

Large-scale Deep Learning for the Earth System Workshop, 4-5 September 2023, Bonn (Germany)

PROGRAM



Venue: **Universitätsclub Bonn e.V., Konviktstr.9, 53113 Bonn** ([directions](#))

Monday, 4 September

- 8:30 – 9:25 Check-in and registration
- 9:30 - 9:45 Introduction by the organizers
- 9:45 - 11:00 AI-based forecasting I
Global weather forecasting with GraphCast (Ferran Alet / Alvaro Sanchez, Google DeepMind)
PanguWeather (Lingxi Xie, Huawei Research)
- 11:00 - 11:30 Coffee break
- 11:30 - 12:15 Discussion: Evaluation (led by Stephan Rasp, Google Research, with an introduction to WeatherBench 2)
- 12:15 - 12:45 Short talks I
GraphCast for a limited area numerical weather prediction model (Joel Oskarsson)
A Multi-Scale Deep Learning Framework for Projecting Weather Extremes (Antoine Blanchard)
- 12:45 - 14:00 Lunch
- 14:00 - 15:15 AI-based forecasting II
FengWu (Lei Bai, Shanghai Artificial Intelligence Laboratory)
The Moonshot Project: towards multi-source AI forecasting (Tom Dunston, UK Met Office)
- 15:15 - 15:45 Coffee break
- 15:45 - 16:30 Results on evaluation of current models (Zied Ben Bouallegue, ECMWF)
- 16:30 - 17:15 Discussion: ERA6 and future data sets (Matthew Chantry, ECMWF)
- 19:00 - 22:00 Workshop dinner: [Tuscolo Münsterblick](#), Gerhard-von-Are-Straße 8, 53111 Bonn

Tuesday, 5 September

- 9:30 - 10:45 AI-based forecasting III
Neural General Circulation Models (Stephan Hoyer, Google Research)
Spherical Fourier Neural Operator (Boris Bonev, NVIDIA)
- 10:45 - 11:15 Coffee break
- 11:15 - 12:00 Discussion: sub-seasonal, seasonal forecasting and climate projections
- 12:00 - 12:45 Short talks II
Creating skilful and reliable probabilistic forecasts using machine learning (Mariana Clare)
Generative DL for high-resolution regional forecasting: a proof-of-concept (Laure Raynaud)
Uncertainty quantification for data-driven weather models (Sebastian Lerch)
- 12:45 - 14:00 Lunch
- 14:00 - 14:35 AtmoRep: Large Scale Representation Learning of Atmospheric Dynamics (Christian Lessig, ECMWF)
- 14:35 - 15:15 Discussion: Learning from observations (Jörg Schultz, EUMETSAT)
- 15:15 - 15:45 Coffee break
- 15:45 - 16:30 Discussion: Towards operationalization (Baudouin Raoult, ECMWF)
- 16:30 - 17:00 Closing remarks

