



6th ATMRESET WORKSHOP: Discussion Workshop on Numerical Methods and Machine Learning on Atmospheric Science

18 Sept (09h00 – 17h00) & 19 Sept 2023 (09h30 – 13h30)

Physics Seminar Room, 3rd Floor, H-Block, University of KwaZulu-Natal Westville Campus and online

PROGRAMME

18 September 2023

09:00 – 10:00	Arrival
10:00 – 11:00	<i>Introduction to workshop and a brief overview of Atmospheric Research at UKZN</i> Prof Sivakumar Venkataraman
11:00 – 11:30	<i>Artificial Neural Network Application in Atmospheric Research</i> Dr Onyeuwaoma Nnaemeka and Dr Mahesh Bade (University of KwaZulu-Natal)
11:30 – 12:00	<i>Comparison of Pattern Recognition Methods to represent Teleconnection</i> Dr Pushpa Pandey (University of KwaZulu-Natal)
12:00 – 12:30	<i>Use of downscaling techniques to regionalize the impact of climate variability on variable renewable energy sources (solar, wind) over complex terrain topography</i> Dr Beatrice Morel and Dr Chao Tang (University of Reunion Island, Reunion)
12:30 – 13:30	Lunch Break
13:30 – 14:00	<i>Photo Session (Physical & Online – Keep your camera on)</i>
14:00 – 15:00	<i>Variability analysis of observational time series: An overview of decomposition methods for non-stationary and noisy signals</i> Dr Olivier Delage (University of Reunion Island, Reunion).
15:00 – 16:00	<i>Signal Decomposition Based Hybrid LSTM Models for Time Series Forecasting</i> Dr Nkanyiso Bongumusa Mbatha (University of Zululand)
16:00 – 17:00	<i>Modelling Extreme Weather Conditions using Decomposition Method</i> Dr Willard Zvarevashe (Higher college of Technology, UAE)

19 September 2023

09:30 – 10:00	<i>Using Google Earth Engine for Air Quality Studies</i> Dr Lerato Shikwambana (SANSA, Pretoria)
10:00 – 10:30	<i>Early detection of forest wildfires saves millions of tons in CO2 emissions and billions in value: A satellite survey in South Africa</i> Prof M.J. Kosch and G. Hough (SANSA, Hermanus)
10:30 – 11:00	<i>Monitoring a Free-Space Quantum Communication Channel using Machine Learning</i> Dr Yaseera Ismail (University of KwaZulu-Natal)
11:00 – 11:30	<i>An approach for analyzing complex dynamics: The global modelling</i> Dr Olivier Delage (University of Reunion Island, Reunion)
11:30 – 12:30	Way forward and discussion
12:30 – 13:30	Lunch

ZOOM LINK: <http://bit.ly/44NVnO2>

