

SCIENTIFIC CURRICULUM

PERSONAL INFORMATION

- Name and Surname: Alessandro Bosisio
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- Date of birth: 15 March 1986
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CURRENT ACADEMIC POSITION

- **Assistant Professor (Tenure track)** at the Department of Electrical, Computer, and Biomedical Engineering at the University of Pavia from October 16th 2022;
- **Adjunct Professor** of the EEE/CoE Department at the American International University Bangladesh (AIUB);

EDUCATION

- On 16-12-2015, he obtained the **PhD in Electrical Engineering** at the Politecnico di Milano with a thesis entitled "*Structural and functional optimization in distribution grid planning*" with the evaluation "Cum Laude" – Supervisor: Prof. Alberto Berizzi;
- On 31-03-2011, with a Thesis entitled "*Analysis of the profile of energy consumption of SMEs associated with Confindustria Monza and Brianza and energy audit in the company*", he obtained a **Master's Degree in Electrical Engineering** at the Politecnico di Milano, reporting the vote of 105/110 – Supervisor: Prof. Enrico Tironi;
- On 22-09-2008, with a Thesis entitled "*Characterization of three-phase asynchronous motors*", he obtained a **Bachelor's Degree in Electrical Engineering** at the Politecnico di Milano, reporting the vote of 106/110 – Supervisor: Prof. Giovanni Maria Foglia;

ACADEMIC EXPERIENCE

- In 2022 he won a call for an **Assistant Professor (Tenure track)** position at the University of Pavia;
- In 2020 he won a call for an **Assistant Professor** position at the Politecnico di Milano. **Position funded by UNARETI S.p.A.;**
- In 2020 he won a call for a **yearly** position as a **Research Fellow** at the Energy Department of the Politecnico di Milano;
- In 2018 he won a call for a **two-year** position as a **research fellow** at the Energy Department of the Politecnico di Milano. **Position funded by UNARETI S.p.A.;**

- In 2016 he won a call for a **two-year** position as a **research fellow** at the Energy Department of the Politecnico di Milano. **Position funded by UNARETI S.p.A.;**

EDITORIAL ACTIVITY

- **Member of the Editorial Board** of the *Journal of Electrical and Electronic Engineering (JEEE)* – ISSN Print: 2329-1613; ISSN Online: 2329-1605 (dal 2021);
- **Member of the Editorial Board** of the *AEIT Journal* – ISSN 1825-828X (since 2021);
- **Review Editor** for the journal *Frontiers in Energy Research - Smart Grids* (since 2019);
- **Guest Editor** for the Special Issue "SmartGrid Solutions for the Reliable and Effective Design and Operation of Electrical Infrastructures" for the Journal *MDPI Infrastructures*, MDPI – ISSN: 2412-3811 (2020);
- **Guest Editor** for the Special Issue "Recent Advances in Smart Grid and Its Application" for the Journal *MDPI Applied Sciences*, MDPI – ISSN 2076-3417 (2022);
- **Reviewer** for the journal *Sustainable and Resilient Infrastructure*, Taylor & Francis - ISSN:2378-9689 – E-ISSN:2378-9697 (since 2022);
- **Reviewer** for the journal *l'Energia Elettrica*, AEIT - ISSN: 0013-7308 (since 2021);
- **Reviewer** for the journal *IEEE Transactions on Power Systems*, IEEE - ISSN:0885-8950 (since 2021);
- **Reviewer** for the journal *IEEE Transactions on Sustainable Energy*, IEEE - ISSN:1949-3029 (since 2021);
- **Reviewer** for the journal *IEEE Transactions on Smart Grid*, IEEE - ISSN:1949-3053 (since 2020);
- **Reviewer** for the journal *Electric Power System Research*, Elsevier - ISSN: 0378-7796 (since 2019);
- **Reviewer** for the Journal of Modern Power System and Clean *Energy*, Springer - ISSN: 2196-5625 (Print) – 2156-5420 (Online) (since 2019);
- **Reviewer** for the journal *MDPI Sustainability*, MDPI – ISSN: 2071-1050 (since 2019);
- **Reviewer** for the journal *MDPI Energies*, MDPI - ISSN: 1996-1073 (since 2019);
- **Reviewer** of the International Conference "AEIT2022", Rome (Italy), 3-5 October 2022;
- **Reviewer** of the International Conference "2022 IEEE PES General Meeting", Denver, CO (USA), 17-21 July 2022;
- **Reviewer** of the International Conference "PSCC2022", Porto (Portugal), 27 June-1 July 2022;
- **Reviewer** of the International Conference "IEEE MELECON 2022", Palermo (Italy), 14-16 June 2022;
- **Reviewer** of the International Conference "SEST2021", Vaasa (Finland), 6-8 September 2021;

