

Fabrizio Sossan – Curriculum Vitae

Associate Professor of Power Systems

Haute Ecole Spécialisée de la Suisse Occidentale (HES-SO Valais-Wallis)
Institute of Sustainable Energy
23 Rue de l'industrie
1950 Sion
Switzerland

Email: fabrizio.sossan@hevs.ch

Links: [Personal webpage](#) | [Google Scholar](#) | [Research Gate](#) | [Scopus](#) | [ORCID iD](#)

Education

- 08/2014 Ph.D. in Electrical Engineering, *Technical University of Denmark (DTU)*, Denmark with the thesis "Indirect control of flexible demand for power system applications".
- 02/2010 M.Sc. in Computer Engineering (110/110), *University of Genova*, Italy.

Academic and professional appointments

- 11/2022 – present Associate Professor of Power Systems at HES-SO Valais - Wallis.
- 03/2019 – 09/2022 Associate Professor of Renewable Energies at MINES ParisTech - PSL University.
- 06/2021 – 09/2022 Director of the specialized master "Alternative Energies for the Future" of MINES ParisTech - PSL University.
- 03/2020 – 09/2022 Co-founder & ad-interim CTO of *ModBESS*, Madison-Wisconsin, USA.
- 08/2018 – 02/2019 Research scientist at ETHZ (SCCER Supply of Energy program), Switzerland.
- 11/2017 – 07/2018 Guest research scientist at the National Renewable Energy Laboratory (NREL), Golden-Colorado, USA.
- 05/2014 – 17/2017 Research scientist at EPFL (Distributed Electrical Systems Laboratory), Switzerland.
- 01/2011 – 04/2014 Doctoral assistant at the Center of Electric Energy of DTU, Denmark.
- 10/2010 – 12/2010 Research assistant at the Danish National Laboratory for Sustainable Energy (Risø), Roskilde, Denmark.
- 03/2010 – 09/2010 Automation Engineer at Ansaldo Sistemi Industriali, Genova, Italy.
- 10/2009 – 01/2010 Student Research Assistant at the University of Strathclyde, Glasgow, United Kingdom.

Research Funding

- 2023 – 2027 Energy Storage Infrastructure for 100% Production from Renewables and Energy Self-Sufficiency in Switzerland (STORE), Innosuisse Flagship 108.230. Fund: CHF 4.2 million.
- 2023 – 2024 More resilient microgrids and grids (ResiNet). Fund: CHF 220'000 CHF (my share: CHF 70'000).
- 2022 Financing of Laboratory on Integrated Energy Systems, Region Sud - Provence Alpes Cote d'Azur. Fund: €300'000.
- 2020 – 2021 Charging infrastructure for sustainable mobility, Research sub-contracting. Fund: €70'000.
- 2019 – 2023 Hydropower Extending Power System Flexibility (XFLEX Hydro), H2020 innovation action. Fund: €285'000.
- 2019 – 2021 Optimization of Regional Infrastructures for the Transition to Electric and Connected Autonomous Vehicles (EVA), ERA-NET SES project (2019-2023). Fund: €100'000.
- 2018 – 2021 Licensing of lead-authored patent application 62/354,828 to Eaton corporation. Fund: €200'000.

Compiled on December 1, 2023.

Supervised Ph.D. students

- | | |
|-------------|--|
| 2020 – 2023 | 1. Mr. Biswarup Mukherjee (MINES ParisTech), Implications of Autonomous Electric Vehicles for Power Grids |
| 2019 – 2023 | 2. Mr. Stefano Cassano (MINES ParisTech), Control of Hydropower Plants Hybridized with Energy Storage to Enhance their Performance |

Co-supervised Ph.D. students

- | | |
|-------------|--|
| 2019 – 2022 | 1. Mr. Rahul Gupta (EPFL), Dispatching controllable resources in low-voltage power grids (main supervisor Prof. Paolone) |
| 2017 – 2021 | 2. Ms. Yihui Zuo (EPFL), Impact of Battery Energy Storage Systems on the Dynamic Behavior of Low-inertia Power Grids (main supervisor Prof. Paolone) |

Supervised Master students

- | | |
|----------------|---|
| 2014 – present | I have supervised over 25 Master students, including projects and thesis. |
|----------------|---|

