SCIENTIFIC CURRICULUM

PERSONAL INFORMATION

- Name and Surname: Alessandro Bosisio
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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);
- Since 2013 he has been **registered with the Milan Engineering Association**.

EDUCATION

- On 16-12-2015, **he obtained the Ph.D. 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;

- In 2012 he was admitted to the XXVIII Cycle of the Ph.D. in Electrical Engineering at the Politecnico, **winning a scholarship funded by A2A Reti Elettriche S.p.A.**, the former distribution system operator for electricity and natural gas of Milano and Brescia;

- In October 2012, he was **qualified to the profession of Engineer;**

- 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;

- From 2008 to 2011, he was a student of the Master Degree in Electrical Engineering at the Department of Electrical Engineering of the Politecnico di Milano;

- 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;

- From 2005 to 2008, he was a student of the Bachelor's Degree in Electrical Engineering at the Department of Electrical Engineering of the Politecnico di Milano;

- In 2005 he received the **Industrial Technical Diploma** from the technical high school A. Badoni, Lecco (Italy), reporting the vote of 100/100.

SCHOLARSHIPS, NATIONAL AND INTERNATIONAL AWARDS, AND RECOGNITIONS

- In 2024 he was the winner, as supervisor, of the **APREN2023 Prize** (Portuguese Association Of Renewable Energy) for the best thesis in the field of renewable energy, for the Master's Degree thesis in Energy Engineering *"Optimal Sizing of Solar/Wind–to–Hydrogen Systems in a Suitable Site Selection Geospatial Framework - The case of Italy and Portugal."*;

- In 2024 he was the winner, as supervisor, of the **CEI** (Italian Electrotechnical Committee) **Best Thesis Award 2022** for the Master's Degree Thesis in Electrical Engineering entitled *"Use of Reinforcement Learning for Voltage Regulation in Medium Voltage Distribution Networks"*;

- In 2023 he received the **National Scientific Qualification** for the role of Associate Professor in the sector **09/E2** – Electrical Energy Engineering;

- In 2022 he won a call for an **Assistant Professor (Tenure track)** position at the University of Pavia;

- In 2021 **the video presentation** of the article *"A GIS-based approach for high-level distribution networks expansion planning in normal and contingency operation considering reliability"* **is awarded among the fifteen best at the PSCC2020 Conference** (15 presentations awarded out of 215);

- 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 participated, as an **invited speaker**, to the virtual conference Smart Grid Network Planning conference, exhibition and networking forum, 17-19 November 2020, with a presentation in the session *"Active Network Management - developing an advanced automation algorithm into network development plans to improve system operability and avoid expensive infrastructure reinforcement"*;

- In 2020 he was the winner, as co-supervisor, of the **CEI (**Italian Electrotechnical Committee) **Best Thesis Award 2020** for the Master's Degree Thesis in Electrical Engineering entitled *"Reconfiguration of distribution networks for reliability improvement using a heuristic-based approach"*;

- In 2020 he won a call for a **yearly** position as a **Research Fellow** f at the Energy Department of the Politecnico di Milano;

- In 2019 he was the winner, as co-supervisor, the **CEI (**Italian Electrotechnical Committee) **Best Thesis Award 2019** for the Master's Degree Thesis in Electrical Engineering entitled *"Planning criteria for the reliability improvement of distribution networks"*;

- In 2019 he was **selected to participate in the Talent Development program,** a path designed by the Politecnico di Milano for the strengthening of research and soft skills;

- In 2018 he obtained the first level skills certification **CERT'ing** in the Energy Sector;

- Nel 2018 he participated, as **an invited speaker,** at the 10th Seminar for Next Generation of Researchers in Power Systems conference, Banff International Research Station (Canada), 25-27 May 2018, with a presentation entitled *"An integrated GIS-based Procedure for Re-planning the Urban Distribution Network of Milan"*;

- In 2018 he participated, as an **invited speaker**, at the 2018 China International Conference on Electricity Distribution (CICED), Tianjin (China) 17-20 September 2018, with a presentation entitled *"An integrated GIS-based Procedure for Re-planning the Urban Distribution Network of Milan"*;

- 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.;**

- In 2014 was selected to participate in the project **Italialab,** a path designed by the ELIS consortium to regenerate ICT skills and technological innovation made in Italy within some specific domains: transportation, energy, tourism/utility, and home automation;

- In 2012 **he won the scholarship** *Structural and functional optimization in distribution grid planning* for the **XXVIII Ph.D. Cycle in Electrical Engineering** at the **Politecnico di Milano. Position funded by A2A Reti Elettriche S.p.A.;**

TRAINING AND RESEARCH AT QUALIFIED ITALIAN OR FOREIGN INSTITUTES

Alessandro Bosisio has carried out the following training and research periods:

- **2015: visiting research** at the Georgia Institute of Technology (GEORGIA TECH), Atlanta – GA (USA). Three-month collaboration within an exchange and training project for Ph.D. students;

- **2013: visiting research** at the Universidad Carlos III de Madrid-UCM3, Leganès, Madrid (Spain). One-month collaboration within an exchange and training project for Ph.D. students;

- From **2011** to **2012: researcher** at RSE S.p.A., for a total of 15 months, in the field of distribution networks planning and operation with strong penetration of distributed generation and storage systems (Smart Grid). The research activity's main objective was to develop a mathematical model for the optimal dispatching of distributed generators and storage systems to minimize the cost of dispatching.

SUPERVISOR OR CO-SUPERVISOR OF MASTER DEGREE THESES

Alessandro Bosisio has been **supervisor** and **co-supervisor** of the following Master Degree Theses in Electrical/Energy/Automation Engineering:

- A. Hosseini*, "Clustering Analysis of Voltage Profiles in Extra High Voltage Substations Across Italy"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2023-2024.