- **Reviewer** of the International Conference "IEEE CPE-POWERENG 2021", Florence (Italy), 14-16 July 2021;
- **Reviewer** of the International Conference "PowerTech2021", remote conference, 28 June-2 July 2021;
- **Reviewer** of the International Conference "AEIT2020", remote conference, 23-25 September 2020;
- **Reviewer** of the International Conference "AEIT2019", Florence (Italy), 18-20 September 2019;
- **Reviewer** of the International Conference "PowerTech2019", Milan (Italy), 23-27 June 2019.

INSTITUTIONAL RESPONSIBILITIES AND OTHER ASSIGNMENTS

- **Secretary of the Energy Commission of the Milan Engineering Association** (since 2014);
- **Member of the Technical Group of CEI CT 8/123** – System aspects for the electricity supply and infrastructure management (since 2018);
- Participation in the **Resilience Working Group** (2020): the working group, on behalf of the Regulatory Authority for Energy, Networks, and Environment (ARERA), has analyzed the methodologies used by the distribution companies to write their resilience plans in order to harmonize the different methods used for the risk analysis and selection of investments.
- **Member of the Technical Group of CEI CT 316** – Connection to HV, MV and LV power systems (since 2021);
- **Member of the Executive Board of AEIT** - Italian Association of Electrotechnics, Electronics Automation, Informatics and Telecommunications (since 2019);
- **President of the Youth Group of the AEIT Milan Section** (since 2016);
- **Member of AEE** - Society AEIT for Electricity (since 2018);
- **Member of AIRO** - Italian Association of Operations Research (since 2014);
- **Member of AEIT** - Italian Association of Electrotechnics, Electronics Automation, Informatics and Telecommunications (since 2014);
- **Member of IEEE** - Institute of Electrical and Electronics Engineers (since 2013);
- **Member of GUSEE** - University Group of Electric Power Systems (since 2012);
- **Member of the consortium ENSIEL** - inter-university consortium for energy and power systems (since 2012).

MAIN RESEARCH TOPICS AND SCIENTIFIC ACTIVITY

The scientific activity of Alessandro Bosisio mainly concerns the **issues** related to **the electrical transmission and distribution networks**.

The research carried out is mainly focused on issues related to the planning and operation of **electricity grids, their resilience and reliability, the impact of distributed generation, and the dynamics of power systems**.

Several studies have been carried out on these subjects, in particular:

- mathematical models for the planning and operation of electricity distribution networks;
- mathematical models for the planning and operation of electricity distribution networks and microgrids in the presence of distributed generation;
- mathematical models for analyzing the reliability and resilience of electricity distribution networks;
- mathematical models and applications based on georeferenced data (GIS);
- models for the analysis and prediction of the electrical load;
- mathematical models for the study of power systems dynamics;
- mathematical models for wind forecasting used in Dynamic Thermal Rating (DTR) algorithms;
- machine learning applied to power systems.

