Fabrizio Sossan – Curriculum Vitae

Associate Professor of Power Systems
Haute Ecole Spécialisée de 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	HES-SO Valais-Wallis, Associate Professor of Power Systems (Switzerland)
03/2019 – 09/2022	MINES Paris-PSL, Associate Professor of Renewable Energies (France)
06/2021 – 09/2022	MINES Paris-PSL, Director of the specialized master "Alternative Energies for the Future" (France)
03/2020 – 09/2022	ModBESS, Cofounder and ad-interim CTO (USA)
08/2018 – 02/2019	ETHZ, Researcher (Switzerland)
11/2017 – 07/2018	NREL, Guest researcher (USA)
05/2014 – 10/2017	EPFL, Researcher (Switzerland)
01/2011 – 04/2014	DTU, PhD student (Denmark)
10/2010 – 12/2010	RISØ, research assistant (Denmark)
03/2010 – 09/2010	Ansaldo Sistemi Industriali, Automation Engineer (Italy)

Research Funding

2024 – 2027	(PI and WP leader) Innovative Storage Technology And Operations In Hydropower, (STOR-HY), Horizon Europe project. Fund: CHF 1.0 million.
2023 – 2027	(Project owner and PI) 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	(PI) More resilient microgrids and grids (ResiNet). Fund: CHF 220'000 (my share: CHF 70'000).
2022	(Project owner and PI) Financing of Laboratory on Integrated Energy Systems, Region Sud - Provence Alpes Cote d'Azur. Fund: € 300'000.
2019 – 2023	(PI) Hydropower Extending Power System Flexibility (XFLEX Hydro), H2020 innovation action. Fund: € 285'000.
2019 – 2021	(PI and WP leader) 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	(Main author) Licensing of patent application 62/354,828 to Eaton corporation. Fund: € 200'000.

Compiled on November 5, 2024.

Supervised Ph.D. students

2020 – 2023 1. Mr. Biswarup Mukherjee (MINES ParisTech), Optimization methods for scheduling the charge of electric vehicles and planning their charging infrastructure (cosupervisor 30%: G. Kariniotakis). [1]

2019 – 2023 2. Mr. Stefano Cassano (MINES ParisTech), Control and scheduling of hybrid hydropower plants with batteries for enhanced flexibility in future power systems (cosupervisor 30%: G. Kariniotakis). [1]

Co-supervised Ph.D. students

2019 – 2022 1. Mr. Rahul Gupta (EPFL), Dispatching controllable resources in low-voltage power grids (supervisor: Prof. M. Paolone).

2017 – 2021 2. Ms. Yihui Zuo (EPFL), Impact of Battery Energy Storage Systems on the Dynamic Behavior of Low-inertia Power Grids (supervisor: Prof. M. Paolone).

Teaching

2024 – now Energy Storage Systems (3 ECTS), EPFL EE-466. This course reviews the main energy storage technologies, their attributes, mathematical models, and applications (stationary and mobile), from design to operations and control. Battery systems are given special focus.

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 Introduction to Power Systems (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 Energy storage for renewable-based power systems (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 AC circuits and phasors (3 hours).

2019 – 2021 Renewable energy technologies (18 hours).

Invited presentations and seminars

2024 September **Sossan, F.**, & Roduit P. (2024 September). Flexibility in distribution grids. Seminar, Multidis meeting with the directors of Swiss-French DSOs, Switzerland.

2024 September **Sossan, F.** (2024 September). Energy Storage Infrastructure for 100% renewable generation. Seminar, VSE/AES meeting with the directors of Swiss-French DSOs, Switzerland (Martigny).

2024 September

[1] For reasons related to the functioning of the doctoral school of this Institute, I do not appear as a supervisor on the cover page of the publicly available manuscript of this thesis; a formal certificate of supervision to complement and verify the information on this CV is available at this link.

Sossan, F. (2024 September). Experimental validation of grid-forming converters in a low-inertia setting. Invited talk at DynPower 2024, Switzerland (Aarau).

2024 October **Sossan, F.** (2024 October). Energy Storage in Future Distribution Grids. Seminar, VSE/AES Multidis meeting with the directors of Swiss-Italian DSOs, Switzerland (Lugano).

2024 July **Sossan, F.** (2024 July). Increasing energy storage capacity of hydropower plants: a perspective on quick ramping rates. Invited talk at the workshop "The role of storage capacity of hydropower plants" organized by the PEN@Hydropower association. Online.

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, Champery, 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.

Media appearance

2024 RSI (Radiotelevisione svizzera italiana), while covering the academic offer of my university, featured a laboratory of my class.

2023 PV magazine covers the work of Biswarup Mukherjee and mine on deployment of EV charging stations was featured in the .

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 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, *Aggregation of Battery Energy Storage Systems*

2020 – present CIRED working group 2019-4, *Storage Technologies as an Opportunity for Distribution Systems*

2018 – 2019 Member of the *ASI camera benchmark* campaign, in the context of the IEA PVPS Task 16 on *Solar Resource for High-penetration and Large-scale Applications*.

2012 – present Member of IEEE, and IEEE Power Engineering Society

Other services

2024 Ph.D. thesis jury member, Mr. Wadih Naim (KTH Royal Institute of Technology), Data Importance in Power System Asset Management.

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 *Planning and Operation of Active Distribution Networks*, 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. Applied Energy. 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. IET Energy Conversion and Economics. 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. Electric Power Systems Research, 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. IEEE Transactions on Smart Grid. 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, 213, 108545. 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.

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