- N. Di Giacomo*, "Predictive Maintenance and Asset Management on Electrical Secondary Substations"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2023-2024;

- N. Della Valle*, "Development of an Open-Source Tool for MV and LV Cables Sizing Optimization in Industrial Plants"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2023-2024;

- F. Contino, *"A heuristic approach for improving distribution network reliability and resilience: a case study in Lecce, Italy"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- L. Vidas, *"Optimal Sizing of Solar/Wind–to–Hydrogen Systems in a Suitable Site Selection Geospatial Framework - The case of Italy and Portugal."*, Master's Degree Thesis in Energy Engineering, Tecnico Lisboa, Lisbona, Portugal, A.Y. 2022-2023. **APREN2023 Prize** for the best thesis in the field of renewable energy;

- S. Malek, *"Resilience Assessment of Distribution Grids Against Heatwaves: A Machine Learning Approach to Heatwave-Induced Fault Analysis"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- M. Pinto, *"A Semi-Automatic Machine Learning Pipeline Benchmarking Process to aid the pursuit of Energy Efficiency in Buildings"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- R. Shirvani, *"Resilience-based Optimization of the Electricity Sector in Response to Climate Extreme Events with Distributed Generation Systems"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- L. Benzoni, *"IDMS Tools for Distribution Network Analysis and Design: Predicting Distributed Generation and End-User Power Profiles"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- D. Scola, *"Evaluation of flexibility of the residential heating electric demand for grid improvements"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- K. Ahmeti, *"The contribution of DFIG based wind farm integration in short-circuit current level in Kosovo transmission grid"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2022-2023;

- M. Toghanian, *"A GIS-based approach to assess wind and solar PV LCOE: the case study of Lombardy, Italy"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2021-2022;

- D. Castilgioni, *"Estimating MV and LV distributed energy resources flexibility in a TSO/DSO coordination perspective"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2021-2022;

- G. Magenta, *"Techno-Economic Analysis of a Renewable Energy Community in a European Metropolis context: the city of Milano"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- S. Penati, *"Valutazioni sul potenziale utilizzo di idrogeno verde per la copertura dei fabbisogni energetici per il comparto residenziale in Italia"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2021-2022;

- B. Yaman, *"GIS-based primary substations siting considering normal and contingency operation: a heuristic Voronoi diagram/Delaunay triangulation approach applied to the electrification of end uses"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2021-2022;

- F. Limonta, *"A MILP model to optimally plan the decarbonization of the heating sector in a multi-energy perspective"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- S. Penati, *"Valutazioni sul potenziale utilizzo di idrogeno verde per la copertura dei fabbisogni energetici per il comparto residenziale in Italia"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- D. Vanella, *"Metodologia basata su GIS per prevedere la generazione di energia fotovoltaica urbana su larga scala"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- B. Ebrahimi, *"Siting and Sizing of Renewable Energy Sources in Distribution Systems: Traditional Metaheuristic Vs Honey Badger and Archimedes Optimization Algorithms"*, Master's Degree Thesis in Automation Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- M. Durim, *"Voltage regulation in distribution networks in the presence of distributed generation and electric vehicles: LVR and E-OLTC with machine learning approach"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- L. Sandrini, *"Prosumers' energy demand forecasting to enable advanced distribution networks planning and operation using IDMS"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- M. Pisani, *"Use of Reinforcement Learning for Voltage Regulation in Medium Voltage Distribution Networks"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021. **Best Thesis Award 2022 by the CEI** – Italian Electrotechnical Committee;

- H. Singh, *"A GIS-based approach for assessing the impact of transportation and building electrification on distribution grids"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- A. Wagih Abdelkader Abdelrazek, *"GIS for renewable energy systems: a BIPV case study from Milan"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- D. Lupis, *"A Tabu Search-Based Algorithm for Electrical Distribution Network Restoration"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- V. Gupta, *"Power quality assessment and voltage regulation of medium voltage grid in presence of EVs and PVs"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2020-2021;

- G. Marinoni, *"A GIS-based approach to assessing the impact of the decarbonization of the heating sector on the electrical distribution networks"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milano, Italy, A.Y. 2020-2021;

- F. Cardani, *"Management of reactive energy in the Milan distribution network through centralized and distributed power factor correction systems"*, Master's Degree Thesis in Electrical Engineering, University of Pavia, Pavia, Italy, A.Y. 2020-2021;

- N. Orlandi, *"GIS-based approach for primary substations siting and timing based on Voronoi diagram and particle swarm optimization method"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2019-2020;

- F. De Cal, *"Energy planning of urban districts for better integration with distribution networks"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2019-2020;

- A. R. de Paulo, *"A comparative study of the distribution networks reconfiguration problem: heuristic Vs deterministic approaches"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2019-2020;

- H. Noriega, *"Performance assessment of load profiles clustering methods based on silhouette analysis"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2019-2020;

- G. Tresso, *"Reconfiguration of distribution networks for reliability improvement using a heuristic-based approach"*, Master's Degree Thesis in Electrical Engineering, Milan, Italy, A.Y. 2018-2019. **Best Thesis Award 2020 by the CEI** – Italian Electrotechnical Committee (5 Theses awarded out of 25);

- C. Pasetti, *"Methodologies for predicting the impact of electric mobility in distribution networks through analysis of georeferenced data"*, Master's Degree Thesis in Electrical Engineering, University of Pavia, Pavia, Italy, A.Y. 2018-2019;

- M. Villa, *"Machine learning and GIS approaches for electrical substation load forecast"*, Master's Degree Thesis in Energy Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2018-2019;

- R. Nebuloni, *"Using PCA for Electromechanical oscillation detection"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2017-2018;