Teaching

- | | |
|-------------|---|
| 2022 – now | Électricité de base (2 ECTS). DC circuits. Resistance, Ohm law, Kirchhoff laws, Superposition, Thevenin and Norton equivalent circuits, Laboratories. |
| 2022 – now | Réseaux Électriques 1 (5 ECTS). Structure and organization of vertically unbundled power systems, Main components (power plants, lines, transformers), Operational meaning of active and reactive power, Introduction to Electricity Markets. |
| 2022 – now | Réseaux Électriques 2 (5 ECTS). Load flow analysis, Frequency and Voltage control, Laboratories. |
| 2021 – 2022 | <i>Introduction to Power Systems</i> (16 hours). “Enseignement spécialisé” to master’s students of the civil engineering program of MINES ParisTech, and energy engineering program of PSL. It delivers rigorous lectures on network calculus, load flows, and frequency control. |
| 2021 | <i>Energy storage for renewable-based power systems</i> (3 hours). Guest lecture to master’s students of the civil engineering program of MINES ParisTech. This course explains operating principles, components, operational requirements, and main applications of modern energy storage technologies and their applications. |
| 2019 – 2021 | <i>AC circuits and phasors</i> (3 hours). <i>Renewable energy technologies</i> (18 hours). |

Invited presentations and seminars

- | | |
|---------------|--|
| 2022 March | Sossan, F. (2022 March). Stress-informed model predictive control of hybrid hydropower. Seminar, Waterloo Institute Sustainable Energy (WISE) and University of Waterloo, Canada. |
| 2020 August | Sossan, F. (2020 August). Leveraging autonomous driving of electric vehicles to provide ancillary services to the distribution grid. Panel presentation, session “Electric Vehicles as Flexible Demand-side Resources: Research Progress, Obstacles and Pilot Projects”, General Meeting of IEEE Power Engineering Society (PESGM). PDF — Video . |
| 2019 November | Sossan, F. (2019 November). Dispatching the operation of electrical distribution systems and providing multiple ancillary services to the power grid with grid-connected batteries. Seminar, Monash University, Australia. |
| 2019 May | Sossan, F. (2019 May). Dispatch and clustering of ancillary services with distributed energy storage. Seminar, Tsinghua University (Prof. Z. Hu’s lab), China. PDF . |
| 2018 June | |

	Sossan, F. (2018 June). Dispatch and clustering of ancillary services from distributed storage. Tutorial, opening session on "Modeling and applications of energy storage systems in power grids", PSCC. PDF .
2018 August	Sossan, F. (2018 August). Dispatch and Primary Frequency Control with Distributed Electrochemical Storage Systems: a System-wise Validation via Real-Time Simulation. Panel presentation, session "Real-Time Simulation and Testing of Multi-Domain Systems using Detailed Modeling and Experimental Validation", General Meeting of IEEE Power Engineering Society (PESGM).
2017 March	Sossan, F. (2017 March). Dispatching active distribution networks through electrochemical storage systems and demand side management. Seminar, University of Genova, Italy.
2017 July	Sossan, F. , & Paolone, M. (2017 July). Aggregation of Power Capabilities of Heterogeneous Resources for the Real-Time Optimal Control of Active Distribution Networks. Panel presentation, session "Modern Heuristic Optimization Techniques for Renewable Energy Sources Integration with Energy Storage Devices: Optimization Under Uncertainty", General Meeting of IEEE Power Engineering Society (PESGM).
2017 December	Sossan, F. (2017 December). Achieving the Dispatchability of Stochastic Power Flows by Distributed Control of Dispersed Energy Resources. Seminar, National Renewable Energy Laboratory (NREL), USA.
2016 February	Sossan, F. (2016 February). Evaluation of the impact of dispatched-by-design operation on power system reserve requirements. Invited Presentation, Future Electric Power Systems and the Energy Transition International conference, Champéry, Switzerland.

