

Mathematics and Artificial Intelligence for Weather and Climate

(02 Nov 2026–13 Nov 2026)



ORGANIZING COMMITTEE

Gianpaolo Balsamo

*European Centre for Medium-Range Weather
Forecasts (ECMWF)*

Chen Chen

Center for Climate Research Singapore

Davide Faranda

CNRS/IPSL, France

Adriano Gualandi

University of Cambridge

Gianmarco Mengaldo

National University of Singapore

Stephane Vannistem

Nanyang Technological University



*9 November 2026 (Monday) is a public holiday
in Singapore and the Institute will be closed.*

Venue

IMS Executive Seminar Room

Bock S17, Level 3

10 Lower Kent Ridge Rd Singapore 119076

Mathematics and Artificial Intelligence for Weather and Climate

(Week two: 09–13 November 2026)

Monday, 09 November 2026

Time	Title	Speaker
	Free Day to Explore and Enjoy Singapore! https://www.visitsingapore.com/	

Tuesday, 10 November 2026

Time	Title	Speaker
0915–0930	Registration	
0930–1030	A Localized Schroedinger Bridge Sampler for Generative Modelling	Georg Gottwald <i>University of Sydney, Australia</i>
1030–1110	Group Photo & Tea Break	
1110–1200	Challenges and Strategies for Data-driven Modeling of Multiscale Turbulent Systems: Focus on Climate Modeling, Forced Responses and Causality	Fabrizio Falasca <i>New York University, USA</i>
1200–1400	Lunch Break	
1400–1500	Detecting Transient Metastability and Optimising System Perturbations from Observations	Gary Froyland <i>UNSW Sydney, Australia</i>
1500–1515	Tea Break	
1515–1615		Denise Sciamarella <i>IFAECI, Argentina</i>
1615–1630	Tea Break	
1630–1730	Clustering Profiles of Extremes in Dynamical Models	Jorge Freitas <i>University of Porto, Portugal</i>

Wednesday, 11 November 2026

Time	Title	Speaker
0915–0930	Registration	
0930–1030	Beyond Extremes: a Few Thoughts on Black Swans and Aliens, where Statistics and Physics Meet	Pascal Yiou <i>LSCE, France</i>
1030–1100	Tea Break	
1100–1200	Climate Downscaling in Southeast Asia Using Generative AI Methods	Xiaoling Zhou <i>CCRS, Singapore</i>

Wednesday, 11 November 2026		
Time	Title	Speaker
1200–1400	Lunch Break	
1400–1500	Merging Data Assimilation and Machine Learning at Various Degrees: Examples from Arctic Sea Ice and Radiative Transfer	Alberto Carrassi <i>University of Bologna, Italy</i>
1500–1515	Tea Break	
1515–1615	Multivariate Extremes in Dynamical Systems	Ana Cristina Moreira Freitas <i>University of Porto, Portugal</i>
1615–1630	Tea Break	
1630–1730	Machine Learning–driven Advances in Geophysical Data Assimilation	Marc Bocquet <i>CEREA, ENPC, EDF R&D, Institut Polytechnique de Paris, Île-de-France, France</i>

Thursday, 12 November 2026		
Time	Title	Speaker
0915–0930	Registration	
0930–1030		Gabriele Messori <i>Uppsala University, Sweden</i>
1030–1100	Tea Break	
1100–1200	Downscaling Regional Forecasts to Operational Decisions: Weather Impact Analysis for Infrastructure Resilience	Ronald Chan <i>A*STAR, Singapore</i>
1200–1400	Lunch Break	
1400–1500		Shili Xiang <i>A*STAR, Singapore</i>
1500–1515	Tea Break	
1515–1615	Turning Weather Uncertainty into Better Airport and Airspace Decisions	Paul Tan <i>ICAI, Singapore</i>
1615–1630	Tea Break	
1630–1730		Gisela D. Charó <i>Ctr for Marine & Atmospheric Research, Argentina</i>

Friday, 13 November 2026		
Time	Title	Speaker
0915–0930	Registration	
0930–1030	Multimodal Spatiotemporal Atmospheric Data Assimilation with Latent Video Flow-matching	Romit Maulik <i>Purdue University, USA</i>

Friday, 13 November 2026		
Time	Title	Speaker
1030-1100	Tea Break	
1100-1200	Attribution Science in the AI Era	Davide Faranda <i>CNRS, France</i>

This schedule is accurate as of 16 Oct 2026 and is subjected to changes.