- Q. Tianxing, *"A method to classify substation load profiles based on PCA"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milano, Italia, A.Y. 2017-2018;

- B. Greco, *"Planning criteria for the reliability improvement of distribution networks"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milan, Italy, A.Y. 2017-2018. **Best Thesis Award 2019 by the CEI** – Italian Electrotechnical Committee (5 Theses awarded out of a total of 30);

- L. Wang, *"Reliability evaluation for step ladder systems based on minimal cut sets method"*, Master's Degree Thesis in Electrical Engineering, Politecnico di Milano, Milano, Italia, A.Y. 2015-2016;

SUPERVISOR OR CO-SUPERVISOR OF PH.D. STUDENTS

Alessandro Bosisio has been **supervisor** or **co-supervisor** of the following Ph.D. students:

- **Supervisor** of the student Morteza Aghahadi. **Ph.D. title**: Analysis and development of suitable diagnostic methodologies to detect possible critical points on the MT network with a view to predictive maintenance; use of semantic, big data, and artificial intelligence technologies to analyse and correlate network data with other sources of information; reactive power analysis vs. voltage and impact on network elements. Scholarship co-financed by **A2A S.p.A.**;

- **Supervisor** of the student Nicola di Giacomo. **Ph.D. title**: Optimal planning of energy networks: increasing renewable energy sources penetration, distribution networks flexibility, and electrification of end-use consumption in the energy transition context. Scholarship co-financed by **A2A S.p.A.**;

- **Supervisor** of the student Dott. Rouzbeh Shirvani. **Ph.D. title:** Mathematical models for the provision of ancillary services to high voltage networks from renewable energy sources and storage systems. Scholarship co-financed by **EDP Renewables S.p.A.**;

- **Supervisor** of the student Dott. Edoardo Daccò. **Ph.D. title**: Evolution of urban energy systems: expected impact on electric distribution infrastructures, procurement of local flexibility services, new

solutions for the advanced monitoring and observability of networks to increase grid resilience. Scholarship co-financed by **A2A S.p.A.**;

- **Supervisor** of the student Alessandro Cirocco. **Ph.D. title:** Energy transition in urban areas: the evolution of integrated networks management. **Executive Ph.D.** in collaboration with **A2A S.p.A.**;

SUPERVISION OF VISITING PH.D. STUDENTS

Alessandro Bosisio has served as **supervisor** of the following visiting Ph.D. students at the University of Pavia:

- H. Alouache, Ph.D. student at the Department of Electrical Engineering Ferhat Abbas University, Sétif-1, Algeria. The collaboration focused on the analysis of the potential benefits of integrating HVDC systems into the Algerian transmission grid (October 2023 for 1 month);

- F. Khaled, Ph.D. student at the University of El Oued, El-Oued Algeria. The collaboration focused on the analysis of the potential benefits of integrating capacitor banks and renewable generation into Algerian distribution networks (November 2023 for 1 month).

TUTOR OF CURRICULAR INTERNSHIPS AND ERASMUS+ STUDENTS

- **Academic tutor** of N. Di Giacomo for a 6-month curricular internship (07-2023÷12-2023) at RSE S.p.A. The student jointed the Transmission and Distribution Technologies Department of RSE to develop issues related to the predictive maintenance of the assets installed in the secondary substations;

- **Academic tutor** of Nicola Della Valle a 6-month curricular internship (07-2023÷12-2023) at MAIRE TECHNIMONT S.p.A.. The student jointed the Department of Electrical Engineering of MAIRE TECHNIMONT S.p.A. to develop an open-source tool for the optimization of the sizing of MV and LV cables in industrial plants;

- **Academic tutor** of L. Benzoni for a 6-month curricular internship (07-2022÷12-2022) at UNARETI S.p.A.. The student jointed the Energy Planning Department of UNARETI to develop issues related to the deployment of an advanced Integrated Distribution Management System (IDMS);

- **Academic tutor** of L. Vidas within the Erasmus+ programme. The student developed his own Degree Thesis under my supervision. The topic developed concerned the study of the producibility of green hydrogen on the Italian and Portuguese territory;

- **Academic tutor** of M. Pisani for a 6-month curricular internship (05-2021÷10-2021) at RSE S.p.A. The student jointed the Transmission and Distribution Technologies Department of RSE to develop issues related to voltage regulation in distribution networks with a high presence of distributed generation;

- **Academic tutor** of L. Sandrini for a 6-month curricular internship (04-2021÷09-2021) at UNARETI S.p.A.. The student jointed the Electricity Planning Department of UNARETI to develop issues related to the integration of distributed generation in power systems.

TEACHING ACTIVITY

Teaching activities at the university level in Italy or abroad

The teaching experience of Alessandro Bosisio began in 2012 during the Ph.D. and took place mainly at the Politecnico di Milano and at the University of Pavia. The teaching tasks have been primarily the university lecturer, teaching assistant, and tutor within Bachelor and Master's Degree in Electrical, Energy, Mechanical, Industrial, Aerospace, and Management Engineering. In addition, he has been a lecturer and tutor in Ph.D. courses and II-level university Masters organized at the Politecnico di Milano and lecturer of courses held at the National Institute of Technology, Warangal, India, and at the American International University Bangladesh (AIUB), Dhaka, Bangladesh, and at the Electrical Engineering Faculty of the University of Science and Technology of Danang, Vietnam. In detail:

- A.Y. 2023-2024
  - Lecturer in the course **planning and operation of power systems** for students of Electrical Engineering, Master's degree (University of Pavia) – 6 University credits

  - Lecturer in the course **systems and technologies for the smart grid** for students of Electrical Engineering, Master's degree (University of Pavia) – 6 University credits

- A.Y. 2022-2023
  - Co-organizer and lecturer in the Ph.D. course **planning, operation and regulation of distribution grids: DG integration and advanced network management** (Politecnico di Milano, Italy)