Awards and mentions

2021	Accreditation from CapEnergies. Sossan, F. , An experimental infrastructure for research on integrated energy systems. CapEnergies is a competitiveness cluster whose direction and evaluation boards are served by major French energy industries. CapEnergies awards projects with demonstrated research excellence and potential for industrial applications and significant socio-economic impacts.
2020	Top 5% paper. Cassano, S., Nicolet, C., & Sossan, F. (2020). Reduction of Penstock Fatigue in a Medium-Head Hydropower Plant Providing Primary Frequency Control. In 2020 55th International Universities Power Engineering Conference (UPEC). IEEE. Publisher Link — Preprint .
2018	Best paper award. Valenciano López, A., Bozorg, M., Sossan, F. , & Paolone, M. (2018). An econometric model of the regulating power price for interconnected power systems: the case of the nord pool market. In 15th International Conference on the European Energy Market (EEM). IEEE. Publisher Link — Preprint .
2013	Best poster paper award. Sossan, F. , Marinelli, M., Costanzo, G. T., & Bindner, H. (2013). Indirect control of DSRs for regulating power provision and solving local congestions. In 2013 IEEE International Youth Conference on Energy (IYCE). IEEE. Publisher Link — Preprint .

Services to the profession

2019 – 2022	Associate Editor of Elsevier Sustainable Energy, Grids and Networks (SEGAN).
2019 – present	Member of the technical program committee of the Power Systems Computation Conference (PSCC).
2018 – 2019	Member of the technical program committee of IEEE SmartGridComm and session chair.
2014 – present	I act on a regular basis as a reviewer for among the most important international journals (IEEE Transaction on Sustainable Energy, IEEE Transactions on Smart Grids, IEEE Transactions on Industrial Informatics, IEEE Transactions on Industrial Electronics, Elsevier SEGAN, Elsevier Renewable Energy, Elsevier Science of Total Environment, Elsevier Energy, and Energies) and major international conferences (PSCC, IEEE ISGT, IEEE Powertech) of the power systems community.

Working groups and professional societies

2021 – present	CIGRE working group C6.43, <i>Aggregation of Battery Energy Storage Systems</i>
2021 – present	Member of CIGRE
2020 – present	CIGRE working group 2019-4, <i>Storage Technologies as an Opportunity for Distribution Systems</i>
2018 – 2019	Member of the <i>ASI camera benchmark</i> campaign, in the context of the IEA PVPS Task 16 on <i>Solar Resource for High-penetration and Large-scale Applications</i> .
2012 – present	Member of IEEE, and IEEE Power Engineering Society

Other services

2022	Ph.D. thesis jury member, Mr. Sherif Fahmy (Ecole polytechnique fédérale de Lausanne, EPFL), Efficient methods for the operation of active distribution networks in unsymmetric and uncertain states.
2022	Ph.D. thesis jury member, Mr. Gabriele Mosaico (University of Genova), Simulation, forecasting, and control in power system analytics: methodological aspects and applications.
2022	Ph.D. thesis jury member, Mr. Luca Briano (University of Genova), Ricerca di soluzioni per la sostituzione o riduzione del gas esafluoruro di zolfo nel sistema di isolamento dei TV.
2020	Ph.D. thesis jury member, Ms. Paola Pongiglione (University of Genova), Optimal operation and planning of transmission and distribution networks: towards renewable sources and storage integration.
2020	M.Sc. thesis evaluator, Mr. Sovljanski Vladimir (EPFL), Optimal Planning of Electric Vehicle Charging Stations and Photovoltaic Generation in a Distribution Network.
2019 – present	External member of the Ph.D. school board. Department of Power System Engineering and Transportation Systems, University of Genova.
2019	Research proposal evaluator for the Austral University of Chile.

List of publications

(Reverse chronological order and reverse numbering)

Book chapters

2021	Sossan, F. , & Alvarado, F. (2022) Battery energy storage systems for applications in distribution grids, in book <i>Planning and Operation of Active Distribution Networks</i> , Springer International Publishing.
------	---

Peer-reviewed publications in scientific journals

2023	34. Gupta, R., & Sossan, F. (2023). Optimal Sizing and Siting of Energy Storage Systems Considering Curtailable Photovoltaic Generation in Power Distribution Networks. <i>Applied Energy</i> . Publisher Link — Preprint .
2023	33. Mukherjee, B., & Sossan, F. (2023). Optimized Planning of Chargers for Electric Vehicles in Distribution Grids Including PV Self-consumption and Cooperative Vehicle Owners. <i>IET Energy Conversion and Economics</i> . Publisher Link — Preprint .
2022	32. Ledur, S., Molinier, R., Sossan, F. , Alais, J. C., Faris, M. D. E. A., & Kariniotakis, G. (2022). Identification and quantification of the flexibility potential of a complex industrial process for ancillary services provision. <i>Electric Power Systems Research</i> , 212, 108396. Publisher Link .
2022	31. Mukherjee, B., & Sossan, F. (2022). Optimal planning of single-port and multi-port charging stations for electric vehicles in medium voltage distribution networks. <i>IEEE Transactions on Smart Grid</i> . Publisher Link — Preprint .

