UNIVERSITY OF PRETORIA

Tlou Mokobodi

1. BIOGRAPHICAL SKETCH

1.1 GENERAL INFORMATION

Surname	Mokobodi										
First names	Tlou Stephen					**ID Number**		9011265365088			
Citizenship	South African					**Title**	Mr.	**Female**		**Male**	X
Place of birth	Polokwane					**Date of birth**		1990-11-26			
Population group	**African**	**X**	**Coloured**		**Indian**		**White**		**Other** *(Please specify)*		
Department	Mechanical and Aeronautical Engineering					**Position**		Lecturer			
Direct Telephone	012 420 5367					**Direct Telefax**					
E-mail	Tlou.mokobodi@up.ac.za										
Date of appointment	2021-01-04					**Permanent full-time**		X	**Temporary full-time**		

1.2 ACADEMIC QUALIFICATIONS OBTAINED

Degree/ Diploma	**Field of study**	**Higher education institution**	**Year**	**Distinctions**
BEng Degree	Mechanical Engineering	University of Pretoria	2013	
BEng Hons Degree	Mechanical Engineering	University of Pretoria	2014	
MEng Degree	Mechanical Engineering: *Designing and developing a free-fall absolute gravity measuring system, using pneumatic actuators.*	University of Pretoria	2017	

1.3 PROFESSIONAL REGISTRATION

Pr Eng	Registration as a Professional Engineer.	Engineering Council of South Africa	2020	Registration Number: 2020-03-05

1.4 ACADEMIC WORK EXPERIENCE TO DATE

Name of employer	**Capacity and/or type of work**	**Period** (mm/year to *m//year)*
NMISA	Studentship (Master Student Researcher)	03/2015 to 12/2016
University of Pretoria	Lecturer	01/2021 to current

1.5 INDUSTRIAL WORK EXPERIENCE TO DATE

Name of employer	**Capacity and/or type of work**	**Period** (mm/year to *m//year)*
Tubecon	Vacation Work Student (Maintenance)	11/2012 to 12/2012
CSIR	Vacation Work Student (Electronics Wiring)	01/2013 to 02/2013
Nampak Bevcan	Trainee Mechanical Engineer (Production line Maintenance team)	01/2014 to 02/2014
Megchem	Assistant Engineer (Piping-Petrochemical)	01/2017 to 03/2018
Megchem	Engineer (Piping-Pretrochemical)	04/2018 to 03/2020
Megchem	Senior Engineer (Piping-Petrochemical)	04/2020 to 09/2020
Lead EPC	Senior Engineer (Drafting, Piping, and Mechanical- Petrochemical)	09/2020 to 12/2020

1.6 NATIONAL SERVICES EXPERIENCE TO DATE

Name of employer	**Capacity and/or type of work**	**Period** (mm/year to *m//year)*
South African National Defense Force (AIRFORCE)	Reserve Force member (Engineering and Support)	01/2013 to current

2. TEACHING ACTIVITIES

2.1 Courses presented

Course	**Level** *(e.g. second year, Masters)*	**Self developed** *(Yes or No)*
Graphical Communication: MGC 110 • 2021 • Manufacturing Section • 900+ Students per semester • Co-Lecturer: Mr. R. Meeser Mr I. Setshedi.	1st Year	Yes
Thermodynamics: MTX 221 • 2021 • Lab Practical Coordinator	2nd Year	Yes

• 449 Students per semester • Co-Lecturer: Prof J Dirker Dr. B Bock		

2.2 Supervisor of the final year projects	
Course	**Topics Supervised**
Research Project MRN 410	• Design, Development, and optimization of the piping layout and reduction of pressure drop on the small-scale solar-dish Brayton cycle.
Design Projects MOX 410	• Design of a solar-powered Rankine cycle.

2.3 Other education and pedagogic courses presented		
Course	**Year**	**Institution**
Practical Training: MPY 315 • Co-Lecturer: Dr. A Oberholster	2021	University of Pretoria
Practical Training: MPY 415 • Co-Lecturer: Dr. A Oberholster	2021	University of Pretoria

3. TEACHING OUTPUTS

3.1 Educational publications and products

Conference abstracts

• Flexible Futures

The need to identify and unify the new stakeholders to facilitate successful decentralized digital teaching and learning in basic and high education.

• EBIT Teaching and Learning Workshop

Decentralizing the academic practical work around the country: The possible collaboration case among the South African universities and higher education institutions.

