





RMetS Early Career & Student Conference Programme 1 & 3 July 2024

Monday 1 July

- 12.00 Registrations, Refreshments & Ice Breaker
- 13.00 Welcome and Opening Address Prof Liz Bentley, CEO, Royal Meteorological Society and Met Office
- 13.15 Malcolm Walker Award Winning Lecture: How do MJO Teleconnections Vary in Time?

Daniel Skinner (he/him), Senior Research Associate, Climate Research Unit, University of East Anglia

Session 1: Weather and Climate Predictions

Chair: Daniel Williams, University of Exeter and Conference Committee Member

13.45 Decadal Predictability of Surface Variables over Europe and Relevance for the Energy Sector

Ben Hutchins (he/him), PhD Student, Department of Meteorology, University of Reading

- 14.00 Exploring Physics-Dynamics Coupling with Moist Shallow Water Models Nell Hartney (she/her), PhD Student, University of Exeter
- 14.15 Seasonal Forecasting of the European North-West Shelf Seas: Limits of winter and summer sea surface temperature predictability

 Jamie Atkins (he/him), PhD Student, University of Exeter
- 14.30 Wave and Wind Ensemble Forecasting with a Regional Coupled System Vivian Fraser-Leonhardt, Industrial Placement - Regional Coupled Modelling, Met Office
- 14.45 Refreshment and Networking Break

Session 2: Applications

Chair: Kanzis Mattu, University of Strathclyde and Conference Committee Co-Chair

15.30 How does the Met Office Knowledge Integration Team get Climate Science into Government?

Rebecca Sawyer (she/her), Foundation Climate Scientist, The Met Office

15.45 **Modelling the Carbon Sequestration of the UK Afforestation under Future Climate using JULES-RED**

Dr Hsi-Kai Chou, Research Associate, University of Exeter

16.00 Global Distribution of "Dark Doldrums"

Tabea Rahm (she/her), Doctoral Researcher, GEOMAR Helmholtz Centre for Ocean Research Kiel

16.15 **An Examination of Climate Sensitive Diseases - A Case of Malaria in Ghana** Ekuwa Adade (she/her), Doctoral Researcher, Brunel University London

















16.30 Influence of Weather Regimes on European Winter Energy Demand and Renewable Generation

Emmanuel Rouges (he/him), Postdoctoral Research Assistant, Department of Meteorology, University of Reading

- 16.45 Launch of Photographic Competition
- 17.00 Opportunity to view the Posters or Free time
- 17.45 Close of Day 1
- 18.30 Coaches to the Evening Activities
- 19.00 Evening Dinner and Quiz at the Rougemont Hotel, Exeter
- 22.30 Close of Evening Event

Tuesday 2 July

09.00 **Welcome Day 2**

Simon Brown, Services Director, Met Office

Session 3: Atmospheric Dynamics

Chair: Regan Mudhar, University of Exeter and Conference Committee Member

- 09.10 Clouds and Seasonality on Terrestrial Planets with Varying Rotation Rates Daniel A. Williams (he/him), PhD Student, University of Exeter
- 09.25 Exploring the Dynamics of UK Summertime Convective Storms: Insights from the Wessex Convection Experiment (WesCon) 2023
 Aoife McQuaid (she/her), Convective Storm Research Industrial Placement, Met Office, University of Edinburgh
- 09.40 **Quantifying Risk of a Noise-Induced AMOC Collapse**Ruth Chapman (she/her), PhD Researcher, University of Exeter and Met Office
- 09.55 Tracking Mesoscale Convective Systems Over South America in Convective-Permitting Model Simulations

Harriet Gilmour (she/her), PhD Student, University of Exeter

10.10 Idealised Modelling of Vertical Transport by Convective overshoots in the Tropical Tropopause Layer

Charles Powell (he/him), PhD Student, Department of Applied Mathematics and Theoretical Physics (DAMTP), University of Cambridge

- 10.25 Refreshment and Networking Break
- 11.20 Panel Discussion: Opportunities and Challenges of Science Communication Panel Session

Prof Liz Bentley (she/her), Chief Executive, Royal Meteorological Society Tristan Cann, Postdoctoral Research Fellow, University of Exeter Kanzis Mattu (she/her), PhD Researcher, University of Strathclyde

















Charlie Powell, Weather Presenter, ITV West Country Kit Marie Rackley (she/they), Climate Ambassadors and Schools Climate Hub Regional Coordinator (East of England), Tyndall Centre for Climate Change Research, University of East Anglia

