Agenda - Seamless Global Modelling workshop, 3-6 June 2025, Bristol

TUESDAY 3rd			
Time	**Title**	**Speaker**	**Affiliation**
09:00	**Arrival**		
09:30	Welcome and aims of the workshop, Foundation Science Associate Director	Katy Hill	Met Office
Session 1a: Seamless development approach, testing framework and user requirements Convener: David Walters			
09:40	ICON: Towards vertically integrated model configurations for numerical weather prediction, climate predictions and projections	Wolfgang Müller	Max-Planck Institute for Meteorology
10:00	Met Office and Momentum Partnership seamless global model development approach	Charline Marzin	Met Office
10:20	Interoperable rather than seamless: Challenges and opportunities	Ian Harman	CSIRO
10:40	Long View of model development	Martin Willett	Met Office
11:00	Hierarchical System Development: Increasing Marine Stratocumulus Cover to Reduce Ocean Heating in a Global Model	Ron McTaggart-Cowan	ECCC
11:20	**Coffee Break + Poster Session 1**		
11:40	NOAA's Unified Forecast System for Research and Operational Prediction Applications	Vijay Tallapragada *	NOAA/NWS/NCEP Environmental Modelling Center
12:00	Challenges and opportunities for seamless model development for the 2030s: a climate modelling view	Richard Wood	Met Office
12:20	Data to Decision-Making	Helen Roberts	Met Office
12:40	Seamless system to forecast climate extremes on multi annual to seasonal timescales	Muhammad Adnan Abid	University of Oxford
13:00	**Lunch + Poster Session 1**		
14:00	Discussion groups		
15:00	Plenary debrief		
15:20	**Coffee Break + Poster Session 1**		
Session 1b: Seamless development approach, testing framework and user requirements Convener: Debbie Hudson			
15:40	Unified Physics	Keith Williams	Met Office
16:00	Experimental designs to enhance seamlessness across space and time	Malcolm Roberts	Met Office
16:20	Exploring source of high predictability of monthly-mean rainfall during Indian Summer Monsoon	Ankur Gupta	NCMRWF
16:40	Error growth and predictability scales across models: a comparative analysis between middle and tropical latitudes	Richard Keane	Met Office & University of Leeds
17:00	**Close**		
17:30	**Bristol Street Art self-guided tour in groups: Meet at reception**		

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WEDNESDAY 4th			
Time	**Title**	**Speaker**	**Affiliation**
Session 2a: AI/ML models and integration with seamless physical model development Convener: Alistair Sellar			
09:00	ECMWF strategy	Andy Brown	ECMWF
09:40	The WeatherGenerator machine learning for Earth system model	Ilaria Luise	ECMWF
10:00	The Met Office ML Intercomparison Project	Helen Buttery *	Met Office
10:20	Integrating data-driven global models into our evaluation framework: A Bureau of Meteorology perspective	Debbie Hudson	Bureau of Meteorology
10:40-10:42	Poster Lightning talk	Sharmila	Bureau of Meteorology
10:42	**Coffee Break + Poster Session 2&3**		
11:00	A hybrid physical-ML NWP model?	Ian Boutle	Met Office
11:20	Integration of AI in Global Model Development and Evaluation: Hybrid Modelling and WP-MIP	Ron McTaggart-Cowan	ECCC
11:40	Machine Learning Emulation of Climate Change Projections for Southeast Asia	Chen Chen	CCRS
12:00	Discussion groups		
13:00	**Group photo**		
13:05	**Lunch + Poster Session 2&3**		
14:00	Plenary debrief		
Session 2b: AI/ML models and integration with seamless physical model development Convener: tbd			
14:20	An AI/ML approach to improve NWP products using remote sensing data	Amar Jyothi	NCMRWF
14:40	Characterizing the causal impact of aerosols on cloud liquid water path adjustments from observations using machine learning.	Daniel Grosvenor	Met Office
15:00	**Coffee Break + Poster Session 2&3**		
Session 3a: Agile science pull-through, systematic errors with process-based understanding Convener: Charline Marzin			
15:20	Hybrid ML-physical model developments	Cyril Morcrette	Met Office
15:40	Detection of systematic errors in a global aerosol model to explain limits in parametric uncertainty reduction	Léa Prévost	University of Leeds
16:00	Understanding sea-ice biases in the seamless framework	Tim Graham*	Met Office
16:20	Systematic errors in global circulation models and machine-learning models for NWP	José M. Rodríguez	Met Office
16:40	Extratropical cyclones through the ages	Duncan Ackerley	Met Office
17:00	**Close**		
19:00	**Workshop dinner, Zaza Bazaar**		

