



**Post-doctoral research position:
Navigation, localization, and mapping in underground mines**

Scope of Research:

Stellenbosch University's Electrical and Electronic Department, in partnership with Enaex Africa, seeks a driven postdoctoral researcher to spearhead advancements in subterranean robotics. Based within the esteemed Electronics Systems Laboratory, this role delves into the intricacies of mine tunnel navigation, mapping, localization, and stope face mapping. Core objectives encompass refining algorithms, orchestrating system integration, and pioneering cutting-edge robot control strategies. Additionally, the dynamic nature of this exploration necessitates the development of a robust communication mesh network. To facilitate experimentation, a ROS/Gazebo simulation environment will need to be developed for algorithm validation prior to real-world trials.

Responsibilities:

- Mentorship of MEng and PhD students within the research cohort.
- Direct involvement in testing protocols and system integration.
- Performing independent research and writing up results for international conferences and journals.
- Actively participation in stakeholder engagements.
- Oversight of the research group's GIT Repository.
- Flexibility to partake in mine site visits, including subterranean expeditions.

Requirement:

- PhD in relevant field (must have graduated within the last five years).
- Proficiency in both written and verbal English communication.
- A distinguished track record of scholarly contributions in control systems, robotics, or autonomous navigation.

Commencement of duties: As soon as possible

Closing date: 10 March 2025

Enquiries:

Applications should include a covering letter, curriculum vitae, list of publications, research projects, conference participation and contact details of at least two referees, to cfisher@sun.ac.za. Applicants should request their referees to forward confidential reports by the closing date directly to the same address. Interested applicants are welcome to contact me at the above e-mail address for further information regarding the project.

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 successful applicant will be subject to University policies and procedures. This position will be awarded for one year, with a possibility of extending up to a maximum of three years.