12.20 Lunch

Session 4: Atmospheric Chemistry

Chair: Eve Grant, University of York and Conference Committee Member

13.40 Evaluating Disparities in Air Pollution as a Function of Ethnicity, Deprivation and Sectoral Emissions in England

Nathan Gray (he/him), PhD Student, University of York

- 13.55 Gas Ash-Particle Separation and the Role of Aggregation in Volcanic Plumes Jack Campbell (he/him), PhD Student, University of Cambridge
- 14.10 Novel Approaches to Observationally Constrain Aerosol Effects in Climate Models

Léa Prévost (she/her), Postgraduate Researcher, University of Leeds

14.25 Has Imposing Stricter Limits on Marine Fuels Inadvertently Boosted Global Warming?

George Jordan (he/him), Foundation Scientist, Met Office

- 14.40 Refreshments
- 15.20 L F Richardson Award Winner 2023 Lecture
 Indian Summer Monsoon and East African October to December Rainy SeasonMajor Drivers and Improved Predictability

Dr Indrani Roy (she/her), Honorary Associate Professor, Earth Science Department, University College London

15.55 Keynote Talk: How OpenWeather Inspire Talents to Create Innovative and Sustainable Projects

Olga Buskin (she/her), Head of People, Culture and Sustainability, OpenWeather Dannil Mintc, Science Community Lead, OpenWeather

- 16.25 OpenWeather Challenge Winner Announcement
- 16.45 Poster Session 1 and Early Careers of Colour Network Launch
- 18.15 Networking event at The Met Office
- 20.00 Close of Day 2

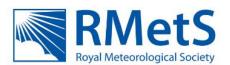
















Wednesday 3 July

09.00 Welcome Back

Session 5: Al and Statistics

Chair: Nathan Creaser, Met Office and Conference Committee Member

09.05 Using Unsupervised Machine Learning to Understand Drought Severity in Urban Vegetation

Naya Desai (she/her), PhD Student, University of Birmingham

09.20 Emulation of Sub-Grid-Scale Atmospheric Turbulence in a Large Eddy Simulation using Deep Learning

Sambit Kumar Panda (he/him), PhD Student, Department of Computer Science, University of Reading

- 09.35 **Machine Learning Sub-Grid Variability to Perturb Parameterisations**Helena Reid (she/her), Modelling Scientist in Machine Learning, Stochastic Physics & Ensembles, Met Office
- 09.50 A Graph Neural Network Emulator for Greenhouse Gas Emissions Inference Elena Mayoral (she/her), PhD Student, University of Bristol
- 10.05 Correlation of Wind and Precipitation Annual Aggregate Severity of European Cyclones

Toby P. Jones (he/him), PhD Student, University of Exeter

10.20 Refreshments

Session 6: Observations

Chair: Ashar Aslam, University of Leeds and Conference Committee Co-Chair

- 10.55 **Towards a Blended Satellite-Station Sunshine Duration Dataset for the UK**Josh Blannin (he/him), Foundation Climate Observation Scientist, Met Office
- 11.10 Improving Hydrological Forecasts Along the Nile: An in-depth analysis of the different satellite precipitation products over Uganda for the period 2018-2022 Douglas Mulangwa (he/him), PhD Researcher; Hydrologist, University of Reading, UK and Assessment, Directorate of Water Resources Management, Ministry of Water and Environment, Uganda
- 11.25 Automated Weather Impact Data Collection
 Lucy Seabourne (she/her), Weather Impacts Industrial Placement, Met Office
- 11.40 Indonesia's Extreme Rainfall: A sub-daily, observational analysis of spatiotemporal patterns

Imaduddin S. Faalih (he/him), PhD Student, Newcastle University

- 11.55 Poster Session 2
- 13.15 Lunch

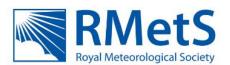
















Session 7: Hazards

Chair: Toby Jones, University of Exeter and Conference Committee Member

- 14.30 Emerging River Flow and Hydrological Drought Trends in Great Britain Wilson Chan (he/him), Hydroclimatologist, UK Centre for Ecology & Hydrology
- 14.45 **Transitions in UK Hydrological Extremes**Rachael Armitage (she/her), Hydrological Analyst, UK Centre for Ecology & Hydrology (UKCEH)
- 15.00 Statistical and Deep Learning Approaches to Identifying Dry Intrusion Outflows Owain Harris (he/him), PhD Student, University of Exeter
- 15.15 Characterising Cold-Wet and Cold-Dry Compound Events in the United Kingdom
 Kanzis Mattu (she/her), PhD Researcher, University of Strathclyde
- 15.30 Convective Environment of Severe Hail and Tornado Producing Storms in the United Kingdom
 Henry Wells (he/him), Doctoral Researcher, Department of Geography and Environment, Loughborough University
- 15.45 Closing Remarks and Prize Winners Announcements
- 16.00 Close of Conference







