



AERONAUTICAL SOCIETY OF SOUTH AFRICA

Aeronautical Society of South Africa NPC

Registration number: 2000/026325/08

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A DIVISION OF THE ROYAL AERONAUTICAL SOCIETY

Wednesday, 23 July 2025

Venue: CSIR ICC, Ruby Auditorium

08:00 – 09:00

WELCOME AND REGISTRATION

Session Chair: **Michael Atkins**

09:00 – 09:15

**Opening
Address**

AeSSA President: **Michael Atkins**

09:15 – 10:00

Keynote

Paul Potgieter (FlySafair)

10:00 – 10:30

**Technical
Session**

Evaluating the Performance of a Follower Wing
in Extended Formation Flight Using the Power Balance
Method

Ryan Raubenheimer

10:30 – 11:00

**Technical
Session**

Assessing the Maturity of AI-Driven Cybersecurity
in Modern Aviation

Oludolapo Ogunfowora

11:00 – 11:30

TEA BREAK

Session Chair: **Glen Snedden**

11:30 – 12:00

**Technical
Session**

Urban Air Mobility: Regulatory Pathways and
Readiness for Integration in South Africa

Hlamulo Ndlovu

12:00 – 12:30

**Technical
Session**

High-Lift Coaxial UAVs for Africa's Aerospace Leap:
A Low-Cost, High-Impact Solution

Selby Nyamande

12:30 – 13:00

**Technical
Session**

High-Fidelity Modeling for an Actively Controlled
Launch Vehicle

Jonathan van der Riet

13:00 – 14:00

LUNCH

Session Chair: **Marié Botha**

14:00 – 15:00

Keynote

James Barrington-Brown (Newspace Systems)

15:00 – 15:30

**Technical
Session**

Design of a Flight Weight Pressure Regulator
for Pressurization of Propellant Tanks on
Commercial Space Launch Vehicles

Sanele Msomi

15:30 – 16:00

**Technical
Session**

Development of a Liquid Rocket Engine Propellant
Control Valve

Mario Mouzouris

16:00 – 16:30

**Technical
Session**

Development of a Test Rig to Evaluate Coking of
Kerosene-Type Fuels

Prince Ngomane

16:30 – 17:00

**Technical
Session**

The Effect of Roughness on Pressure Drop
within Additively Manufactured Thrust Chamber
Cooling Channels

Mathew Reynolds

17:00

END OF DAY 1

Thursday, 24 July 2025
Venue: **CSIR ICC, Ruby Auditorium**

08:00 – 09:00

COFFEE AND TEA

Session Chair: **Johan van der Spuy**

09:00 – 10:00

Keynote

Brian Emmenis (Capital Sounds International Broadcast)

10:00 – 10:30

Technical Session

The Integration of a Mixed-Flow Impeller with a Crossover Diffuser into the CAT250TJ Micro Gas Turbine Engine

Bennie Greyling

10:30 – 11:00

Technical Session

Manufacturing and Testing a Power Turbine for a Micro Gas Turbine Engine

Alexander Greyling

11:00 – 11:30

TEA BREAK

Session Chair: **Glen Snedden**

11:30 – 12:00

Technical Session

Solid Rocket Motor Design Process at RDM

Dr René Heise

12:00 – 12:30

Technical Session

Rearranging the Airliner Cabin in a Shorter, Wider Fuselage

Dr Reinhard Joachim Huyssen

12:30 – 13:00

Technical Session

CFD Methodology and Techniques for Aircraft Design

Dylan Fentham

13:00 – 14:00

LUNCH

Session Chair: **René Heise**

14:00 – 14:30

Technical Session

Pioneering Hydrogen Propulsion in South African UAVs: A Hardware in the Loop Simulation Approach

Purusha Naidoo and Dr Bright Ndebele

14:30 – 15:00

Technical Session

Generating AI Ready Aerodynamic Datasets via Refinable B-Splines and Regulatory Aligned Coverage Metrics

Timothy James Adrian King

15:00 – 15:30

Technical Session

Distributed Electric Propulsion on a Joined-Wing Air-Taxi

Dr Sjouke Schekman

15:30 – 16:30

Technical Session

From TMTC to Maritime Intelligence: Evolving a Small Satellite SDR Platform into a Payload-Class System for MDA Applications

Dr Ewald van der Westhuizen

16:30 – 17:00

Technical Session

Development of an Affordable Radio Frequency Direction-Finding Antenna Solution for a Mobile Drone-Based Platform

Louwrens Prinsloo

17:00

END OF DAY 2 AND COCKTAIL FUNCTION

Friday, 25 July 2025
Venue: **CSIR ICC, Ruby Auditorium**

08:00 – 09:00

COFFEE AND TEA

Session Chair: **Glen Snedden**

09:00 – 09:30

Technical Session

Development of an Autonomous Thermal Soaring Controller for Improved UAV Range and Endurance Capabilities

Crispin McKenzie

09:30 – 10:00

Technical Session

Advanced Manufacturing Techniques for a Lightweight Commercial VTOL UAV

Chris Adrian

10:00 – 10:30

Technical Session

Metal Additive Manufacturing of Airborne Observation System Components

Nkutwane Washington Makoana

10:30 – 11:00

TEA BREAK

Session Chair: **Michael Atkins**

11:00 – 11:30

Technical Session

AISI Supported Project: On-Track Technologies

On-Track Technologies

11:30 – 12:00

Technical Session

Developing Unmanned Aircraft Sandboxes in South Africa

Tshegofatso Teane

12:00 – 12:30

Technical Session

Can Bow Shocks Exist in the Low Subsonic Flight Range?

Dr Irshaad Mahomed

12:30

CLOSING