# RMetS Student & Early Career Scientists Conference 2022

## 4th & 5th July, University of Manchester

Sunday 3rd July

18.00 **Conference Start: Ice Breaker and Networking**
Revolution Manchester, 90-94 Oxford Road, Manchester, M1 5WH

Monday 4th July

08.30 Registrations, Refreshments & Ice Breaker

09.00 **Welcome and Opening Address**
Liz Bentley, CEO, Royal Meteorological Society

09.10 Introduction to Discord: Virtual Poster Session

Session 1: Tropics, Subtropics and Teleconnections
Chair: Ned Williams, Student Conference Committee Member
Co-Chair: Michael Baidu, Student Conference Committee Member

09.40 **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

09.55 *Deep Learning for Tropical Cyclone Nowcasting: Experiments with Generative Adversarial and Recurrent Neural Networks*
Theo Xirouchaki, Foundation Scientist, Met Office

10.10 **Non-linearity in the Extratropical Teleconnection to ENSO and the QBO**
Amber Walsh, PhD Researcher, University of Exeter

10.25 *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

10.40 Refreshments and Networking

Session 2: Observations
Chair – Tim Banyard, Student Conference Committee Member
Co-Chair: Phoebe Noble, Student Conference Committee Member

11.10 **Hail Accumulation Layers in Europe**
Faye Hulton, Postgraduate Research Student, The University of Manchester

11.25 **Estimating the Impact of Historical Thermometer Exposures on Early Instrumental Temperature Data**
Emily Wallis, Postgraduate Research Student, Climatic Research Unit, University of East Anglia

**11.40** **Comparing Gravity Waves in a High-Resolution Model to AIRS Satellite Observations**
Emily Lear, PhD Student, University of Bath

**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** Launch of the Conference Photographic Competition

**12.15** **Malcolm Walker Award Presentation**
**Look Up to Look Ahead: The Wintertime Stratosphere in Subseasonal-to-Seasonal Prediction**
Simon Lee, Postdoctoral Research Scientist, Department of Applied Physics and Applied Mathematics (APAM), Columbia University, New York

**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, Science Communicator, Tired Bear Films
Dr Rosie Oakes, Senior International Applied Scientist, UK 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
Co-Chair: Lisa Degenhardt, 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** Poster Presentations – Session 1

**17.30** Close of Day 1

**18.30** **Conference Networking Dinner**
The Greenhouse, Brickhouse Social, 11-13 Wakefield Street, Manchester, M1 5NP

09.00   Welcome back

Session 4: Climate
Chair: Lisa Degenhardt, Student Conference Committee Member
Co-Chair: Zhongwei Liu, 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
Co-Chair: Megan Pearce, 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   **Investigating Aerosol Radiative Adjustment Mechanisms with Model Nudging**
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**

*** *Partnerships for the Planet***
Prof Penny Endersby, CEO, Met Office and Clare Barclay, CEO, Microsoft UK

**Collaborations within the GCRF African SWIFT Project**
*Marian Amoakowaah Osei, Postdoctoral Research Scientist, Centre for Ecology and Hydrology, Wallingford, Oxfordshire, Dr Linda Hirons, Research Scientist, NCAS and University of Reading and *Dr Caroline Wainwright, Grantham Institute Research Fellowship, Imperial College, London

*** *The Flood Forecasting Centre, Collaborative Work between the Met Office and the Environment Agency***
Chris Lattimore, Hydrometeorologist, Flood Forecasting Centre, Met Office

15.20 Refreshment and Networking

Session 6: Communications, Industry and Applications
        Chair: Megan Pearce, Student Conference Committee Member
        Co-Chair: Fran Morris, 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