

### **Photocatalysis for hydrogen production**

**Chemical Engineering** (read more [here](#) about the programme and admission requirements)

**Hosts:** Prof Neill Goosen; Mr Zwonaka Mapholi; Ms Naomi Harrisankar de Oliveira

Prof Goosen and co-workers are seeking a motivated candidate to develop, characterize and measure the performance of photocatalysts aimed at hydrogen production. The renewable and sustainable production of hydrogen is seen as a route toward long-term provision of sustainable energy. Direct utilisation of sunlight to produce hydrogen through photocatalysis, either from water or organic molecules like glycerol and ethanol, is a promising pathway for renewable hydrogen production. However, the development of efficient and durable catalysts is key in making this technology viable. This project creates ample space for collaboration with other disciplines, and the candidate should be willing to learn skills that do not form part of the undergraduate Chemical Engineering programme.

The position is for full-time, on campus study at Stellenbosch University and forms part of the wider efforts in making hydrogen technology technically and financially viable within the South African energy landscape. Stellenbosch University is one of the leading research institutions on the African continent and is known for its academic excellence and rich on-campus student experience. If you are independent, curiosity driven, innovative, and willing to work in a multidisciplinary environment, then this exciting position could be yours!

**Commencement:** The successful candidate must assume postgraduate work in January 2025.

**Bursary:** Research and bursary funding has been applied for from a funder, and if successful a bursary of R135,000 will be provided. Candidates that already have their own funding for living expenses and tuition will have an advantage.

#### **Requirements**

- A bachelor's degree (BEng/BScEng or similar) in Chemical Engineering from an accredited tertiary institution. *Candidates with BTech, National Diploma, or advanced diploma qualifications will not be considered.*
- Applicants must have good academic record (preferably with a course aggregate of >65%).
- Previous experience in biocatalysis will be a definite advantage but is not required.
- Preference will be given to **South African citizens and permanent residents** who display academic excellence.

#### **Application**

Interested candidates must provide the following documentation: a cover letter, CV, degree certificate(s), complete academic transcript(s), and contact details of at least three academic references. Applications can be sent to [njgoosen@sun.ac.za](mailto:njgoosen@sun.ac.za) or [zmapholi@sun.ac.za](mailto:zmapholi@sun.ac.za) before **15 November 2024**. Candidates may consider their application unsuccessful if they do not receive any feedback within four weeks of applying.

*Stellenbosch University reserves the right not to fill the position.*