EXTRACT OF PUBLICATIONS

- [JI.1] F. Gulotta, E. Daccò, A. Bosisio, and D. Falabretti, “Opening of Ancillary Service Markets to Distributed Energy Resources: A Review,” *Energies*, vol. 16, no. 6, p. 2814, Mar. 2023, doi: 10.3390/en16062814.
- [JI.2] A. Bosisio, A. Berizzi, D. Lupis, A. Morotti, G. Iannarelli and B. Greco, "A Tabu-search-based Algorithm for Distribution Network Restoration to Improve Reliability and Resiliency," in *Journal of Modern Power Systems and Clean Energy*, vol. 11, no. 1, pp. 302-311, January 2023, doi: 10.35833/MPCE.2022.000150.
- [JI.3] A. Bosisio, F. Soldan, A. Morotti, G. Iannarelli, E. Bionda, and S. Grillo, “Lessons learned from Milan electric power distribution networks data analysis during COVID-19 pandemic,” *Sustain. Energy, Grids Networks*, vol. 31, p. 100755, Sep. 2022.
- [JI.4] A. Berizzi, A. Bosisio, V. Ilea, D. Marchesini, R. Perini, and A. Vicario, “Analysis of Synthetic Inertia Strategies from Wind Turbines for Large System Stability,” *IEEE Trans. Ind. Appl.*, vol. 58, no. 3, pp. 3184–3192, 2022.
- [JI.5] A. Bosisio, A. Berizzi, M. Merlo, A. Morotti, G. Iannarelli, and I. Milan, “A GIS-Based Approach for Primary Substations Siting and Timing Based on Voronoi Diagram and Particle Swarm Optimization Method,” *Appl. Sci.* 2022, vol. 12, no. 12, p. 6008, Jun. 2022.
- [JI.6] L. Bellani et al., “A reliability-centered methodology for identifying renovation actions for improving resilience against heat waves in power distribution grids,” *Int. J. Electr. Power Energy Syst.*, vol. 137, p. 107813, May 2022.
- [JI.7] A. Bosisio, M. Moncecchi, A. Morotti, and M. Merlo, “Machine Learning and GIS Approach for Electrical Load Assessment to Increase Distribution Networks Resilience,” *Energies* 2021, Vol. 14, Page 4133, vol. 14, no. 14, p. 4133, Jul. 2021.
- [JI.8] A. Bosisio, A. Berizzi, C. Bovo, E. Amaldi, A. Morotti, B. Greco, G. Iannarelli, “A GIS-based approach for high-level distribution networks expansion planning in normal and contingency operation considering reliability,” *Electr. Power Syst. Res.*, vol. 190, p. 106684, Jan. 2021.

- [JI.9] A. Bosisio, A. Berizzi, E. Amaldi, C. Bovo and X. A. Sun, "Optimal Feeder Routing in Urban Distribution Networks Planning with Layout Constraints and Losses," in *Journal of Modern Power Systems and Clean Energy*, vol. 8, no. 5, pp. 1005-1014, September 2020.
- [JI.10] A. Berizzi et al., "Real-Time identification of electromechanical oscillations through dynamic mode decomposition," *IET Gener. Transm. Distrib.*, vol. 14, no. 19, pp. 3992–3999, Oct. 2020.
- [JI.11] A. Bosisio, A. Berizzi, D.-D. Le, F. Bassi, G. Giannuzzi, "Improving DTR assessment by means of PCA applied to wind data," *Electr. Power Syst. Res.*, vol. 172, pp. 193–200, Jul. 2019.
- [JI.12] A. Bosisio, M. Moncecchi, G. Casseti, M. Merlo, "Microgrid design and operation for sensible loads: Lacor hospital case study in Uganda," *Sustain. Energy Technol. Assessments*, vol. 36, 2019.

I authorize the processing of my data according to Legislative Decree 30 June 2003, n. 196 "Code regarding personal data protection" and the GDPR (EU Regulation 2016/679).

Pavia, 19/12/2023

Signature