  - Lecturer in the course **planning and operation of power systems** for students of Electrical Engineering, Master's degree (University of Pavia) – 6 University credits

- A.Y. 2021-2022
  - Lecturer in the course **smart grids and regulation for renewable energy sources** for students of Energy engineering, Master's Degree (Politecnico di Milano - Piacenza Campus) – 8 University credits

  - Lecturer in the courses **Renewable Energy Technology, Electronic Devices,** and **Power Electronics** at the EEE/CoE Department of the American International University Bangladesh (AIUB)

  - Tutor of the **II-level university Master "Strategic and Innovative O&M Management"** (Politecnico di Milano, Italy)

- A.Y. 2020-2021
  - Lecturer in the course **smart grids and regulation for renewable energy sources** for students of Energy engineering, Master's Degree (Politecnico di Milano - Piacenza Campus) – 8 University credits

  - Teaching assistant of the course **electric power systems** for students of Electrical Engineering, Master's degree (Politecnico di Milano - Campus Leonardo) – 10 university credits

  - Lecturer of the **II-level university Master "smart grids"** with a lesson titled "GIS tools for Distribution Grids Planning and Operation" (Politecnico di Milano, Italy)

  - Tutor of the **II-level university Master "smart grids"** (Politecnico di Milano, Italy)

- A.Y. 2019-2020
  - Teaching assistant of the course **electric power systems** for students of Electrical Engineering, Master's Degree (Politecnico di Milano - Campus Leonardo) – 10 university credits

  - Teaching assistant for the experimental laboratory of the course **electrical engineering** for students of Industrial Engineering, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

  - Tutor of the course **principles of electrical engineering** for students of Mechanical Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 8 university credits

- A.Y. 2018-2019
  - Teaching assistant of the course **electric power systems** for students of Electrical Engineering, Master's Degree (Politecnico di Milano - Campus Leonardo) – 10 university credits

  - Teaching assistant for the experimental laboratory of the course **electrical engineering** for students of Industrial Engineering, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

  - Tutor of the course **principles of electrical engineering** for students of Mechanical Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 8 university credits

- A.Y. 2017-2018
  - Teaching assistant of the course **electric power systems** for students of Electrical Engineering, Master's Degree (Politecnico di Milano - Campus Leonardo) – 10 university credits

  - Teaching assistant of the course **electrical engineering and applied electronics** for students of Aerospace Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

  - Teaching assistant for the experimental laboratory of the course **electrical engineering** for students of Industrial Engineering, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

  - Teaching assistant for the experimental laboratory of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

  - Tutor of the course **principles of electrical engineering** for students of Mechanical Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 8 university credits

  - Lecturer of the training course **industrial applications of electrical engineering** (Politecnico di Milano, Italy). Presentation entitled "Energy efficiency in manufacturing firms"

- A.Y. 2016-2017
  - Teaching assistant of the course **electric power systems** for students of Electrical Engineering, Master's Degree (Politecnico di Milano - Campus Leonardo) – 10 university credits

  - Teaching assistant of the course **electric power systems** for students of Electrical Engineering, Master's Degree (Politecnico di Milano - Campus Leonardo) – 10 CFU

- Teaching assistant of the course **electrical engineering and applied electronics** for students of Aerospace Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

- Teaching assistant for the experimental laboratory of the course **electrical engineering** for students of Industrial Engineering, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

- Teaching assistant for the experimental laboratory of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

- Tutor of the course **principles of electrical engineering** for students of Mechanical Engineering, bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 8 university credits

- A.Y. 2015-2016
  - Lecturer of the course **distributed generation and renewable integration: forecasting tools and ems towards smartgrid/smartcity paradigm** – GIAN international program - Global Initiative of Academic Networks – (National Institute of Technology, Warangal, India)

  - Teaching assistant of the course **electrical engineering and applied electronics** for students of Aerospace Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

  - Teaching assistant of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

  - Teaching assistant for the experimental laboratory of the course **electrical engineering** for students of Industrial Engineering, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

  - Teaching assistant for the experimental laboratory of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

  - Tutor of the course **principles of electrical engineering** for students of Mechanical Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 8 university credits

- A.Y. 2014-2015
  - Teaching assistant of the course **electrical engineering and applied electronics** for students of Aerospace Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

  - Teaching assistant of the course **electrical engineering** for students of Industrial Engineer, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

  - Teaching assistant for the experimental laboratory of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

- Teaching assistant for the experimental laboratory of the course **electrical engineering** for students of Industrial Engineering, Bachelor's Degree (Politecnico di Milano - Lecco Campus) – 8 university credits

- Tutor of the course **principles of electrical engineering** for students of Mechanical Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 8 university credits

- A.Y. 2013-2014
    - Teaching assistant of the course **electrical engineering and applied electronics** for students of Aerospace Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

    - Teaching assistant for the experimental laboratory of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

- A.Y. 2012-2013
    - Teaching assistant for the experimental laboratory of the course **principles of electrical engineering** for students of Management Engineering, Bachelor's Degree (Politecnico di Milano - Campus Bovisa) – 10 university credits

Non-university teaching activities in Italy or abroad

- 2020
    - Teacher of the course for **Experts in Energy Management (EGE) UNI EN 11339 in the civil and industrial sector** (Milan Engineering Association, Milan, Italy). Presentation entitled "General considerations on power quality concerning energy efficiency"

- 2019
    - Teacher of the course for **Experts in Energy Management (EGE) UNI EN 11339 in the civil and industrial sector** (Milan Engineering Association, Milan, Italy). Presentation entitled "Numerical methods for electricity consumption analysis within energy audits"

