

Postdoctoral Research Fellowship

Project Title: Mathematical modelling of contaminants in surface waters within the context of urban wastewater profiling community wide diagnostics

Scope of Research: A post-doctoral research fellowship is available at the Department of Process Engineering, Stellenbosch University (South-Africa). The fellow will contribute to a research project titled "Developing Resilient Nations - Towards a Public Health Early Warning System via Urban Water Profiling ([ReNEW](#))" in collaboration with the University of Bath.

The research project aims to develop a real-time community-wide diagnostic and tuneable multi-hazard public health early warning system by profiling surface water and wastewater. The research team includes members from analytical chemistry, microbiology, psychology, social science, electronic-, civil-, and process engineering.

The specific objective of the post-doctoral research will be to develop a mathematical and/or geostatistical model predicting the generation, transport and transformation of pollutants in surface waters in the Stellenbosch River System. The model will be validated against field measurements.

Host: The successful applicant will work under supervision of Dr Tobi Louw at the Department of Process Engineering (Stellenbosch University) and collaborate closely with team members from the Department of Civil Engineering at the University of Bath.

Requirement: A PhD in Statistics, Mathematics, Environmental Science, Chemical Engineering or any other relevant field (must have graduated within the last five years)

- Experience in the development of mathematical models and the implementation thereof in a suitable computational package (preferably MATLAB or Python) is essential.
- Experience in the use of statistical methods for parameter estimation and model validation will be advantageous.

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. The fellowship value is R280 000 pa.

Commencement of duties: As soon as possible

Closing date: 31 October 2019

Enquiries: Send a letter of application, accompanied by a comprehensive curriculum vitae, including list of publications and the names and contact details of at least two referees, to Dr Louw at tmlouw@sun.ac.za.

Applicants should request their referees to forward confidential reports to the same address.