

VACANCY: Postdoctoral Research Fellowship

Power system planning and operation under high shares of renewable energy.

Scope of Research: The research pertains to ongoing work within the Power Systems Research Group (PSRG) in the Electrical and Electronic Engineering department at Stellenbosch University. PSRG's focus areas include understanding sources of uncertainty and variability in the modern power system, developing appropriate energy and network models, and evaluating the associated techno-economic impacts. Additionally, the group endeavours to develop computational tools to support the planning and operations of power systems with high penetration of renewable energy resources.

The postdoctoral candidate will contribute to the research activities in energy modelling and grid impact assessment. The research results are expected to be published in high-impact factor journals and top international conferences. Limited mentoring and supervision of postgraduate students within the Power Systems Research Group will also be required.

The fellowship is available for one year and is renewable for a second year subject to satisfactory performance and funding availability.

Requirements:

- PhD (must have graduated within the last five years)
- Excellent communication skills in English (both written and verbal)
- Experience in one or more of the following fields: grid integration studies, hosting capacity analyses, energy modelling, and load modelling. Geospatial energy modelling will be beneficial.
- Good programming command in MATLAB and Python
- Familiarity with power system software such as DigSilent Powerfactory, Plexos, OpenDSS, or PandaPower, GIS-based software (QGIS or ARCGIS), would be beneficial.

Host: Dr Chantelle Yvonne van Staden, Senior Lecturer at the Electrical and Electronic Engineering Faculty, Stellenbosch University, together with Prof Cristina Trois, Director at the Centre for Renewable and Sustainable Energy Studies, Engineering Faculty, Stellenbosch University

Please note that postdoctoral fellows are not appointed as employees and their fellowships are awarded tax-free. They are therefore not eligible for employee benefits.

Commencement of duties: As soon as possible

Closing date for applications: 28 March 2025

Application process: Send a letter of application, accompanied by a 2-page curriculum vitae, including a list of publications, a link to the candidate's PhD thesis, and the names and contact details of two referees, to Dr Chantelle van Staden, cvanstade@sun.ac.za. Prospective applicants are welcome to email me with any further questions.