- 2018
    - Teacher of the course for **Experts in Energy Management (EGE) UNI EN 11339 in the civil and industrial sector** (Milan Engineering Association, Milan, Italy). Presentation entitled "Energy efficiency in data centers"

- 2017
    - Teacher of the course for **Experts in Energy Management (EGE) UNI EN 11339 in the civil and industrial sector** (Milan Engineering Association, Milan, Italy). Presentation entitled "Technical-economic evaluations on power factor correction systems"

PARTICIPATION IN ORGANIZING COMMITTEE OF NATIONAL AND INTERNATIONAL CONFERENCES

- **Member of the Organizing Committee** of *2024 International Conference on Computer Science and Communication Technology (ICCSCT 2024),* Wuhan, Cina, 26-28 July 2024;

- **Member of the Organizing Committee** of the *AEIT2022 International Annual Conference (AEIT2022),* Rome, Italy, 3-5 October 2022;

- **Member of the Organizing Committee** of the *AEIT2021 International Annual Conference (AEIT2021),* remote conference, 4-8 October 2021;

- **Member of the Organizing Committee** of the *AEIT2020 International Annual Conference (AEIT2020),* remote conference, 23-25 September 2020;

- **Member of the Technical Committee** of the *2020 International Conference on Computer Science and Communication Technology (ICCSCT 2020),* Hangzhou, China, 25-26 July 2020;

- **Member of the Technical Committee** of the *2021 International Conference on Computer Science and Communication Technology (ICCSCT 2021),* Beijing, China, 29-31 July 2021;

- **Member of the Technical Committee** of the *5th International Conference on Advances in Electrical Engineering (ICAEE 2019),* IUB Campus, Dhaka, Bangladesh, 26-28 September 2019;

- **Member of the Technical Committee** of the *International Conference on Robotics, Electrical and Signal Processing Techniques 2019 (ICREST 2019),* American International University Bangladesh (AIUB), Dhaka, 10-12 January 2019;

- **Organizer of the Special Session** *"GIS-based approaches for planning and operation of distribution networks"* within the IEEE CPE-POWERENG 2021 Conference program. Special session proposed by Alessandro Bosisio (Politecnico di Milano, Italy), Silvia Corigliano (Politecnico di Milano, Italy) and Xu Andy Sun (H. Milton Stewart School, Georgia Institute of Technology, USA).

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 " Innovative Techniques for Distribution Grids Digitalization" for the Journal *MDPI Energies,* MDPI – ISSN 1996-1073 (2024);

- **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);

- **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);

- **Reviewer** for the journal *IET Renewable Power Generation*, Wiley-Blackwell - ISSN:1752-1416 – E-ISSN:1752-1424 (dal 2023);

- **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 "CIRED Chicago Workshop 2024", 7-8 November 2024;

- **Reviewer** of the International Conference "SEST2024", Turin (Italy), 10-12 September 2024;

- **Reviewer** of the International Conference "SPEEDAM2024", Ischia (Italy), 19-21 June 2024;

- **Reviewer** of the International Conference "AEIT2023", Roma (Italy), 5-7 October 2023;

- **Reviewer** of the International Conference "SEST2023", Mugla (Turkey), 4-6 September 2023;

- **Reviewer** of the International Conference "PowerTech2023", Belgrade (Serbia), 25-29 June 2023;

- **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

- **Member of the Board** of the **Ph.D.** in Electronic, Computer and Electrical Engineering at the University of Pavia (from 2023);

- **Secretary of the Energy Commission of the Milan Engineering Association** (since 2014);

- **Representative of research fellows in the Council of the Energy Department of the Politecnico di Milano** (from 2018 to 2020);

- **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 the **Education Society di IEEE** (dal 2024);

- Member of the **Session Advisory Group** (SAG) **Session 5** (planning of power distribution systems) of the Congrès International des Réseaux Electriques de Distribution (**CIRED**) (dal 2024);

- Member of **IEEE Power & Energy Society (PES)** (dal 2023);

- **Member of AEE** - Society AEIT for Electricity (since 2018);

- **Member of CISE2007** (since 2016);

- **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).

PARTICIPATION IN NATIONAL AND INTERNATIONAL RESEARCH GROUPS

Participation in the activities of the power systems research group of the Politecnico di Milano, Energy Department, and the power systems research group of the University of Pavia, Department of Electrical, Computer and Biomedical Engineering, in collaboration with:

- From **2012** to **today**. **UNARETI S.p.A.: the distribution system operator for electricity and natural gas in Milan and Brescia**
  - Research activity concerning the development of a bottom-up approach for the classification of load and generation profiles in electricity distribution networks;
  - Research activity concerning the development of optimization models for the planning and operation of electricity distribution networks;

- From **2016** to **today. TERNA S.p.A.: the Italian transmission system operator.**
    - Research activity concerning the development of clustering algorithms for the study of voltage profiles on the national transmission grid;
    - Support activities for the definition and implementation of coordination methods between TSOs and DSOs in modern electricity systems;
    - Research activity related to the development of nowcast algorithms for the prediction of the Dynamic Thermal Rating (DTR) of a transmission line;

- From **2020** to **today. EDISON S.p.A.: a company specialized mainly in the production and sale of electricity.**
    - Technical consultancy for the design of a pumped hydroelectric power plants;

- From **2020** to **today. R.S.E. S.p.a.: Research institute.**
    - Collaboration for the development of methodologies concerning the following issues: urban energy systems evolution scenarios and expected impacts on infrastructures; resilience of distribution networks; diagnostics on medium voltage networks; use of big data technologies for the analysis and optimization of distribution networks; experimental methods for the analysis of local generation resources;
    - Research activity related to the application of machine learning and big data techniques for the analysis of the reliability and resilience of distribution networks;

