

## **Post-Doctoral Fellow Position(1) CFD-DEM Modelling in Process Engineering**

15 Nov 2018

[Department of Process Engineering](#)  
[Stellenbosch University](#) · South Africa

**Job description:** The department is working on projects with a focus on CFD modelling on various mineral processing projects, ranging from flotation, hydrocyclones, drain-rinse screens, gravity separation to simulation in extractive metallurgical operations. There is a growing interest in the mineral processing-recycling-waste processing industries towards developing more versatile and robust CFD-DEM models to incorporate particulate and chemically reactive flows. The Mineral Processing Group in Process Engineering at Stellenbosch University is seeking Post-Doc candidates to contribute towards these exciting and challenging opportunities. Postdoctoral fellow candidates must have obtained their PhD qualification within the last 5 years. Postdoctoral fellows are not appointed as employees and are therefore not eligible for employee benefits.

**Duties:** The candidate is expected carry out the following duties: publish and present research, co-supervise postgraduate and undergraduate students working on related projects, and contribute towards funding applications. The main role of the Postdoc will be;

- to carry out research in the area of numerical modelling of multiphase flows
- to formulate and develop CFD-DEM models that incorporate a number of different complexities that arise in chemical engineering and mineral processing problems such as complex geometry, turbulence, heat and mass transfer and phase change, particulate phases

Furthermore, strong expertise to develop open source CFD codes such as OpenFOAM, LIGGGHTS and LAMMPS in process engineering applications is crucial.

**Duration:** The duration of the fellowship is 12 months, extendable subject to successful probation period of 6 months.

**Required skills and experience:** Candidates should have PhD in the field of mineral processing, extractive metallurgy and chemical engineering, with publication track record in international scientific journals in the relevant fields. In addition, the candidate should have strong analytical and technical skills in multiphase and turbulent flow regimes in solid-liquid-gas environments. Working knowledge in buoyancy driven flows, solids, bubbles and foams with particular emphasis CFD-DEM coupling is essential.

**Interested candidates should send applications to:**

Prof. G. Akdogan

[gakdogan@sun.ac.za](mailto:gakdogan@sun.ac.za)

accompanied by covering letter, curriculum vitae and contacts of two referees.

The deadline for applications is 20 January 2019.

**About the employer:**

Stellenbosch University is a leading university in Africa, is recognised internationally as an academic institution of excellence and boasts the second highest number of rated scientists of all universities in South Africa. The university has ten Faculties, with eight on the main campus situated within the picturesque town of Stellenbosch, in the heart of one of the world's premier wine producing regions. Details of the university can be found at <http://www.sun.ac.za/english/about-us/Why-SU> and of the department at <http://processengineering.sun.ac.za/>.