

# 2024 Stellenbosch Engineering Industry Showcase



**THURSDAY, 23 MAY 2024**

08:30-17:30

Century City Conference Centre

# Stellenbosch Engineering Industry Showcase

## Thursday, 23 May 2024



Stellenbosch  
UNIVERSITY  
IYUNIVESITHI  
UNIVERSITEIT

Engineering  
EyobuNjineli  
Ingenieurswese

08:30 – 09:30

Arrival, Registration, Coffee/Tea

09:30

**Welcome and Faculty Overview**  
Prof Celeste Viljoen, Acting Dean

09:50

**Innovation and Western Cape Competitiveness**  
Ms Wrenelle Stander, Chief Executive Officer: Wesgro

10:00

**Keynote Address**  
Alderman Geordin Hill-Lewis, Mayor of the City of Cape Town

Session 1

Session 2

Energy

Automation and the  
Interconnected World

CHAIR: PROF RICHARD WALLS

CHAIR: PROF HERMAN ENGELBRECHT

10:30

**Planning for Electric Mobility in Sub-Saharan Africa**  
Prof Thinus Booysen

**Autonomous Control of Vehicles**  
Dr Callen Fisher

10:50

**Thermal Systems Modelling**  
Prof Pieter Rousseau

**Digital Twins for Complex Systems**  
Prof Anton Basson

11:10

**Energy Systems Research at Stellenbosch University**  
Prof Mike Owen

**Spatial Internet of Things**  
Prof Herman Engelbrecht

11:30

**Fire Safety for Green Energy: Battery, Solar and Hydrogen Risks**  
Prof Richard Walls

**Wide Area Communication Options in the SKA Radio Astronomy Region**  
Prof Riaan Wolhuter

11:50

**Geospatial Capacity Allocation of Renewable Energy Generation and Storage of Optimised Support of the South African Grid**  
Dr Chantelle van Staden

**Shaping Tomorrow: Engineering Management's Role in Cultivating Future-Ready Professionals**  
Prof Taryn Barnard

12:10

**Inverting Loadshedding with Solar PV and Battery Storage**  
Dr Arnold Rix

**Biomedical Research**  
Prof Kristiaan Schreve

12:30

Lunch

Session 3

Transportation

CHAIR: PROF JOUBERT VAN EEDEN

Session 4

Application of Machine Learning for Improved Industrial Processes

CHAIR: DR RENSU THEART

13:30	<b>Taking First Steps Toward Sustainable Road Freight</b> Prof Joubert van Eeden	<b>Recommended for you: What Chemical Engineering Can Learn from Netflix</b> Dr Jamie Cripwell
13:50	<b>Innovative Traffic Data Sources for South Africa</b> Dr Megan Bruwer	<b>Image Processing: From Virtual Reality to Deep Learning</b> Dr Rensu Theart
14:10	<b>Gibela Rail Projects</b> Prof Annie Bekker	<b>Pattern Recognition for Data Science</b> Prof Mandla Gwetu
14:30	<b>Health Monitoring of the SA Agulhas-II Propulsion Shaft</b> Prof Nico de Koker	<b>The Science of Better</b> Dr Philip Venter

14:50 **Coffee/Tea**

Session 5

Environmental Impact of Engineering

CHAIR: PROF CHRISTIE DORFLING

Session 6

Manufacturing and Materials

CHAIR: PROF JOHN BABAFEMI

15:20	<b>Engineers as Agents to Avoid Environmental Disasters</b> Dr Charles MacRobert	<b>Building Affordable Housing using 3D Concrete Printing</b> Dr Jacques Kruger
15:40	<b>Waste Valorization for a Circular Economy</b> Mr Zwonaka Mapholi	<b>Recycled Construction Materials</b> Prof John Babafemi
16:00	<b>Bioprocesses for a Sustainable World</b> Prof Eugene van Rensburg	<b>Building Your Competitive Capabilities in Manufacturing Through University Cooperation – Focus on Metals</b> Prof Nawaz Mahomed
16:20	<b>Metal Production for Secondary Resources</b> Prof Christie Dorfling	<b>Very Efficient Yield Estimation of the Microwave Performance of Very High-Accuracy Machined Parts</b> Dr Werner Steyn
16:40	<b>Electrical Machine Technology: Innovations and Applications</b> Dr Nkosinathi Gule	<b>Structural Analysis</b> Prof Martin Venter

17:00 **Closing**

17:30 **Cocktail Function**

# Contact Details

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