- From **2022** to **today. EDP Renewables: a company operating in the renewable energy sector.**
    - Collaboration for the development of Mathematical models for the provision of ancillary services to high voltage networks from renewable energy sources and storage systems;

- From **2023** to **today. Siemens S.p.A.: a company active in the various sectors of energy and networks.**
    - Consultancy for the analysis of the main regulatory, technical and market aspects in the field of e-mobility in the Italian context;
    - Consultancy on the Central Plant Controller (CCI) according to CEI 0-16 standard;

- From **2019** to **2022. Sapienza University of Rome (Italy).**
    - Research activity related Development of methodologies for the planning and operation of electricity distribution networks in the presence of distributed generation;

- From **2018** to **2021. European Project OSMOSE (Optimal System-Mix Of flexibility Solutions for European electricity).**
    - Activity carried out within WP1 - optimal mix of flexibilities;

- **2021. Municipality of Missaglia.**
    - Member of the tender Committee for the municipality public lighting systems energy requalification and management.

- **2020. ARAMIS S.r.l.: a consulting company in the field of research and development.**
    - Development of a methodology for the identification of heatwaves and the prioritization of interventions to increase the resilience of electricity distribution networks;

- **2020. Joint Research Centre (Italy).**
  - Consultancy for the preparation of the report "EU study assessing the potential for energy efficiency in electricity generation, transmission, and storage";

- From **2016** to **2019**. **University of Danang (Vietnam).**
  - Research activity related to the development of nowcast algorithms for the prediction of the Dynamic Thermal Rating (DTR) of a transmission line;

- **2019. SKEMA S.p.A.: a company specialized in the design, engineering, production, and installation of integrated energy distribution systems.**
  - Consultancy for the evaluation of technical report in order to verify that the activities carried out to raise the performance characteristics in terms of short circuit tightness and protection against failure with the formation of an electric arc of the SKEMA "In Charge" electrical cabinet and the related tests carried out are to be considered innovative;

- From **2018** to today. **University of Pavia (Italy).**
  - Supervision of the research activities of two curricular internships carried out at Unareti S.p.A. for the drafting of the Master's Degree Thesis in Electrical Engineering:
    - F. Cardani, *"Management of reactive energy in the Milan distribution network through centralized and distributed power factor correction systems"*;
    - C. Pasetti, *"Methodologies for predicting the impact of electric mobility in distribution networks through the analysis of georeferenced data"*.

- 2017. **AICS: Italian Agency for Development Cooperation.**
  - Technical advice to the Palestinian Electricity Distribution Authority (PETL) to prepare tender specifications for: "EUMP Rehabilitation of the electricity distribution network in the West Bank". Consultancy within the field of development cooperation activities carried out by the Italian Ministry of Foreign Affairs through its competent agency (AICS);

- **2016. National Institute of Technology (India).**
  - Teacher of the course "distributed generation and renewable integration: forecasting tools and EMS towards smartgrid/smartcity paradigm";

- **2015. Georgia Institute of Technology (USA).**
  - Three-months visiting research within a project of exchange and training for Ph.D. students;

- **2014. REPOWER S.p.A.: a company specialized in the sale and supply of services in the energy sector.**
  - Technical/economic advice on installing a new pumped hydroelectric power plant coordinated with distributed renewable generation, mainly wind and photovoltaic parks.

- **2013. Universidad Carlos III de Madrid-UC3M (Spain).**
  - One-month visiting research within a project of exchange and training for Ph.D. students;

Activities within the **RSE S.p.a.'s research group** on energy systems planning in collaboration with:
  - From **2011** to **2012. University of Bergamo.** Development of mathematical models for the optimal dispatching of distributed generators and storage systems to minimize dispatching costs.

PARTICIPATION AS A SPEAKER AT NATIONAL AND INTERNATIONAL CONFERENCES

- **Speaker at the national conference** "The current energy situation and the opportunities for electricity distribution networks" organized by the Italian Association of Electrotechnics, Electronics Automation, Informatics and Telecommunications (AEIT) with a presentation entitled *"Development of electricity distribution networks in the light of the energy transition: necessary investments and role of flexibility and forms of widespread self-consumption"* (2023);

- **Speaker at the international conference** SMART2022 with an article entitled *"A feasibility study of using renewable-based hydrogen in off-grid domestic energy systems: a case study in Italy"*;

- **Speaker at the international conference** CIRED2022 with an article entitled *"Impact of charging infrastructure for electric vehicles on the power quality of the distribution networks"*;

- **Speaker at the international conference** SPEEDAM2022 with an article entitled *"A practical risk analysis for reliability improvement of distribution grids"* and a second one entitled *"Analysis of fault data in urban electric distribution grids: lesson learned from Milan, Italy"*;

- **Speaker at the international conference** CIRED2021 with an article entitled "*Extreme weather conditions effects on underground cable joints failures: strategies for reliability and resilience improvement*";

- **Speaker at the international conference** AEIT2021 with an article entitled *"Network automation planning in distribution networks: a feeders coupling method to implement IEC 61850-based smart automation system logic"* and a second one entitled *"Integrated distribution systems and energy districts planning and operation with DGs and EVs"*;

- **Speaker at the international conference** IEEE CPE-POWERENG 2021 with an article entitled *"Development of a GIS-based model for the planning and operation of electrical distribution grids in rural areas: a case study in Peru"*;

- **Speaker at the international conference** CIRED2020 with an article entitled "*Optimal procedure for remote-controlled switch devices siting in distribution systems using heuristic algorithms*";

- **Speaker at the international conference** AEIT2020 with an article entitled *"Reliability evaluation for meshed distribution networks based on minimal cut sets method"*;

- **Speaker at the international conference** PSCC2020 with an article entitled *"A GIS-based approach for high-level distribution networks expansion planning in normal and contingency operation considering reliability"*;