- 2022 30. Cassano, S., & **Sossan, F.** (2022). Model Predictive Control for a Medium-head Hydropower Plant Hybridized with Battery Energy Storage to Reduce Penstock Fatigue. Electric Power Systems Research/Power Systems Computation Conference (Accepted). [Preprint](#).
- 2022 29. Gupta, R., **Sossan, F.**, & Paolone, M. (2022). Model-less Robust Voltage Control in Active Distribution Networks using Sensitivity Coefficients Estimated from Measurements. Electric Power Systems Research/Power Systems Computation Conference (Accepted). .
- 2022 28. Cassano, S., & **Sossan, F.** (2022). Stress-informed Control of Medium- and High-head Hydropower Plants to Reduce Penstock Fatigue. Sustainable Energy, Grids and Networks, 31, 100688. [Publisher Link](#) — [Preprint](#).
- 2021 27. Gupta, R., **Sossan, F.**, & Paolone, M. (2021). Countrywide PV hosting capacity and energy storage requirements for distribution networks: The case of Switzerland. Applied Energy, Volume 281, 116010. [Publisher Link](#) — [Preprint](#).
- 2021 26. Massucco, S., Paolone, M., Pongiglione, P., Silvestro, F., & **Sossan, F.** (2021). Siting and sizing of energy storage systems: Towards a unified approach for transmission and distribution system operators for reserve provision and grid support. Electric Power Systems Research, 190. [Publisher Link](#) — [Preprint](#).
- 2021 25. Zecchino, A., Yuan, Z., **Sossan, F.**, Cherkaoui, R., & Paolone, M. (2021). Optimal Provision of Concurrent Primary Frequency and Local Voltage Control from a BESS Considering Variable Capability Curves: Modelling and Experimental Assessment. Electric Power Systems Research, 190. [Publisher Link](#) — [Preprint](#).
- 2021 24. Zuo, Y., Yuan, Z., **Sossan, F.**, Zecchino, A., Cherkaoui, R., & Paolone, M. (2021). Performance assessment of grid-forming and grid-following converter-interfaced battery energy storage systems on frequency regulation in low-inertia power grids. Sustainable Energy, Grids and Networks. [Publisher Link](#) — [Preprint](#).
- 2021 23. Gupta, R., **Sossan, F.**, Le Boudec, J. Y., & Paolone, M. (2021). Compound Admittance Matrix Estimation of Three-Phase Untransposed Power Distribution Grids Using Synchrophasor Measurements. IEEE Transactions on Instrumentation and Measurement, 70. [Publisher Link](#) — [Preprint](#).
- 2020 22. Gupta, R., **Sossan, F.**, & Paolone, M. (2020). Grid-aware Distributed Model Predictive Control of Heterogeneous Resources in a Distribution Network: Theory and Experimental Validation. IEEE Transactions on Energy Conversion. [Publisher Link](#) — [Preprint](#).
- 2020 21. Nespoli, L., Medici, V., Kristijan, L., & **Sossan, F.** (2020). Hierarchical demand forecasting benchmark for the distribution grid. Electric Power Systems Research, 189, 106755. [Publisher Link](#) — [Preprint](#).
- 2020 20. Stai, E., **Sossan, F.**, Namor, E., Le Boudec, J.Y., & Paolone, M. (2020). A receding horizon control approach for re-dispatching stochastic heterogeneous resources accounting for grid and battery losses. Electric Power Systems Research, 185. [Publisher Link](#).
- 2020 19. Zuo, Y., **Sossan, F.**, & Paolone, M. (2020). Effect of voltage source converters with electrochemical storage systems on dynamics of reduced-inertia bulk power grids. Electric Power Systems Research, 189. [Publisher Link](#) — [Preprint](#).
- 2019 18. Kalantar-Neyestanaki, M., **Sossan, F.**, Bozorg, M., & Cherkaoui, R. (2019). Characterizing the reserve provision capability area of active distribution networks: a linear robust optimization method. IEEE Transactions on Smart Grid, 11(3): 2464-2475. [Publisher Link](#).
- 2019 17. **Sossan, F.**, Scolari, E., Gupta, R., & Paolone, M. (2019). Solar irradiance estimations for modeling the variability of photovoltaic generation and assessing violations of grid constraints: A comparison between satellite and pyranometers measurements with load flow simulations. Journal of Renewable and Sustainable Energy of American Institute of Physics, 11(5). [Publisher Link](#) — [Preprint](#).
- 2018 16. Bozorg, M., **Sossan, F.**, Le Boudec, J.Y., & Paolone, M. (2018). Influencing the bulk power system reserve by dispatching power distribution networks using local energy storage. Electric Power Systems Research, 163:270 – 279. [Publisher Link](#) — [Preprint](#).

