



RMetsS Student & Early Career Scientists Conference 2022

4th & 5th July, University of Manchester

Sunday 3rd July

18.00 Ice Breaker

Monday 4th July

08.30 Registrations, Refreshments & Ice Breaker

09.00 Welcome and Opening Address

Liz Bentley, CEO, Royal Meteorological Society

Session 1: Tropics, Subtropics and Teleconnections

Chair: Ned Williams, Student Conference Committee Member

09.10 Decadal Variability of the Extratropical Response to the Madden-Julian Oscillation

Daniel Skinner, PhD Student, Centre for Ocean and Atmospheric Sciences, School of Mathematics, University of East Anglia

09.25 *Deep Learning for Tropical Cyclone Nowcasting: Experiments with Generative Adversarial and Recurrent Neural Networks*

Theo Xirouchaki, Foundation Scientist, Met Office

09.40 Non-linearity in the Extratropical Teleconnection to ENSO and the QBO

Amber Walsh, PhD Researcher, University of Exeter

09.55 The Anomalous Charge Structure of Thunderstorms during Monsoon over India

Rakesh Ghosh, Junior Research Fellow, Indian Institute of Tropical Meteorology

10.10 **Regional Climate Models: Assessing the representation of the ENSO cycle and its impacts on coffee production and climate in Colombia*

Katie Hodge, Foundation Applied Scientist, Met Office

10.25 Refreshments and Networking

Session 2: Observations

Chair – Tim Banyard, Student Conference Committee Member

10.55 Hail Accumulation Layers in Europe

Faye Hulton, Postgraduate Research Student, The University of Manchester

11.10 Estimating the Impact of Historical Thermometer Exposures on Early Instrumental Temperature Data

Emily Wallis, Postgraduate Research Student, Climatic Research Unit, University of East Anglia

11.25 Comparing Gravity Waves in a High-Resolution Model to AIRS Satellite Observations

Emily Lear, PhD Student, University of Bath

- 11.40 ***How does a Volcanic Eruption Produce a Meteotsunami?**
Clare Lewis, PhD Student, University of Reading & Plymouth Marine Laboratory
- 11.55 **Towards Homogenisation of Manual Snow Depth Series**
Moritz Buchmann, PhD Student, WSL Institute for Snow and Avalanche Research SLF, Davos and Oeschger Centre for Climate Change Research, University of Bern, Switzerland
- 12.10 **Malcolm Walker Award Presentation**
- 12.40 Launch of the Conference Photographic Competition
- 12.45 Lunch
- 13.45 **Keynote Session: Communications**
- A panel discussion on Communication and Networking in a Post-Covid World. Each speaker will introduce themselves, giving a brief overview on their work. The floor will then open for questions. The panellists are –
- Simon Clark, @simonoxfphys
Rosie Oakes, Met Office
Prof. David M. Schultz, Professor of Synoptic Meteorology, and Director, Centre for Crisis Studies and Mitigation, University of Manchester
Esme Stallard, Climate Journalist and Researcher, BBC News
- 15.15 Refreshments and Networking
- Session 3: Convection and Modelling*
Chair: Fran Morris, Student Conference Committee Member
- 15.45 ***Downscaling UK Rainfall Using Machine-Learning Emulation of a Convection-Permitting Model**
Henry Addison, PhD Student, University of Bristol
- 16.00 **Improving Moist Thermodynamics in Weather and Climate Models**
Paul Bowen, PhD Student, University of Exeter
- 16.15 **Analysis of Spectral Nudging Methods to Improve Skill in Convective-Scale Ensembles**
Adam Gainford, PhD Student, University of Reading
- 16.30 **A Lagrangian View to the Evolution of Convective Updrafts**
Thomas J. Hutton, PhD Student, University of Exeter
- 16.45 Poster Presentations – Session 1
- 17.45 Close of Day 1
- 18.30 Conference Dinner

Tuesday 5th July 2022

09.00 Welcome back

Session 4: Climate

Chair: Lisa Degenhardt, Student Conference Committee Member

09.05 **Far Flung Influences on North Atlantic Winter Climate Affect Predictability**

Ned Williams, PhD Researcher, University of Exeter

09.20 **The Atmospheric Response to the Weddell Sea Polynya**

Dr Holly Ayres, Postdoctoral Research Assistant, University of Reading

09.35 **Global Impacts of the Pacific Decadal Variability**

Melissa Seabrook, Climate Scientist, Met Office

09.50 **Climate Change Impacts on the European Energy Balance**

Emma Patmore, Meteorologist, Lake Street Consulting Ltd

10.05 Refreshments and Networking

Session 5: Aerosols, Composition and Air Quality

Chair: Michael Baidu, Student Conference Committee Member

10.35 **Changes in Ambient Air Quality and Atmospheric Composition and Reactivity in the South East of the UK as a Result of the COVID-19 Lockdown**

Mark Nichols, Principal Air Quality Consultant, Hydrock / University of Brighton / IAQM

10.50 **Street Canyon NO₂ “Hotspots” and Regulatory “Wiggle Room”: The Interacting Effects of Free-Radical Chemistry, Canyon Geometry, Primary NO₂, and Emissions**

Yuqing Dai, PhD Student, University of Birmingham

11.05 **Inter-Annual Variations in the Siberian Carbon Uptake and Carbon Release Periods**

Dieu Anh Tran, PhD Researcher, Max Planck Institute for Biogeochemistry

11.20 **Using Partial Radiative Perturbation Calculations to Isolate Aerosol Radiative Adjustments in UKESM1**

Max R. Coleman, PhD Student, Department of Meteorology, University of Reading

11.35 **Improving Understanding of Mineral Dust Transport and Deposition Using Aircraft Observations and Modelling**

Natalie Ratcliffe, PhD Student, University of Reading

11.50 Poster Session 2

12.50 Lunch

13.50 **Keynote 2: Collaborations and Partnerships**

****Met Office Collaborations***

Penny Endersby, Chief Executive, Met Office and Clare Barclay, CEO, Microsoft

Swift Project

Linda Hiron, Marian Osei, Caroline Wainwright

****Flood Forecasting Centre, Environment Agency***

15.20 Refreshment and Networking

Session 6: Communications, Industry and Applications

Chair: Megan Pearce, Student Conference Committee Member

15.50 **A New Post Processing Capability for Forecasting Surface Transport Hazards**

Joe Eyles, Scientist, Met Office

16.05 **The Role of Partnership in Global-Coupled Model Science Configuration Development**

Luke Roberts, UM Partnership Foundation Scientist, Met Office

16.20 **Modelling Weather Dependent Household Water Usage**

Isabel Rushby, Foundation Scientist, Met Office

16.35 **From Showers to Sheep Chill: Forecasting for the Met Office**

Sophie Bland, Senior Operational Meteorologist, Met Office

16.50 **From Black Boxes to Modifiable Codes: Improving Seasonal Forecasts in East Africa with Remote Technical Training**

Alexander Chamberlain-Clay, Foundation Scientific Software Engineer, Met Office

17.05 Closing Remarks and Poster Prize Winners Announcement

17.15 Close of conference

*Please note this programme is subject to change. All presentations in *italics* will be presented virtually