- **Speaker at the international** PowerTech2019 conference with an article entitled *"A metamodel for multi-utilities asset management"*;

- **Speaker at the international conference** ICCEP2019 with an article entitled *"Combined use of PCA and Prony Analysis for Electromechanical Oscillation Identification"*;

- **Speaker at the international conference** AEIT2019 with an article entitled *"IEC 61850-based smart automation system logic to improve reliability indices in distribution networks"*;

- **Speaker at the international conference** AEIT2018 with an article entitled *"GIS-based urban distribution networks planning with 2-step ladder topology considering electric power cable joints"*;

- **Speaker at the international conference** PowerTech2017 with an article entitled *"Urban distribution network planning with 2-step ladder topology considering joint nodes"*;

- **Speaker at the international conference** PowerTech2015 with an article entitled *"A MILP approach to plan an electric urban distribution network with an H-shaped layout"*;

- **Speaker at the international conference** Cost TD120 with a presentation entitled *"Structural and functional optimization in distribution grid planning"*;

- **Speaker at the international conference** 44th Annual Conference of the Italian Operational Research Society with a presentation entitled *"An ILP approach to plan an electric urban distribution network with a H–shaped layout"*;

- **Speaker at the 14th European Ph.D. School** with a poster entitled *"Planning optimization of an electric urban distribution grid already in place"*.

PATENTS

- Italian Patent Application for Invention N° 102021000019745: **"Method for reconfiguring an electricity distribution network".** Joint patent between Politecnico di Milano and UNARETI S.p.A. filed on 23/07/2021. **Patent definitively granted** by the Italian Patent and Trademark Office on 7 September 2023:

  https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2023002337&_cid=P21-LQXQRE-71744-1

- Extension as an international application of the Italian Patent for Industrial Invention N° 102021000019745. Application number PCT/IB2022/056578: **"Computer-implemented method for reconfiguring an electrical power distribution network"** (filing date July 18, 2022).

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 transmission and distribution networks: [JI.2]-[JI.3]-[JI.10]-[CI.2]-[CI.4]-[CI.15]-[CI.23]-[CI.30]-[CI.33]-[CI.35]-[CI.36];

- mathematical models for the planning and operation of electricity distribution networks and microgrids in the presence of distributed generation: [JI.13]-[CI.3]-[CI.7]-[CI.9]-[CI.29]-[CI.32]-[CI.37]-[CI.38];

- mathematical models for analyzing the reliability and resilience of electricity distribution networks: [JI.4]-[JI.7]-[CI.11]-[CI.13]-[CI.14]-[CI.24]-[CI.20]-[CI.25]-[CI.26]-[JN.2];

- mathematical models and applications based on georeferenced data (GIS): [JI.6]-[JI.8]-[JI.9]-[CI.1]-[CI.10]-[CI.21]-[CI.22]-[CI.34];

- models for the analysis and prediction of the electrical load and distributed generation: [CI.5]-[CI.6]-[CI.12]-[CI.16]-[CI.17]-[CI.18]-[CI.19]-[CI.27]-[JN.1];

- Machine learning algorithms applied to power grids: [JI.1]-[JI.12]-[CI.8];

- mathematical models for the study of power systems dynamics: [JI.5]-[JI.11]-[CI.28]-[CI.31].

LIST OF PUBLICATIONS

International Journals

[JI.1] Musiqi, D.; Kastrati, V.; Bosisio, A.; Berizzi, A. Deep Neural Network-Based Autonomous Voltage Control for Power Distribution Networks with DGs and EVs. Appl. Sci. 2023, 13, 12690.

[JI.2] Gulotta, F.; Daccò, E.; Bosisio, A.; Falabretti, D. Opening of Ancillary Service Markets to Distributed Energy Resources: A Review. *Energies* 2023, *16*, 2814.

[JI.3] 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.

[JI.4] 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.5] 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.6] 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.7] 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.8] 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.9] 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.10] 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.11] 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.12]   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.13]   A. Bosisio, M. Moncecchi, G. Cassetti, M. Merlo, "Microgrid design and operation for sensible loads: Lacor hospital case study in Uganda," *Sustain. Energy Technol. Assessments*, vol. 36, 2019.

International Conferences

[CI.1]   L. Sandrini, A. Bosisio, A. Morotti, C. Pasetti, A. Cirocco and M. Turrisi, "Using spatial analysis tools to foster energy transition: real study cases applied to energy distribution networks," 2023 AEIT International Annual Conference (AEIT), Rome, Italy, 2023, pp. 1-5.

[CI.2]   L. Sandrini *et al*., "A comparative analysis of reactive power compensation using reactors and STATCOMs in primary substations: a case study in Milan, Italy," *2023 AEIT International Annual Conference (AEIT)*, Rome, Italy, 2023, pp. 1-6.

[CI.3]   B. Greco, A. Bosisio, A. Cirocco, G. Iannarelli, C. Boccaletti and L. Cavalletto, "Optimal end-users electrification management: a BESS-based DSO approach to support distribution grid planning and delay network reinforcement," *2023 International Conference on Clean Electrical Power (ICCEP)*, Terrasini, Italy, 2023, pp. 176-181.

[CI.4]   A. Bosisio, A. Berizzi, C. Mosca, C. Vergine, D. Castiglioni and A. Morotti, "A feasibility study of using MV and LV distributed energy resources flexibility in a TSO/DSO coordination perspective: the case study of Milan, Italy," *2023 International Conference on Clean Electrical Power (ICCEP)*, Terrasini, Italy, 2023, pp. 167-175.

[CI.5]   E. Daccò *et al*., "Forecasting Methodologies of the Electrical Load in Urban Distribution Networks: a Case Study in Milan, Italy," *2023 IEEE International Conference on Environment and Electrical Engineering and 2023 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I&CPS Europe)*, Madrid, Spain, 2023, pp. 1-6.