- 2018 15. Fabietti, L., Gorecki, T. T., Namor, E., **Sossan, F.**, Paolone, M., & Jones, C. N. (2018). Enhancing the dispatchability of distribution networks through utility-scale batteries and flexible demand. *Energy and Buildings*, 172:125 – 138. [Publisher Link](#).
- 2018 14. Gao, X., **Sossan, F.**, Christakou, K., Paolone, M., & Liserre, M. (2018). Concurrent voltage control and dispatch of active distribution networks by means of smart transformer and storage. *IEEE Transactions on Industrial Electronics*, 65(8):6657–6666. [Publisher Link](#) — [Preprint](#).
- 2018 13. Mahmood, F., Vanfretti, L., Pignati, M., **Sossan, F.**, & Paolone, M. (2018). Experimental validation of a steady state model synthesis method for a three-phase unbalanced active distribution network feeder. *IEEE Access*, 6:4042–4053. [Publisher Link](#).
- 2018 12. Namor, E., **Sossan, F.**, Cherkaoui, R., & Paolone, M. (2018). Control of battery storage systems for the simultaneous provision of multiple services. *IEEE Transactions on Smart Grid*, 10(3):2799–2808. [Publisher Link](#) — [Preprint](#).
- 2018 11. Scolari, E., Reyes, L., **Sossan, F.**, & Paolone, M. (2018). A comprehensive assessment of the short-term uncertainty of grid-connected pv systems. *IEEE Transactions on Sustainable Energy*, 9(3):1458–1467. [Publisher Link](#) — [Preprint](#).
- 2018 10. Scolari, E., **Sossan, F.**, Haure-Touze, M., & Paolone, M. (2018). Local estimation of the global horizontal irradiance using an all-sky camera. *Solar Energy*, 173:1225 – 1235. [Publisher Link](#).
- 2018 9. **Sossan, F.**, Nespoli, L., Medici, V., & Paolone, M. (2018). Unsupervised disaggregation of photovoltaic production from composite power flow measurements of heterogeneous prosumers. *IEEE Transactions on Industrial Informatics*, 14(9):3904–3913, 2018. [Publisher Link](#) — [Preprint](#).
- 2018 8. Stai, E., Reyes-Chamorro, L., **Sossan, F.**, Le Boudec, J.Y., & Paolone, M. (2018). Dispatching stochastic heterogeneous resources accounting for grid and battery losses. *IEEE Transactions on Smart Grid*, 9(6):6522–6539. [Publisher Link](#) — [Preprint](#).
- 2017 7. Scolari, E., **Sossan, F.**, & Paolone, M. (2017). Photovoltaic-model-based solar irradiance estimators: Performance comparison and application to maximum power forecasting. *IEEE Transactions on Sustainable Energy*, 9(1):35–44. [Publisher Link](#) — [Preprint](#).
- 2017 6. **Sossan, F.** (2017). Equivalent electricity storage capacity of domestic thermostatically controlled loads. *Energy*, 122. [Publisher Link](#) — [Preprint](#).
- 2016 5. Scolari, E., **Sossan, F.**, & Paolone, M. (2016). Irradiance prediction intervals for PV stochastic generation in microgrid applications. *Solar Energy*, 139. [Publisher Link](#) — [Preprint](#).
- 2016 4. **Sossan, F.**, Lakshmanan, V., Costanzo, G. T., Marinelli, M., Douglass, P. J., & Bindner, H. (2016). Grey-box modelling of a household refrigeration unit using time series data in application to demand side management. *Sustainable Energy, Grids and Networks*, 5. [Publisher Link](#) — [Preprint](#).
- 2016 3. **Sossan, F.**, Namor, E., Cherkaoui, R., & Paolone, M. (2016). Achieving the dispatchability of distribution feeders through prosumers data driven forecasting and model predictive control of electrochemical storage. *IEEE Transactions on Sustainable Energy*, 7(4):1762–1777. [Publisher Link](#) — [Preprint](#).
- 2014 2. **Sossan, F.**, Bindner, H., Madsen, H., Torregrossa, D., Chamorro, L. R., & Paolone, M. (2014). A model predictive control strategy for the space heating of a smart building including cogeneration of a fuel cell-electrolyzer system. *International Journal of Electrical Power & Energy Systems*, 62:879 – 889. [Publisher Link](#) — [Preprint](#).
- 2014 1. Marinelli, M., **Sossan, F.**, Costanzo, G. T., & Bindner, H. W. (2014). Testing of a predictive control strategy for balancing renewable sources in a microgrid. *IEEE Transactions on Sustainable Energy*, 5(4):1426–1433. [Publisher Link](#).

