

# Friday, 5 November

Opening Day

**13:00**

Welcome

*Mohlalakoma Therecia Ngwako*

*10 mins*

**13:10**

Guest Speaker

*Dr Tempest Van Schaik*

*45 mins*

***5 minute break***

**14:00**

**Session 1**

The Social Life of Engineers

Anxiety and Depression in Engineering Students

*Prof. Estelle Trengove and Alessandra Maraschin*

*20 mins*

The Bicultural Life Experiences and Career Orientation of South African Indian Women Engineers

*Vanishree Pillay and Dr. Jenika Gobind*

*20 mins*

# *10 minute break*

**14:50**

## **Session 2**

Disease and Lifestyle

The Impact of Acoustic Features on the Persuasiveness of Covid-19 Lifestyle Speeches: Spectral and Cepstral Features

*Taliya Weinstein and Gershon Koral*

*20 mins*

Nanotechnology innovation - Using carbon nanodots for Drug Delivery in Cancer Therapy

*Khanani Machumele, Dr. Maubane-Nkadimeng and Dr. Maya Makatini*

*20 mins*

A Bioinformatic Approach to mapping the regulatory features affecting PXDN expression in breast cancer.

*Larysha Blondeel*

*20 mins*

# *End of Day 1*

# Saturday, 6 November

Closing Day

**09:00**

**Guest Speaker**

*Dr Maletšabisa Molapo*

*55 mins*

***5 minute break***

**10:00 Session 3**

Telecommunications

Investigating Two-Mode Mode Diversity with Laguerre-Gaussian and Hermite-Gaussian Modes in Free Space Optical Communication Systems

*Alice Drozdov and Dr. Mitchell Cox*

*20 mins*

Hacking Gigabit Ethernet for Wireless Optical Signal Analysis

*Victoria Bench and Blake Denham*

*20 mins*

Household WiFi Extender Design using a Bowtie Antenna

*Susana De Abreu*

*20 mins*

# Physical Layer Security with NOMA in Mixed RF/FSO Systems

*Amani Alged Fetaha Osman*

*20 mins*

***10 minute break***

**11:30 Session 4**

Lightning

An Investigation into Lightning Initiated Fires in the Western and Eastern Cape

*Nonkululeko Milliah Ripinga*

*20 mins*

Using Machine Learning to Identify Depictions of Lightning in Paintings

*Sansha Gupta and Jason Ziemons*

*20 mins*

**12:10 Lunch Break**

60 mins

**13:30**

Guest Speaker

Dr. Michèle Ramsay

*55 mins*

***5 minute break***

**14:30**

## **Session 5**

Environment

Data-Driven Sensitivity Mitigation Techniques for Genetic Algorithm - Long Short Term Memory Water Quality Prediction Model

*Dhruti Dheda*

*20 mins*

Kinetic Study on Methane and CO<sub>2</sub> Hydrates in Nanoparticles: Application in CO<sub>2</sub> capture

*Saeideh Babae*

*20 mins*

***10 minute break***

**15:20**

## **Session 6**

Transport and Infrastructure

Bus Tracking System

*Kuhlekonke Sithole, Kgomotjo Tsheoga, Sibonelo Madonsela, Itumeleng Tsheoga and Tiisetso Leshilo*

*20 mins*

Lie Derivative based Input-Output Feedback Linearization for a Linear DC Machine Haulage Trolley

*Mohlalakoma Ngwako and Dr Otis Nyandoro*

*20 mins*

The Use of Digital Image Correlation in the Assessment of in-service Concrete Damaged by Alkali Silica Reaction in Johannesburg

*Janina Prakash Kanjee, Prof. Yunus Ballim and Prof. Mike Otieno*

*20 mins*

## *20 minute break*

**16:40**

Closing Ceremony and Prize Giving

*Prof. Estelle Trengove and Jessica Breakey*

*1 hour*

***End of Day 2 &  
Conference***