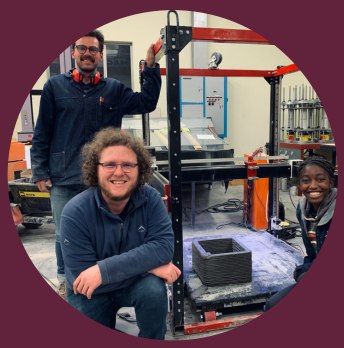

PhD Scholarship at Stellenbosch University in 3D Printed Concrete

Scholarship

- Term: 1 Mar 2023 (or earlier) - 31 Dec 2025
- R180 000 per year for 3 years

  (of which approximately R 30 000 and R60 000 can be expected to be spent on tuition fees and accommodation respectively)

Minimum Requirements

- MEng (Civil/Structural Engineering)
- Proficiency in English (oral and written)
- Capacity to start on 1 March 2023 (or earlier)
- South African

Recommended Experience

- Concrete technology - chemistry, microstructure and durability of cementitious materials
- Physical and experimental research and validation in concrete materials
- 3D concrete printing
- Computational modelling and finite element analysis

Furthermore, applicants must be highly motivated and enthusiastic researchers with excellent team working skills.

Application Details

- CV
- Academic Record
- Links to thesis or published papers
- Supporting letter from current or previous supervisor

Stellenbosch University (SU) is a member of the ERA-MIN RecycleBIM consortium, a multi-national and multi-stakeholder project to create an integrated framework for circularity of raw materials of construction, leveraged on the information wealth brought about by Building Information Modelling (BIM).

SU's focus in this project is 3D printing and new opportunities for circularity, creating an inventory of construction and industrial waste materials with demonstrated compatibility for quality, viable 3D printed concrete (3DPC) structural elements towards high-technological construction circularity.

Main Deliverable: Mix design guidelines for durable 3D printable concrete containing recycled waste.

This project focuses on developing 3D printable mixes from recycled brick and concrete as partial replacement of natural aggregate and low-carbon cement as binder, while preserving the required pumpability, extrudability and buildability properties. . This project also includes cooperation with consortium partner, University of the Western Cape (UWC) in identifying and determining the compatibility and durability of these alternative materials.

Submit applications to Prof John Babafemi by 16 January 2023.
Shortlisted candidates will be contacted for an online interview.

Prof Gideon Van Zijl
gvanzijl@sun.ac.za
021 808 4369

Prof John Babafemi
ajbabafemi@sun.ac.za
021 808 4475

Dr Wibke De Villiers
wdv@sun.ac.za
021 808 4072

www.civeng.sun.ac.za

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT

forward together
sonke siya phambili
saam vorentoe