Peer-reviewed publications in conference proceedings

- 2021 36. Mukherjee, B., Kariniotakis, G., & **Sossan, F.** (2021). Smart Charging, Vehicle-to-Grid, and Reactive Power Support from Electric Vehicles in Distribution Grids: A Performance Comparison. In 2021 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe). IEEE. [Preprint](#).
- 2021 35. Cassano, S., Landry, C., Nicolet, C., & **Sossan, F.** (2021). Performance Assessment of Linear Models of Hydropower Plants. In 2021 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe). IEEE. [Preprint](#).
- 2021 34. Gupta, R., Sovljanski, V., **Sossan, F.**, & Paolone, M. (2021). Performance Comparison of Alternating Direction Optimization Methods for Linear-OPF based Real-time Predictive Control. In 2021 IEEE Madrid PowerTech. IEEE. [Publisher Link](#) — [Preprint](#).
- 2020 33. Cassano, S., Nicolet, C., & **Sossan, F.** (2020). Reduction of Penstock Fatigue in a Medium-Head Hydropower Plant Providing Primary Frequency Control. In 2020 55th International Universities Power Engineering Conference (UPEC). IEEE. [Publisher Link](#) — [Preprint](#).
- 2020 32. **Sossan, F.**, Mukherjee, B., & Hu, Z. (2020). Impact of the Charging Demand of Electric Vehicles on Distribution Grids: a Comparison Between Autonomous and Non-Autonomous Driving. In 15th International Conference on Ecological Vehicles and Renewable Energies (EVER). IEEE. [Publisher Link](#) — [Preprint](#).
- 2019 31. Gupta, R., **Sossan, F.**, & Paolone, M. (2019). Performance assessment of linearized OPF-based distributed real-time predictive control. In 2019 IEEE Manchester PowerTech. IEEE. [Publisher Link](#) — [Preprint](#).
- 2019 30. Kalantar-Neyestanaki, M., Bozorg, M., **Sossan, F.**, & Cherkaoui, R. (2019). Allocation of active power reserve from active distribution networks using a cost-benefit approach: Application to Swissgrid network. In 2019 IEEE Manchester PowerTech. IEEE. [Publisher Link](#).
- 2018 29. Gupta, R., **Sossan, F.**, Scolari, E., Namor, E., Fabietti, L., Jones, C. N., & Paolone, M. (2018). An ADMM-based coordination and control strategy for PV and storage to dispatch stochastic prosumers: Theory and experimental validation. In 2018 Power Systems Computation Conference (PSCC). [Publisher Link](#) — [Preprint](#).
- 2018 28. Kalantar-Neyestanaki, M., Bozorg, M., **Sossan, F.**, & Cherkaoui, R. (2018). Allocation of frequency control reserve from aggregated resources of active distribution systems. In 2018 Power Systems Computation Conference (PSCC). [Publisher Link](#).
- 2018 27. Namor, E., **Sossan, F.**, Scolari, E., Cherkaoui, R., & Paolone, M. (2018). Experimental assessment of the prediction performance of dynamic equivalent circuit models of grid-connected battery energy storage systems. In 2018 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#) — [Preprint](#).
- 2018 26. Schiapparelli, G.-P., Massucco, S., Namor, E., **Sossan, F.**, Cherkaoui, R., & Paolone, M. (2018). Quantification of primary frequency control provision from battery energy storage systems connected to active distribution networks. 2018 Power Systems Computation Conference (PSCC). [Publisher Link](#).
- 2018 25. Valenciano López, A., Bozorg, M., **Sossan, F.**, & Paolone, M. (2018). An econometric model of the regulating power price for interconnected power systems: the case of the nord pool market. In 15th International Conference on the European Energy Market (EEM). IEEE. [Publisher Link](#) — [Preprint](#).
- 2018 24. Zuo, Y., **Sossan, F.**, Bozorg, M., & Paolone, M. (2018). Dispatch and primary frequency control with electrochemical storage: a system-wise verification. In 2018 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#) — [Preprint](#).
- 2017 23. Fabietti, L., Gorecki, T. T., Namor, E., **Sossan, F.**, Paolone, M., & Jones, C. N. (2017). Dispatching active distribution networks through electrochemical storage systems and demand side