[CI.6]   *G. Viganò* et al*., "Future evolution of distribution networks due to the italian decarbonization scenarios,"* 27th International Conference on Electricity Distribution (CIRED 2023)*, Rome, Italy, 2023, pp. 1135-1139*

[CI.7]   Bosisio, A. Morotti, S. Penati, A. Berizzi, C. Pasetti and G. Iannarelli, "A feasibility study of using renewable-based hydrogen in off-grid domestic energy systems: a case study in Italy," *2022 Second International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART)*, Cassino, Italy, 2022, pp. 1-7.

[CI.8]   A. Bosisio, A. Berizzi and D. Musiqi, "Voltage regulation in distribution networks in the presence of distributed generation: LVR and E-OLTC with a machine learning approach," *2022 Second International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART)*, Cassino, Italy, 2022, pp. 1-7.

[CI.9]   G. Iannarelli, A. Cirocco, B. Greco, C. Moscatiello, A. Bosisio and C. Boccaletti, "Management strategy of EV fleets charging stations for demand response capabilities: a case study," *2022 AEIT International Annual Conference (AEIT)*, Rome, Italy, 2022, pp. 1-6.

[CI.10]   A. Bosisio, A. Berizzi, A. Morotti, G. Iannarelli, B. Greco and C. Boccaletti, "A GIS-based approach to assessing large-scale building-integrated photovoltaic generation: a case study of Milan, Italy," *2022 AEIT International Annual Conference (AEIT)*, Rome, Italy, 2022, pp. 1-6.

[CI.11]   A. Bosisio, L. Perfetto, G. Iannarelli, A. Morotti, A. Pegoiani, and B. Greco, "Impact of charging infrastructure for electric vehicles on the power quality of the distribution networks," *in CIRED Porto Work. 2022 E-mobility power Distrib. Syst., pp. 195–199, 2022.*

[CI.12]   G. Viganò et al., "Assessment of the impact of electromobility on urban distribution feeders under different scenarios," *in CIRED Porto Work. 2022 E-mobility power Distrib. Syst., pp. 558–562, 2022.*

[CI.13]   A. Bosisio, A. Berizzi, M. Brenna, A. Morotti, B. Greco, and G. Iannarelli, "A practical risk analysis for reliability improvement of distribution grids," *in 2022 Int. Symp. Power Electron. Electr. Drives, Autom. Motion, pp. 137–142, Jun. 2022.*

[CI.14]   A. Bosisio, S. Grillo, A. Morotti, E. Bionda, F. Soldan, and G. Iannarelli, "Analysis of fault data in urban electric distribution grids: lesson learned from Milan, Italy," *in 2022 Int. Symp. Power Electron. Electr. Drives, Autom. Motion, pp. 779–784, Jun. 2022.*

[CI.15]   A. Bosisio, A. Berizzi, D. Lupis, A. Morotti, B. Greco, and G. Iannarelli, "Network automation planning in distribution networks: a feeders coupling method to implement IEC 61850-based smart automation system logic," *in 2021 AEIT International Annual Conference (AEIT), 2021, pp. 1–6.*

[CI.16]   G. Vigano et al., "Energy transition through PVs, EVs, and HPs: A case study to assess the impact on the Brescia distribution network," *in 2021 AEIT International Annual Conference (AEIT), 2021, pp. 1–6.*

[CI.17]   A. Bosisio, A. Berizzi, F. De Cal, A. Morotti, B. Greco, and G. Iannarelli, "Integrated distribution systems and energy districts planning and operation with DGs and EVs," *in 2021 AEIT International Annual Conference (AEIT), 2021, pp. 1–6.*

[CI.18]   G. Iannarelli, B. Greco, C. Moscatiello, A. Bosisio, and C. Boccaletti, "The potential of urban PV generation in the Italian context of energy transition: A case study," *in 2021 AEIT International Annual Conference (AEIT), 2021, pp. 1–6.*

[CI.19]   A. Bosisio et al., "Performance assessment of load profiles clustering methods based on silhouette analysis," *in 21st IEEE Int. Conf. Environ. Electr. Eng. 2021 5th IEEE Ind. Commer. Power Syst. Eur. EEEIC / I CPS Eur. 2021 - Proc., 2021.*

[CI.20]   A. Bosisio, B. Greco, G. Iannarelli, L. Perfetto, A. Morotti, and A. Pegoiani, "Extreme Weather Conditions Effects On Underground Cable Joints Failures: Strategies For Reliability And Resilience Improvement," *in CIRED 2021 - The 26th International Conference and Exhibition on Electricity Distribution, 2021, pp. 91-94.*

[CI.21]   G. Viganò et al., "Using GIS to assess the impact of electric vehicles on electrical distribution networks: A study applied to the city of Brescia," *in 2021 IEEE 15th Int. Conf. Compat. Power Electron. Power Eng. CPE-POWERENG 2021, 2021.*

[CI.22]   M. Moncecchi, S. Corigliano, A. Bosisio, L. Pruneri, and M. Merlo, "Development of a GIS-based model for the planning and operation of electrical distribution grids in rural areas: A case study in Peru," *in 2021 IEEE 15th Int. Conf. Compat. Power Electron. Power Eng. CPE-POWERENG 2021, 2021.*

[CI.23]   A. Bosisio, A. Berizzi, A. Morotti, B. Greco, V. Girola, and G. Iannarelli, "Optimal procedure for remote-controlled switch devices siting in distribution systems using heuristic algorithms," *in IET Conf. Publ., vol. 2020, no. CP767, pp. 293–296, 2020.*

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Pavia, 19/04/2024   Signature