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THURSDAY 5th			
Time	**Title**	**Speaker**	**Affiliation**
Session 4a: Km-scale challenge and scale-aware parametrisations Convener: Andy Turner			
09:00	Lessons learnt from global high resolution modelling	Annelize Van Niekerk	ECMWF
09:40	Fundamental Improvements to Pan-Tropical Moisture Distributions using km-scale models with Explicit Convection	James Bassford	University of Leeds
10:00	K-Scale: Year-long global UM simulations for DYAMOND-3 at convection-permitting resolution	Richard W Jones	Met Office
10:20	GC's regional sister at km-scale: towards an RC configuration	Juan Castillo	Met Office
10:40	**Coffee break + Poster Session 4&5**		
11:00	The ParaChute Programme	Alison Stirling	Met Office
11:20	Modifying CoMorph-A for kilometre-scale resolutions.	Sally Lavender	University of Southern Queensland (Met Office)
11:40	Interaction of surface heterogeneity and mesoscale circulations with the boundary layer structures	Michael Baidu	University of Leeds
12:00	Discussion groups		
13:00	**Lunch + Poster Session 4&5**		
14:00	Plenary debrief		
Session 4b: Km-scale challenge and scale-aware parametrisations. Convener: Richard Jones			
14:20	How does the spatial scale of soil moisture variability affect MCS properties in West Africa?	John Marsham	University of Leeds
14:40	High-resolution ACCESS regional nesting suite for research purposes	Chermelle Engel	ACCESS-NRI
15:00	Seamless simulation to prediction of delays to southern monsoons: From projections to early warnings.	Neil Hart	University of Oxford
15:20	**Coffee break + Poster Session 4&5**		
Session 3b: Agile science pull-through, systematic errors with process-based understanding Convener: Ankur Gupta			
15:40	Aerosol, clouds and climate feedbacks in the Southern Ocean: Some highlights from New Zealand's DeepSouth National Science Challenge.	Catherine Hardacre	University of Canterbury
16:00	A new approach to quantifying aerosol-cloud radiative effect through process-based constraints on climate model parameters	Kunal Ghosh	University of Leeds
16:20	Developing the next standard configuration for standalone JULES using a benchmarking system based on ModelEvaluation.org	Heather Rumbold	Met Office
16:40	Towards a seamless cloud fraction scheme for Unified Physics	Paul Barrett	Met Office

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17:00	**Close**

FRIDAY 6th			
Time	**Title**	**Speaker**	**Affiliation**
Session 5a: Model development suited for ensemble systems. Convener: tbd			
09:00	Can we use ensembles to help understand model uncertainty?	Marion Mittermaier	Met Office
09:40	Ensemble size: Determining the Optimal Number of Members for NWP in Research and Development	Charlotte Wynn	Met Office
10:00	Towards high-resolution ensemble ocean forecast systems with NEMO	Frank Colberg	Bureau of Meteorology
10:20	A potential new approach for assessing suitability of new model versions for seasonal forecasting	Jeff Knight	Met Office
10:40	Utilising ensembles to predict and constrain strength of the Atlantic Meridional Overturning Circulation in coupled model simulations	Kuniko Yamazaki *****	Met Office
11:00	**Coffee Break**		
11:20	Discussion groups: The Future of Seamless Modelling		
12:50	Workshop Close		
13:00	**Lunch**		

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POSTERS			
Poster session 1 Seamless development approach, testing framework and user requirements			
ID #	**Title**	**Speaker**	**Affiliation**
1.1	Impact of convection schemes on forecasts of TC-Kirrily	Hongyan Zhu	Bureau of Meteorology
1.2	HIST-1850 vs HIST-1950: Impact of different experimental protocols on control and historical simulations	Michael Lai	Met Office
1.3	Forecasting Across Scales at NIWA	Stuart Moore	NIWA
Poster session 2 AI/ML models and integration with seamless physical model development			
2.1	High Resolution Correction to Atmospheric Thermodynamic Evolution	Leon Borek	Met Office
2.2	Post-processing improves accuracy of Artificial Intelligence weather forecasts	Belinda Trotta	Bureau of Meteorology
Poster session 3: Agile science pull-through, systematic errors with process-based understanding			
3.1	Evaluation of convective and turbulent scale processes using CSET and its role in seamless NWP	Jorge Bornemann	NIWA
3.2	Can we tune parametrisations to reproduce relationships that control ENSO?	Mike Bell	Met Office
3.3	Adding Wave Model Coupling to the Met Office GC5 Global Coupled Modelling System	Nikesh Narayan	Met Office
3.4	To what extent can Bjerknes Compensation explain a weak AMOC in GC5-LFRic?	Benjamin Buchenau	Met Office
3.5	Predicting ENSO events and their regional impacts beyond a year	Dr Sur Sharmila *	Bureau of Meteorology
3.6	Global Ocean Data Assimilation and Prediction System-Reanalysis (GODAPS2-RA) Project: Preliminary results	Seung On Hwang	NIMS, KMA
3.7	Evaluation of RAL3 LFRic model for rainfall simulation over Singapore during a one-month trial in September 2024	Yi Wang	CCRS
3.8	Equatorial wave activity in the tropical atmosphere represented in the WCDA-GloSea6	Juwon Kim	NIMS, KMA
3.9	Monitoring biases in the Indian Ocean throughout model development	Hannah Ellis	Met Office
Poster session 4 Km-scale challenge and scale-aware parametrisations.			
4.1	Adapting CoMorph-B for the grey zone	Sam Smith	Met Office
4.2	Future changes in the characteristics of the dry-to-wet transition period in Southern Africa and South America using convection-permitting simulations	Marcia T Zilli	University of Oxford
4.3	Towards global coupled km-scale climate simulation at the Met Office	Calum Scullion	Met Office
4.4	cSINGV: A convective-scale coupled atmosphere-ocean-wave model for Singapore	Rajesh Kumar	CCRS
4.5	The Effects of Convection-permitting Downscaling on Sub-daily Precipitation Characteristics Over the Western Maritime Continent	Sandeep Sahany	CCRS

4.6	First Rains: Convective-Scale Ensembles for Monsoon Onset Prediction	Fran Morris	University of Oxford
Poster session 5 Model development suited for ensemble systems			
5.1	Assessing operational upgrades to an ensemble prediction system	Warren Tennant	Met Office
5.2	The CANARI HadGEM3 Large Ensemble: Design and evaluation of historical simulations	Ben Harvey	NCAS, UK & University of Reading

Note: Presenters with an asterisk (*) by their name may be presenting virtually.