- management. In 2017 1st IEEE Conference on Control Technology and Applications. IEEE. [Publisher Link](#).
- 2017 22. Magnone, L., **Sossan, F.**, Scolari, E., & Paolone, M. (2017). Cloud Motion Identification Algorithms Based on All-Sky Images to Support Solar Irradiance Forecast. In 2017 IEEE 44th Photovoltaic Specialist Conference (PVSC), IEEE. [Publisher Link](#) — [Preprint](#).
- 2017 21. Namor, E., **Sossan, F.**, Torregrossa, D., Cherkaoui, R., & Paolone, M. (2017). Battery storage system optimal exploitation through physics-based model predictive control. 2017 IEEE Manchester PowerTech. IEEE. [Publisher Link](#).
- 2017 20. Scolari, E., **Sossan, F.**, & Paolone, M. (2017). A model-based filtering strategy to reconstruct the maximum power generation of curtailed photovoltaic installations: application to forecasting. In 2017 IEEE Manchester PowerTech. IEEE. [Publisher Link](#) — [Preprint](#).
- 2017 19. **Sossan, F.**, Christakou, K., Paolone, M., Gao, X., & Liserre, M. (2017). Enhancing the provision of ancillary services from storage systems using smart transformer and smart meters. In 2017 IEEE 26th International Symposium on Industrial Electronics (ISIE). IEEE. [Publisher Link](#) — [Preprint](#).
- 2016 18. Namor, E., Torregrossa, D., **Sossan, F.**, Cherkaoui, R., & Paolone, M. (2016). Assessment of battery ageing and implementation of an ageing aware control strategy for a load leveling application of a lithium titanate battery energy storage system. In 2016 IEEE 17th Workshop on Control and Modeling for Power Electronics (COMPEL). IEEE. [Publisher Link](#) — [Preprint](#).
- 2016 17. Namor, E., **Sossan, F.**, Cherkaoui, R., & Paolone, M. (2016). Load leveling and dispatchability of a medium voltage active feeder through battery energy storage systems: Formulation of the control problem and experimental validation. 2016 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#) — [Preprint](#).
- 2016 16. **Sossan, F.**, & Paolone, M. (2016). Integration and operation of utility-scale battery energy storage systems: the EPFL's experience. In 2016 IFAC Workshop on Control of Transmission and Distribution Smart Grids (CTDSG). [Publisher Link](#) — [Preprint](#).
- 2016 15. **Sossan, F.**, Darulova, J., Paolone, M., Kahl, A., Bartlett, S. J., & Lehning, M. (2016). Large scale deployment of PV units in existing distribution networks: Optimization of the installation layout. In 2016 Power Systems Computation Conference (PSCC). [Publisher Link](#) — [Preprint](#).
- 2015 14. **Sossan, F.**, Torregrossa, D., Namor, E., Cherkaoui, R., & Paolone, M. (2015). Control of a battery energy storage system accounting for the charge redistribution effect to dispatch the operation of a medium voltage feeder. In 2015 IEEE Eindhoven PowerTech. IEEE. [Publisher Link](#) — [Preprint](#).
- 2014 13. Han, X., **Sossan, F.**, Bindner, H., You, S., Hansen, H., & Cajar, P. (2014). Load kick-back effects due to activation of demand. In 2014 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#).
- 2014 12. **Sossan, F.**, Han, X., & Bindner, H. (2014). Dynamic behaviour of a population of controlled-by-price demand side resources. In 2014 IEEE PES General Meeting. IEEE. [Publisher Link](#) — [Preprint](#).
- 2013 11. Costanzo, G. T., Gehrke, O., Bondy, D. E. M., **Sossan, F.**, Bindner, H., Parvizi, J., & Madsen, H. (2013). A coordination scheme for distributed model predictive control: Integration of flexible DERs. In 2013 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#) — [Preprint](#).
- 2013 10. Costanzo, G. T., **Sossan, F.**, Marinelli, M., Bacher, P., & Madsen, H. (2013). Grey-box modeling for system identification of household refrigerators: A step toward smart appliances. In 2013 International Youth Conference on Energy (IYCE). IEEE. [Publisher Link](#) — [Preprint](#).
- 2013 9. Douglass, P. J., Garcia-Valle, R., **Sossan, F.**, Ostergaard, J., & Nyeng, P. (2013). Design and evaluation of autonomous hybrid frequency-voltage sensitive load controller. In 2013 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#).

