

Postdoctoral fellowship at the Stellenbosch Photonics Institute, Stellenbosch University

Topic: Laser ionisation techniques for production of ytterbium-176 and zinc-68 medical isotopes

A postdoctoral fellowship is available at the Stellenbosch Photonics Institute, Physics Department, Stellenbosch University. The fellowship is focussed on the laser ionisation techniques for production of ytterbium-176 and zinc-68 medical isotopes. These two isotopes in highly enriched form are important starting materials for production of lutetium-177 and gallium-68 radiopharmaceuticals that are used for cancer treatment and medical scans respectively. The position forms part of a collaboration with industry, ASP Isotopes, and permission will be obtained from the industry partner before publication of results.

Applications are invited for this fellowship for an initial period of one year, which may be renewable for a further one year (two years total) based on satisfactory performance and the availability of funds. The fellowship will be a non-taxable award of R320 000 per annum.

The successful applicant will be involved in the commissioning of a new laser system (continuous wave Nd:YAG laser, two continuous wave ring dye lasers, two pulsed dye amplifiers, a pulsed Nd:YAG laser and a pulsed dye laser) and its application for high spectral resolution resonance ionization spectroscopy and laser ionization scheme development.

Specific requirements: A PhD degree in physics obtained within the past 5 years (or proof that the requirements for the degree have been satisfied). To be considered the candidate must have demonstrable experience in alignment and application of Nd:YAG and dye lasers, second harmonic generation of dye lasers, using optics and polarizing optics for laser beam delivery, resonance ionization spectroscopy, vacuum technology, time-of-flight mass spectrometry, and coding in LABVIEW to control equipment and acquire data.

General requirements for the position: Due to the collaboration with industry the candidate must possess strong communication skills and ability to present results to different audiences. Competencies in time management, teamwork, problem solving, independent thinking, record keeping and management of data and documents will also be required. Successful candidates will be required to be involved in general laboratory operations and in the training and supervision of postgraduate students.

Host: The Stellenbosch Photonics Institute, Physics Department, Stellenbosch University

Eligibility: Applicants from South Africa in particular, and African countries in general, will receive preference.

Deadline and starting date: Applications must be received by 17h00 CAT on Friday, 13 December 2024. The starting date will be from 1 January 2025 or as soon as possible thereafter.

Application procedure: Applicants may apply by email to cmsteen@sun.ac.za before the deadline. Submit a cover letter summarising your background and interests and how your skills match those required for the project. Include a detailed CV and academic and publication record, and the names of two contactable references.

Enquiries can be addressed to Dr Steenkamp (cmsteen@sun.ac.za) or Prof Neethling (pietern@sun.ac.za)

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.