

Curriculum Vitae

Viktoriya Mostova

Date of birth: 26/01/1995

Nationality: Italian

Gender: Female

Email: v.mostova@studenti.unisannio.it

Education and Qualifications

- **Currently pursuing a PhD in “Information Technologies for Engineering”, XL Cycle**

The PhD research is focused on the study of security assessment in power systems under scenarios characterised by a high penetration of renewable energy sources and converter-interfaced resources. In particular, the research investigates the impact of these emerging generation technologies on system stability, resilience, and dynamic security, with special attention to the new challenges they pose for modelling and operational planning. A further area of interest concerns cascading phenomena, with the aim of analysing how local disturbances may propagate through the network and trigger widespread system outages, thus contributing to the development of more effective methodologies for vulnerability assessment and prevention.

- **08/2026 – 10/2026 - Visiting PhD Researcher at University College Dublin (UCD)**

Conducting research on power system strength, with a particular focus on complex frequency analysis.

- **05/2026 – 07/2026 - Visiting PhD Researcher at the Luxembourg Institute of Science and Technology (LIST)**

Conducting research on the impact assessment of inverter-based resources on cascading failures and their integration into cascading failure analysis frameworks.

- **09/2024 - MASTER'S DEGREE IN ENERGY ENGINEERING**

Thesis: *Dynamic Security Assessments for the Restoration of Electric Power Systems*

During the development of my thesis, I investigated the challenges associated with power system restoration following a total or partial blackout. In particular, I analysed

the technical feasibility of two proposed restoration paths for the re-energisation and black-start recovery of different portions of the Italian power grid, with the aim of validating the proposed strategy and minimising power supply interruption time. The study included a review of the current restoration plan and detailed dynamic simulations of different scenarios, with a specific focus on voltage regulation issues along one restoration path and on the impact of renewable generation connected to medium- and low-voltage networks on frequency stability along the other. The results highlighted the complexity of integrating renewable sources into restoration strategies and the importance of effective coordination between the TSO and the DSO to ensure a reliable and efficient system recovery.

- **27/03/2024 - 31/07/2024 - Curricular internship at TERNA – Rete Italia**

S.p.A.Dispatching and Operations Department – Power System Engineering Section.

Location: Rome, Italy

During this internship, I had the opportunity to study the control measures and emergency procedures aimed at restoring a power system to normal operating conditions following blackout events. I also used various dynamic simulation software tools to assess the technical feasibility of some proposed transmission corridors, while further exploring issues related to voltage and frequency stability.

- **19/06/2023 - 22/06/2023 - SUMMER SCHOOL ON SMART GRID**

University of Salerno, Salerno, Italy

Advanced study of topics related to the decarbonisation of the residential and transport sectors.

- **10/2022 - 02/2023 - JUNIOR RESEARCH GRANT**

During the research scholarship, I deepened my work on inertia estimation and developed computational codes for estimating the synchronous inertia of a multi-area system. I also contributed to the preparation of the following papers:

- F. De Caro, V. Mostova, A. Vaccaro, "A data-Driven Methodology for Dynamic Reconfiguration of Power Distribution Systems", IEEE PES General Meeting, 2024.
- F. De Caro, V. Mostova, A. Vaccaro, "The role of Digital Twins in Power System Inertia Estimation", AEIT International Annual Conference. IEEE, 2022, p. 1-6.

- A. Vaccaro, V. Mostova, "The role of Wireless Sensor Networks for Pervasive Smart Grids Communication", IEEE Smart Cities, November 2022.
- F. De Caro, V. Mostova, A. Vaccaro, "A Data-Driven Methodology for Dynamic Reconfiguration of Power Distribution Systems", 2023 IEEE PES Generation Transmission and Distribution Conference & Exposition Asia.
- M. Giannuzzi, V. Mostova, C. Pisani, S. Tessitore, A. Vaccaro, "Enabling Technologies for Enhancing Power System Stability in the presence of Converter-Interfaced Generators", Energies, 15(21), 8064.
- Technical report "Power System Stability" (TERNA).
-
- **04/07/2022-07/07/2022 - SUMMER SCHOOL ON SMART GRID**
University of Salerno, Salerno, Italy
Advanced study of topics related to decarbonisation, flexibility, and resilience of the power system.
- **04/2022 - BACHELOR'S DEGREE IN ENERGY ENGINEERING**
University of Sannio, Benevento, Italy
Thesis: Methods for Inertia Estimation in a Power Network with High Penetration of Renewable Generation Systems
During the preparation of my thesis and internship period, I explored the topic of frequency regulation, focusing in particular on the importance of inertia and on methods for estimating this quantity. This work later led to the publication of a scientific paper co-authored with Professor Alfredo Vaccaro and Fabrizio De Caro, entitled "*The Role of Digital Twins in Power System Inertia Estimation.*" The paper was submitted to the 114th edition of the international conference organized by AEIT, where I presented the research conducted.
- **07/2014 - High School Diploma in Classical Studies**
Liceo Classico "Pietro Giannone", Benevento, Italy.

Language skills

Native languages: Ukrainian, Italian

Other languages: English — C1 level
(Cambridge certified)

Computer skills

- MatLab/Simulink
- Neplan
- DigSilent
