

ESiWACE2 Second Virtual Workshop on Emerging Technologies for Weather and Climate Modelling

Friday, 7 October 2022

WS: Workshop opening (10:00 - 10:30)

| time | [id] title | presenter |
|-------|------------------------------|-------------------|
| 10:00 | [5] VC available for testing | |
| 10:15 | [6] Welcome | ALOISIO, Giovanni |

WS: Session 1 – European Exascale hardware (10:30 - 12:30)

-Conveners: Erwan Raffin

| time | [id] title | presenter |
|-------|-------------------|-------------------|
| 10:30 | [7] Leonardo | BASSINI , Sanzio |
| 10:50 | [8] Lumi | KONTKANEN , Jenni |
| 11:10 | [9] MareNostrum 5 | GIRONA, Sergi |
| 11:30 | Break | |
| 11:50 | [10] EUPEX | WALTER , Etienne |
| 12:10 | [11] EuPILOT | PUCHOL, Carlos |

WS: Lunch break (12:30 - 14:00)

WS: Session 2 – Programming models and hardware interplay (14:00 - 16:00)

-Conveners: Andrew Porter

| time | [id] title | presenter |
|-------|--|-------------------|
| 14:00 | [12] PSyclone for LFRic | KAVCIC, Iva |
| 14:20 | [13] ESiWACE2 DSLs for ICON and NEMO | OSUNA, Carlos |
| 14:40 | [14] Vulcan FMS+ | FUHRER, Oliver |
| 15:00 | Break | |
| 15:20 | [15] Experiences with Kokkos in E3SM | BERTAGNA , Luca |
| 15:40 | [16] DestinE: opportunities & challenges for digital twins of the Earth System | REUTER, Balthasar |

WS: Coffee Break (16:00 - 16:30)

WS: Session 3 – Machine Learning (16:30 - 18:30)

-Conveners: Italo Epicoco; Peter Dueben

| time | [id] title | presenter |
|-------|---|--|
| 16:30 | [17] Atmospheric Physics-Guided Machine Learning for Climate Modeling and Weather Forecasting | BEUCLER, Tom |
| 16:50 | [18] A Generative Deep Learning Approach to Stochastic Downscaling of Precipitation Forecasts | HARRIS, Lucy |
| 17:10 | [19] Building Digital Twins of the Earth for NVIDIA's Earth-2 Initiative | KASHINATH , Karthik PRITCHARD, Mike |
| 17:30 | Break | |
| 17:50 | [20] Deep learning and differentiable simulations | HOYER, Stephan |
| 18:10 | [21] Machine learning for weather forecasting: successes, challenges, and the future | WEYN, Jonathan |

WS: Wrap up and closing session (18:30 - 18:45)