



Stellenbosch

UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

SCIENCE

EYENZULULWAZI NGEZENDALO
NATUURWETENSKAPPE

Department of Biochemistry | Isebe i-chemistry
yobomi | Departement Biochemie

Postdoctoral Fellowship (Department of Biochemistry)

A postdoctoral fellowship in the SARChI project: “Mechanistic modelling of health and epidemiology” is currently available in the field of “Mechanistic modelling of insulin sensitivity in skeletal muscle cells”. Applications from suitable candidates are invited for this post for a period of one year, which may be renewable for a further year based on satisfactory performance (annual performance reviews will be held) and the availability of funds. Appointments will be made at R320 000 per annum, being a non-taxable award.

Project Title: Mechanistic modelling of insulin sensitivity in skeletal muscle cells

The successful applicant will be involved in the construction, validation and analysis of mathematical models for the insulin signalling pathway, glucose transport induction and glucose metabolism. The major focus of the postdoctoral fellow is to construct and analyse these models and make a comparison between reference state cells and insulin resistant cells using modular control analysis. The study will entail kinetic characterisation of enzymes, analytical chemistry for intermediate quantification, nonlinear model fits, and mathematical model analyses. The postdoctoral fellow will also be involved in the training and supervision of postgraduate students.

Host: Department of Biochemistry at Stellenbosch University.

Requirements: A PhD degree in Biochemistry, obtained within the last five years (or proof that the requirements for the degree have been satisfied). Candidates with PhD degrees in other fields but with appropriate experience might also be considered. The successful candidate will have demonstrable experience in cell tissue culture, enzyme characterization, enzyme activity assays by a variety of continuous (e.g. spectrophotometric) and discontinuous (e.g. HPLC) techniques, and advanced data analysis using a mathematical programming environment, preferably Wolfram Mathematica. Experience of working with mathematical models based on ordinary differential equations, and basic understanding of dynamical systems analysis and metabolic control analysis are required. Applicants from South Africa in particular, but African countries in general will receive preference.

Deadline and starting date: Applications for the position must be received by 9 March 2026 at 12h00 (CAT). The starting date will be as soon as possible thereafter.

Application procedure: Submit a detailed CV and academic and publication record, as well as the names of two contactable references, by e-mail to Prof Jacky Snoep (jls@sun.ac.za). Candidates should include a cover letter which highlights the match between their skills and those that are required. Enquiries can be made at the same address.

Note: Postdoctoral fellows are not appointed as employees and as their fellowships are awarded tax free, they are not eligible for employee benefits. The University reserves the right NOT to make an appointment if suitable candidates do not apply.