4. OTHER TEACHING CONTRIBUTIONS

4.1 Membership of national and international bodies

4.2 Visits to local and overseas universities as guest professor or lecturer in regard to teaching

4.3 Participation in national and international teaching associations, bodies, committees

EBIT Curriculum Transformation Committee (University of Pretoria)

Higher Education Leadership and Management Program (HELM)

5. POSTGRADUATE SUPERVISION

5.1 Supervision or co-supervision of students who have completed degrees

Name of student	**Degree/Title of dissertation/ thesis and date completed**	**Supervisor**	**Co-supervisor(s)**	**Duration of studies** *(years)*

5.2 Current post-graduate students

Name of student	**Degree enrolled for and date of first registration**	**Project title**	**Supervisor**	**Co-supervisor(s)**	**Year of registration**

6. RESEARCH FUNDING

6.1 Obtaining research funds *(Optional)*

Origin of research funds *(e.g. contract research, THRIP, international funding organisations, other(s)*	**Title of research project or programme**	**Duration**	**Money allocated (R)** *(Optional - exact amounts not required)*

7. RESEARCH OUTPUTS

7.1 Publications in peer-reviewed or refereed journals

Mokobodi, T., Greeff, P., Kruger, O. and Theron, N.J., Free-fall gravitational acceleration measurement using a pneumatically controlled catch-and-release system in a semi-rotating vacuum chamber, Journal of Metrology and Measurement Sytems, 2018, vol.25, issue 4.

7.2 Books and/or chapters in books

7.3 Published full-length conference papers/keynote addresses

Mokobodi, T., Kruger, O., Hungwe, F. and Theron, N.J., Design and development of free-fall absolute gravity measuring system using pneumatic actuators, Test and Measurement Conference, 2016.
(Full paper & Presentation)

Mokobodi, T., Theron, N.J. Kruger, O. and Veldman, C.S., Measuring free fall gravitational acceleration using optical interferometer on NMISA DFFG-01, Measuring by Light Conference, 2016.
(Full paper & Presentation)

Mokobodi, TS., Mosue, RR., Le Roux, WG. and MEYER, JP.; Thermal Expansion and Flexibility analysis of Compact and High-Temperature Piping Used un a Solar-Dish Brayton Cycle. South African Energy Conference (SASEC2021), Stellenbosch, South Africa, 17-19 November 2021.
(Full paper & Presentation)

7.4 Non-refereed publications or popular articles

7.5 Patents

7.6 Technical reports

- Mokobodi T, Sithole MS: Flexibility analysis of a gas liquor line. Client: SASOL Secunda, South Africa, 2017
- Mokobodi T, Sithole MS: Investigation of broken supports on ammonium vapor Line, Client SASOL Secunda, 2017
- Mokobodi T, Mosue RR; Leak seal clamp evaluation for high-pressure steam Line, Client SASOL Secunda, 2018

7.7 Prototypes

- NMISA DFFG-01: Designing and developing a free-fall absolute gravity measuring system using pneumatic actuators

8. OTHER SCHOLARLY RESEARCH-BASED CONTRIBUTIONS

8.1 Participation in conferences, workshops and short courses - specify type of contribution

Provide full details of participation in national and international conferences etc

8.1.1 National

- Conference presentation: Flexible Futures
- Workshop presentation: Teaching: Anytime -Anywhere

8.1.2 International

8.2 Teamwork and collaboration with others:

Other researchers (national and international)

2021-ST-CHP Project team

Other research institutions (national and international)

Industry

- 2021- Research work with Megchem Piping Engineering_ Flexibility analysis studies on high-temperature piping line on the small scale solar Brayton cycle
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8.3 Membership in national and international bodies

- Professional Engineer Registration with Engineering Council of South Africa (ECSA)

8.4 Visits to local and overseas universities or research institutes as a guest professor or researcher

9. ARTISTIC OUTPUTS (*if applicable*

9.1 Provide full details of artistic outputs, including public reviews of work, coordinating reports by experts in the field, publisher, production company etc.

10. MANAGEMENT AND ADMINISTRATIVE DUTIES

- Marketing and Committee, Student Liaison, Staff Socials, 2021
- MPY 315 and MPY 415 administration, 2021

11. COMMUNITY SERVICE OR PROFESSIONAL SKILLS

11.1 Outreach projects

Village Based Santas – Moletjie

High School learners' outreach – Moletjie

SAIMechE Learners outreach – Secunda

11.2 Professional service performed

Career Captions

11.3 Clinical service

11.4 Involvement with other universities/scientific institutions

11.5 Referee duties

12. AWARDS AND SCIENTIFIC/SCHOLARLY RECOGNITION

12.1 Evaluation status as scientist/scholar

12.2 Research awards and prizes

12.3 Teaching awards and prizes

12.4 Artistic awards and prizes