

Wednesday, 2 April 2025

Time	Activity
08:15 – 09:00	Registration
09:00 – 09:30	Opening address: Dr Robin Drennan , Director of DVC: Research and Innovation, University of the Witwatersrand
09:30 – 10:30	Plenary: Jan Nordstrom Title: Linear and Nonlinear Boundary Conditions: What's the difference? Chair: Olumuyiwa Otegbeye
10:30 – 11:00	Tea break - MSB UG floor
Session 1 Chair: Olumuyiwa Otegbeye	
11:00 – 11:30	Carel Olivier <i>Comparing different numerical schemes for the 1D heat equation</i>
11:30 – 12:00	Emma Nel <i>Laguerre spectral collocation with improved stability</i>
12:00 – 12:30	Yusuf Tijani <i>Sensitivity and numerical simulation of unsteady reactive hydromagnetic Eyring-Powell flow in a non-horizontal channel</i>
12:30 – 13:00	Mpho Mendy Nefale <i>Overlapping Multi-Domain Paired Quasilinearization Method for the Solution of the MHDWilliamson-Nanofluid Flow Over an Exponentially Stretching Surface</i>
13:00 – 14:00	Lunch - MSB UG floor
Session 2 Chair: Matthews Sejeso	
14:00 – 14:30	Arsene Tasse <i>From COVID-19 to Post-COVID-19 Condition: A Modelling Approach with Mathematical Formulation of Follow-up Strategies</i>
14:30 – 15:00	Nkululeko Qwabe <i>Mathematical Perspective into the p53 Protein on the Expression of the Transcription Factor E2F in CycD/Cdk4(6) Subsystem</i>
15:00 – 15:30	Mokiri Mathews Nkwana <i>Solving higher order Korte De Vries equations using multi-domain spectral collocation method</i>
15:30 – 16:00	Mathibele Nchabeleng <i>A similarity solution for a pre-existing fluid driven fracture in a permeable rock</i>
16:15 – 16:30	Photo session
17:30 – 20:00	Welcome cocktail - MSB UG floor

Thursday, 3 April 2025

Time	Activity
09:00 – 10:00	Plenary: Abdul Kara Title: Symmetries & Conservation Laws of differential equations - alternate approaches and extensions Chair: Erick Mubai
Session 3 Chair: Erick Mubai	
10:00 – 10:30	Frank Smuts <i>Complex Travelling Waves of the Ablowitz-Ladik Equations</i>
10:30 – 11:00	Jessica James <i>Planar Integrable Systems Associated with the $sl(3,C)$ Algebra</i>
11:00 – 11:30	Tea break - MSB UG floor
11:30 – 12:00	Mulweli Mudau <i>Overlapping multi-domain simple iteration approach for solving ordinary differential equation</i>
12:00 – 12:30	Nancy Mukwevho <i>A pseudospectral method for time-fractional PDEs with shifted Chebyshev and Lagrange interpolating polynomials on overlapping decomposed domains</i>
12:30 – 13:00	Yusuf Tijani <i>Adaptive multidomain numerical solution for singularly perturbed fractional differential equation: Chebyshev pseudospectral method</i>
13:00 – 14:00	Lunch - MSB UG floor
14:00 – 15:00	Plenary: Inger Fabris-Rotelli Title: Spatial Linear Networks in Applications Chair: Kendall Born
Session 4 Chair: Kendall Born	
15:00 – 15:30	Andre Weideman <i>Computation and applications of Fourier-Pade Approximation</i>
15:30 – 16:00	Nick Hale <i>Optimal node selection for summation-by-parts formulations on general function spaces</i>
19:00 – 21:00	Conference dinner - Hofmeyr House

Friday, 4 April 2025

Time	Activity
09:00 – 10:00	Plenary: Ashleigh Hutchinson Title: Going with the flow: Integrating lab experiments into mathematical modelling Chair: Gideon Fareo
Session 5 Chair: Gideon Fareo	
10:00 – 10:30	Nic van Rensburg <i>Modeling planar motion of beams, cables, hoses and wires</i>
10:30 – 11:00	Madelein Labuschagne <i>Finite element analysis of rod vibration models</i>
11:00 – 11:30	Tea break - MSB UG floor
11:30 – 12:00	Aletta Jooste <i>Zeros of orthogonal polynomials and the polynomials associated to them</i>
12:00 – 12:30	Khutsang Kanapi <i>Exploring the Propagation Properties of Lee Waves: From Phase Velocity to Critical Layer Interactions</i>
12:30 – 13:00	Erick Mubai <i>Two-dimensional turbulent thermal momentumless wake</i>
13:00 – 13:30	David Mason <i>The aerodynamics of wind turbine blades</i>
13:30 – 13:40	Closing Remarks
13:40 – 14:30	Lunch - MSB UG floor
Departure	