- 2013 8. Lakshmanan, V., Marinelli, M., Kosek, A. M., **Sossan, F.**, & Nørgård, P. B. (2013). Domestic refrigerators temperature prediction strategy for the evaluation of the expected power consumption. In 2013 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#).
- 2013 7. Marinelli, M., **Sossan, F.**, Isleifsson, F. R., Costanzo, G. T., & Bindner, H. (2013). Day-ahead scheduling of a photovoltaic plant by the energy management of a storage system. In 2013 48th International Universities" Power Engineering Conference (UPEC). IEEE. [Publisher Link](#).
- 2013 6. **Sossan, F.**, Kosek, A. M., Martinenas, S., Marinelli, M., & Bindner, H. W. (2013). Scheduling of domestic water heater power demand for maximizing PV self-consumption using model predictive control. In 2013 IEEE International Conference on Innovative Smart Grid Technologies (ISGT). IEEE. [Publisher Link](#) — [Preprint](#).
- 2013 5. **Sossan, F.**, Marinelli, M., Costanzo, G. T., & Bindner, H. (2013). Indirect control of DSRs for regulating power provision and solving local congestions. In International Youth Conference on Energy (IYCE). In 2013 IEEE International Youth Conference on Energy (IYCE), Best poster award. IEEE. [Publisher Link](#) — [Preprint](#).
- 2013 4. **Sossan, F.**, & Marinelli, M. (2013). An auto tuning substation peak shaving controller for congestion management using flexible demand. 2013 48th International Universities" Power Engineering Conference (UPEC). IEEE. [Publisher Link](#) — [Preprint](#).
- 2012 3. **Sossan, F.**, & Bindner, H. (2012). Evaluation of the performance of indirect control of many DSRs using hardware-in-the-loop simulations. In 2012 51st Conference on Decision and Control (CDC). IEEE. [Publisher Link](#) — [Preprint](#).
- 2012 2. **Sossan, F.**, & Bindner, H. (2012). A comparison of algorithms for controlling DSRs in a control by price context using hardware-in-the-loop simulation. In 2012 IEEE Power and Energy Society General Meeting. IEEE. [Publisher Link](#) — [Preprint](#).
- 2010 1. Grillo, S., Marinelli, M., Silvestro, F., **Sossan, F.**, Anaya-Lara, O., & Burt, G. (2010). Transient support to frequency control from wind turbine with synchronous generator and full converter. In 2010 46th International Universities" Power Engineering Conference (UPEC). IEEE. [Publisher Link](#) — [Preprint](#).