

Julio Perez Olvera

📍 Woolwich Road,
London, SE7

🔗 linkedin.com/in/julioolvera1
julioolvera1.github.io/

✉ julioolvera1@gmail.com

☎ Available on request

Profile

Electrical Engineer with a PhD in Power Systems, and extensive experience across the UK energy sector. My professional experience ranges from distribution network modelling to grid compliance studies for offshore windfarms, and includes the delivery of specialised software solutions for flexible connections and for the procurement of flexibility services. I am passionate about continuing my career in the energy industry and leveraging my knowledge and skills to support our transition towards a carbon-neutral economy.

Professional Experience

👤 **Power Systems Development Engineer (DSO Network Access)**

June 2023 – Present

🏢 **UK Power Networks**

RESPONSIBILITIES

- Developed new products for Flexible/Curtailable Connections schemes (managed by UKPN Distributed Energy Resource Management platform), which allow customers to connect faster, ahead of reinforcements.
- Developed a web application tool that streamlines the curtailment calculation for new connection applications, which trigger distribution and/or transmission constraints, and produces a report with a breakdown of the estimated curtailment per constraint, and the times of the year with highest curtailment.
- Analysed the operational behaviour of battery storage systems connected within UKPN's license areas to identify patterns and trends, in order to improve the assumptions used during network planning processes.

👤 **Distribution System Planning Engineer (DSO and Future Networks)**

Jan 2021 – June 2023

🏢 **Scottish and Southern Electricity Networks (SSEN)**

RESPONSIBILITIES

- Leading the development and maintenance of network models (132/33/11kV) in DlgSILENT PowerFactory, which are suitable for power flow and optimal power flow analysis to inform flexibility requirements.
- Assessing impact and benefits of DSO flexibility services, as part of the [LEO](#) and [TRANSITION](#) projects.
- Leading the development of a software tool for the procurement and dispatch of flexibility services.
- Developing Python scripts for the pre- and post-processing of network data (PI historian, network asset databases, network connectivity) and for the automation of power system studies in DlgSILENT PowerFactory.

👤 **Power System Consultant**

Feb 2020 – Dec 2020

🏢 **ABB Power Grids UK**

RESPONSIBILITIES

- Delivered grid connection studies (reactive power requirements, energy losses, short-circuit, harmonics, flicker) for several offshore wind park projects to ensure compliance with the Grid Code under different scenarios.
- Developed Python scripts for the automation of large-scale simulations in DlgSILENT PowerFactory and PSCAD and for subsequent analysis and data processing.
- Contributed to the preparation of reports for clients based on grid compliance studies.

👤 **Technical Officer**

July 2017 – July 2018

🏢 **Repowering London**

RESPONSIBILITIES

- Completed a range of solar feasibility studies for various community energy projects in London.
- Developed 3D CAD models of buildings to estimate solar resource availability and onsite energy consumption.

Education

 **PhD in Electrical Power Systems with a focus on distribution networks**

Oct 2016 – Sept 2020

Thesis: [Active network management for improved flexibility in distribution networks](#)

 **Imperial College London**

RESEARCH

Investigated the main factors affecting the hosting capacity in distribution networks and proposed active network management (ANM) schemes, coupled with power electronic devices, to optimise the overall utilisation of the network. Proposed high-level control schemes based on optimisation and machine learning.

PUBLICATIONS

- [Self-learning Control for Active Network Management](#), IEEE Madrid PowerTech 2021
- [Active network management in LV networks: a case study in the UK](#), IEEE PES GM 2020
- [Using Multi-Terminal DC Networks to Improve the Hosting Capacity of Distribution Networks](#), IEEE ISGT 2018

SUPERVISION AND TEACHING

Supervised two MSc students on their final project focused on using data analytics for distribution networks.

 **MSc in Electrical Power Systems (Distinction)**

Sept 2014 – Sept 2015

 **University of Birmingham**

FINAL PROJECT

Stochastic modelling of a Micro Grid for reliability assessment in a distribution network.

NOTABLE MODULES

Power systems operation and control; Power systems economics; HVDC and FACTS; Intelligent systems.

 **Bachelor's Degree in Mechanical and Electrical Engineering**

Sept 2009 – May 2014

 **Tecnologico de Monterrey (ITESM), Mexico**

NOTABLE MODULES

Transformers and electric machinery; Power electronics and converters; Renewable energy.

Achievements and Projects

• EV Charge Challenge Finalist – UK Power Networks

Led a team of 3 on the delivery of a study aimed at forecasting the most likely location of public charge points in supermarkets across the UKPN region, using a combination of open-source data and geospatial analysis.

• OpenLV project – Imperial College London/Western Power Distribution

Analysed large volumes of data coming from several low-voltage substations in the UK. The goal of the analysis was to identify the state of the networks and evaluate the potential benefits of active network management schemes.

Technical Competencies

- Advanced user of DlgSILENT Power Factory, PSCAD and OpenDSS (EPRI) for modelling realistic transmission and distribution networks to assess the impact of low-carbon technologies and renewable generation.
- Advanced user of Python, Git and data analysis libraries (e.g., Pandas, NumPy, Geopandas, Matplotlib) for scripting, optimization, large-scale data analysis, and for the development of tools and applications.
- Intermediate user of MATLAB/SimPowerSystems libraries to analyse dynamics of power network components and to perform optimal power flow analysis.
- Competent user of Microsoft Visio to produce diagrams for new processes and dataflows.

Professional Memberships

- IET Member working towards chartership (CEng)
- CIGRE UK Member
- IEEE Graduate Student Member and Member of the Power and Energy Society (PES)

Languages

English – Proficient Level

Spanish – Native

German – Intermediate Level