



AERONAUTICAL SOCIETY OF SOUTH AFRICA

Aeronautical Society of South Africa NPC

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A DIVISION OF THE ROYAL AERONAUTICAL SOCIETY

Thursday, 27 July 2023

Venue: CSIR ICC, Ruby Auditorium

8:00	08:30	Welcome and Registration	
Session Chair: Marié Botha			
08:30	08:45	Opening Address: AeSSA President	Marié Botha
08:45	09:30	Keynote Address: Systems Engineering – A Journey	Sarel Lotz
09:30	09:50	Performance of a Scaled-Down Landing Gear Nose Wheel Fork Produced in Ti6Al4V	Lehlohonolo Monaheng
09:50	10:10	Natural Dominant Aircraft Configuration for the Airliner	Joachim Huyssen
10:10	10:30	Diving into the "Known": A Flight Test report on a Popular Kit Aircraft	David B. S. Toma
10:30	10:50	Tea Break	
Session Chair: Glen Snedden			
10:50	11:10	Unlocking Flight Secrets: Extracting Aerofoils from Grey-headed Albatrosses	Janine Schoombie
11:10	11:30	Experimental Performance Study of Semi-flexible Oscillatory Pitching Wings	Uma Pereira Krige
11:30	11:50	AISt: Development of a Lightweight Commercial VTOL UAV	Benjamin A. Broughton
11:50	12:10	Preventing and Responding to Criminal Activities in Cities by using Aerospace Tools	Mzwakhe Ngavashe
12:10	12:30	AISt: Sentian Drone	Nigel Nkundhlande
12:30	12:50	Optimal Control Allocation of an Unmanned Aerial Vehicle	Jeduthun M. Oosthuis
12:50	13:10	AISt: Design and Development of a Near Vibrationless Aircraft Engine	Uys Jonker
13:10	14:00	Lunch	
Session Chair: Gary Corderley			
14:00	14:20	Improved Particle Deposition Performance for Cold Spray Processes	Aliah Abrahams
14:20	14:40	Mechanical and Compatibility Properties of Al 2024 Coated with Al Alloy 6061	Takunda Maunganidze
14:40	15:00	Corrosion Behaviour of Conventional Aluminium Alloy 7075 Processed by LSP	Natsai Shonhai
15:00	15:20	Investigating the Cold Spray Fabrication of the Protective Mesh on Aeroplanes	Wisani Hlungwana
15:20	15:40	Tea Break	
Session Chair: Michael Brooks			
15:40	16:00	Cold Flow Testing of a Mobile Liquid Rocket Engine Test Facility	Ryan Cooper
16:00	16:20	Hot-Fire Testing Overview: 18kN Ablatively Cooled Blowdown Liquid Rocket Engine	Duran Martin
16:20	16:40	Preliminary Analysis of Potential Sounding Rocket Missions from South Africa	Rylan Odayan
16:40	17:00	Electric Pump Optimization using CFD, Artificial Neural Networks & Genetic Algorithms	Vedanth Reddy
End of Day 1			

Friday, 28 July 2023

Venue: CSIR ICC, Ruby Auditorium

8:00	08:45	Arrival, Coffee and Tea	
Session Chair: Johan van der Spuy			
08:45	09:30	Keynote Address: Gun Armament Development for Rooivalk	Tony Neophytou
09:30	09:50	Using CFD to Determine the Influence of Elasticity on Wing Lift Distribution	Bathabile Buda
09:50	10:10	Design of Thrust Vectoring System for Remotely Piloted VTOL Fixed-wing Aircraft	Uchenna Okwuosa
10:10	10:30	2D URANS CFD Analysis of High-Performance Sailplane Airbrakes	Tinus Potgieter
10:30	11:00	Tea Break	
Session Chair: Jean Pitot			
11:00	11:20	AISt: Design and Processing of Metal Additive Manufactured Aerospace Parts	Gerrie Lombaard
11:20	11:40	2023 Phoenix Hybrid Rocket Launch Campaign Overview	Phillip Gyasi-Agyei
11:40	12:00	Considerations in the Design of Injectors for Use with Gelled Propellants	Thabang Mdhuli
12:00	12:20	Performance Comparison of Gas Generator & Electrically Pumped Rocket Engines	Jordan Silver
12:20	12:40	Characterization of Compression-Moulded Ablative Rocket Engine Materials	Celimpilo Damane
12:40	13:00	Testing of the Phoenix-1C Hybrid Sounding Rocket Payload Module	Mthobisi Tshomela
13:00	14:00	Lunch	
Session Chair: Michael Atkins			
14:00	14:20	Performance Analysis of a Micro Gas Turbine Engine using CFD	Johan van der Spuy
14:20	14:40	Understanding the Aerodynamic Behaviour of Rotating Axial Flow Fan Blades	Adam Venter
14:40	15:00	An Aerodynamic CFD Analysis of Inlet Swirl in a Micro-Gas Turbine Combustor	Bronwyn Meyers
15:00	15:20	Design Process: Conversion of a Micro Gas-Turbine Engine to a Turboshaft Configuration	Johan van der Spuy
15:20	15:40	The Macrobat Personal Aerial Vehicle	Vivek Singh
15:40	15:50	Conference Closing: AeSSA Vice-President	Glen Snedden
15:50	17:00	Cocktail Function	