. 3.(4) s.918-930
90. Farahmand, Hossein, "[Integrated Power System Balancing in Northern Europe](#)", NTNU Trondheim 2012 (ISBN 9788247135877) 190 s. PhD Thesis (2012:150), NTNU.
91. Farahmand, Hossein; Doorman, Gerard L., "[Balancing market integration in the Northern European continent](#)", *Applied Energy* 2012 ;Vol. 96. s.316-326
92. Farahmand, Hossein; Rashidinejad, M.; Mousavi, Ali; Gharaveisi, A.A.; Irving, M.R.; Taylor, G.A., "[Hybrid Mutation Particle Swarm Optimisation method for Available Transfer Capability enhancement](#)", *International Journal of Electrical Power & Energy Systems*, 2012; Vol. 42.(1) s.240-249
93. Gebrekiros, Yonas Tesfay; Farahmand, Hossein; Doorman, Gerard L., "[Impact of Reserve Market Integration on the Value of the North Sea Offshore Grid Alternatives](#)", *2012 9th International Conference on the European Energy Market (EEM 2012)*. IEEE conference proceedings 2012 ISBN 978-1-4673-0832-8.

## 2011

94. Farahmand, Hossein; Doorman, Gerard L., "[Modelling of Balancing Market Integration in the Northern European Continent](#)", *Proceeding - 17th Power Systems Computations Conference PSCC 2011*. Curran Associates, Inc. 2011 ISBN 9781618392275.
95. Farahmand, Hossein; Huertas-Hernando, Daniel; Warland, Leif; Korpås, Magnus; Svendsen, Harald Georg, "[Impact of system power losses on the value of an offshore grid for North Sea offshore wind](#)", *PowerTech 2011 Proceedings*. IEEE conference proceedings 2011 ISBN 978-1-4244-8417-1.
96. Grande, Ove Steinar; Doorman, Gerard L.; Hernando, Daniel Huertas; Farahmand, Hossein, "[Alternative schemes for exchange of balancing resources between separate synchronous systems in Northern Europe](#)", *SINTEF Energi A 2011* (ISBN 978-82-594-3482-1) 75 s. SINTEF Energi. Rapport(TR A7102)

## 2010

97. Farahmand, Hossein; Hosseini, Seyed Mohammad Ali; Doorman, Gerard L.; Fosso, Olav B., "[Flow Based Activation of Reserves in the Nordic Power System](#)", *IEEE Power & Energy Society General Meeting 2010*, Minneapolis, USA, 2010-07-25 - 2010-07-29
98. Jaehnert, Stefan; Farahmand, Hossein; Doorman, Gerard L.; Abbasy, A.; Veen, R. v. d.; Hakvoort, R. A.; Grande, Ove S., "[Balance Management in Multinational Power Markets](#)", *ENERDAY, 5th Conference on Energy and Technology*; 2010-04-16 - 2010-04-16
99. Ravnaas, Kristian Wiik; Farahmand, Hossein; Doorman, Gerard L., "[Optimal Wind Farm Bids under Different Balancing Market Arrangements](#)", *IEEE 11th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS) 2010*. 2010 ISBN 9781424457205. s.30-35

## 2009

100. Jaehnert, Stefan; Farahmand, Hossein; Doorman, Gerard L., "[Modelling of prices using the volume in the Norwegian regulating power market](#)", *2009 IEEE Bucharest PowerTech*. IEEE conference, proceedings 2009 ISBN 978-1-4244-2234-0, 2009-06-27 - 2009-07-01.

## 2008

101. M Rashidinejad, H Farahmand, M Fotuhi-Firuzabad, AA Gharaveisi , "[ATC enhancement using TCSC via artificial intelligent techniques](#)", *Electric Power Systems Research* 78 (1), 11-20
102. Forghani, M.A; Seyed-Esfahani, M.; Rashidinejad, M; Farahmand, "[A goal attainment model for transmission expansion planning using a meta heuristic technique](#)", *Iranian Journal of Science & Technology, Transaction B, Engineering*, Vol. 32, No. B3, pp 235-247.

## 2007

103. MA Forghani, M Seyed-Esfahani, M Rashidinejad, H Farahmand, "[Transmission expansion planning using goal attainment & GA](#)", *2007 Large Engineering Systems Conference on Power Engineering*, 84-

104. H Farahmand, M Rashidinejad, AA Gharaveisi, GA Shahriary, "[Optimal location of UPFC for ATC enhancement in restructured power systems](#)", 2007 Large engineering systems conference on power engineering, 176-181
105. H Farahmand, M Rashidinejad, Ali Garaveici, "[A combinatorial approach of real GA & fuzzy to ATC enhancement](#)", Turkish Journal of Electrical Engineering and Computer Sciences 15 (1), 77-88

## 2006

106. H Farahmand, M Rashidinejad, AA Gharaveisi, M Shojaei, "[An application of hybrid heuristic approach for ATC enhancement](#)", 2006 Large Engineering Systems Conference on Power Engineering, 125-130
107. AA Gharaveisi, M Rashidinejad, A Khajezadeh, H Farahmand, "[Perturbation method based evaluation of power system voltage security](#)", 2006 IEEE GCC Conference (GCC), 1-8

## 2004

108. H Farahmand, M Rashidi-Nejad, M Fotuhi-Firoozabad, "[Implementation of FACTS devices for ATC enhancement using RPF technique](#)", 2004 Large Engineering Systems Conference on Power Engineering
109. H Farahmand, M Rashidinejad, G Shahriary, "[A new application of real GA to ATC enhancement via FACTS device location](#)", WSEAS Transactions on Circuits and Systems 3 (9), 1989-1994

## OTHER DESSIMINATIONS

1. Hossein Farahmand, **Consumer and prosumer cooperation may equal reduced electricity prices**, SINTEF Blog (2019), <https://blog.sintef.com/sintefenergy/energy-systems/consumer-prosumer-cooperative-game-theory/>
2. **Samarbeider med Kina om produksjonsplanlegging**, interview with energiteknikk magazine (2021), <https://energiteknikk.net/2021/05/samarbeider-med-kina-om-produksjons-planlegging/>
3. **Vil la kunstig intelligens ta kraftavgjerder: – Kan spare milliarder av kroner**, interview with Nrk (2023), <https://www.nrk.no/vestland/kunstig-intelligens-kan-styra-vasskraftproduksjonen--kan-spara-milliardar-av-kroner-1.16226088>
4. **Mener AI kan holde strømprisen nede**, interview with digi.no (2023), <https://www.digi.no/artikler/mener-ai-kan-holde-stromprisen-nede-kan-spare-milliard-av-kroner-br/524778?key=U3HtefJz>.

## INVITED TALKS

1. **Local Market Modelling, Characterization & Business Assessment**, HONOR Final project Consortium (Hybrid), 2023
2. **Balancing Market Integration and Hydro-Dominated System Balancing**, IEEE PES GM 2021 Conference, Panel session on Hydropower flexibility for large-scale integration of renewable energy sources (online), 2021
3. **Flexibility Market Modelling, Characterisation and Business Assessment**, HONOR project workshop on Flexibility Markets (online), 2021
4. **Flexibility Market Operation Concept Design**, HONOR project workshop-User Stories: Market Operation Cluster (online), 2020
5. **Flexibility management algorithms**, INVADE Result presentation, Barcelona, Spain, 2019
6. **Battery storage management algorithm**, Workshop on grid integration of battery storages, Espoo, Finland, 2018

## REFERENCES

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