

Thurs. Nov. 9

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| 8:30 – 8:40 | WELCOME AND OPENING REMARKS | |
| 8:40 – 9:40 | KEYNOTE: Title TBD | <i>Steve Easterbrook</i> School of the Environment and Department of Computer Science, University of Toronto |
| 9:40 – 10:00 | TALK: Component Level Regression Testing in a Hierarchical Architecture | <i>Thomas Clune</i> NASA Goddard Space Flight Center |
| 10:00 – 10:20 | TALK: High Performance Climate and Weather Benchmark (HPCW): a framework for reproducible benchmarks of ESM models and mini-applications. | <i>David Guibert*</i> Center for Excellence in Performance Programming, Eviden |
| 10:20 – 10:50 | BREAK | coffee, tea, light snacks |
| 10:50 – 11:10 | TALK: Correctness Challenges in HPC and ML | <i>Harvey Dam, Ganesh Gopalakrishnan</i> Department of Computer Science, University of Utah |
| 11:10 – 11:30 | TALK: Reliable and reproducible Earth System Model data analysis with ESMValTool | <i>Valeriu Predoi*</i> NCAS-CMS, University of Reading |
| 11:30 – 11:50 | TALK: Testing approach for porting legacy 4-mode Modal Aerosol Model (MAM4) to C++/Kokkos | <i>Balwinder Singh</i> Atmospheric Sciences and Global Change Division, Pacific Northwest National Laboratory |
| 11:50 – 12:10 | TALK: Verification of the ICON model with the GT4Py dycore - challenges and insights | <i>Abishek Gopal*</i> Institute for Atmospheric and Climate Science, ETH Zurich |
| 12:10 – 1:10 | LUNCH | Mesa Lab cafeteria (Included with registration) |
| 1:10 – 2:10 | KEYNOTE: Earth system models of the future | <i>Peter Dueben*</i> Earth System Modelling Section, European Centre for Medium Range Weather Forecasts (ECMWF) |
| 2:10 – 2:30 | TALK: A Theory of Scientific Programming Efficacy | <i>Michael Coblenz</i> Department of Computer Science, UC San Diego |
| 2:30 – 2:50 | TALK: An overview of the MOM6 development cycle | <i>Marshall Ward</i> Geophysical Fluid Dynamics Lab, NOAA |
| 2:50 – 3:20 | BREAK | Beverages and light snacks |
| 3:20 – 3:40 | TALK: Challenges in Ensuring Reproducibility for Machine Learning Weather Model Training and Deployment | <i>David John Gagne</i> Computational and Information Systems Lab, NCAR |
| 3:40 – 4:00 | TALK: METplus: The Long and Winding Road to Unified Verification | <i>Tara Jensen*</i> Research Applications Lab, NCAR |
| 4:00 – 4:20 | TALK: Unit Testing NCEPLIBS | <i>Edward Hartnett</i> CIRES/NOAA |
| 4:20 – 5:00 | OPEN DISCUSSION | All |

*Indicates speaker is remote

Fri. Nov. 10

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| 8:30 – 9:30 | KEYNOTE: Lightweight Formal Methods: The What, Why, and How | <i>John Baugh</i> Civil Engineering and Operations Research, North Carolina State University |
| 9:30 – 9:50 | TALK: What could the next 30 years of software verification in climate science look like? | <i>Dominic Orchard*</i> Department of Computer Science and Technology, University of Cambridge and School of Computing, University of Kent |
| 9:50 – 10:10 | TALK: Parallel reproducibility of the SHYFEM-MPI model | <i>Francesco Carere*</i> Euro Mediterranean Center on Climate Change Foundation (CMCC Foundation) |
| 10:10 – 10:40 | BREAK | coffee, tea, light snacks |
| 10:40– 11:40 | KEYNOTE: Title TBD | <i>Dorit Hammerling</i> Applied Mathematics and Statistics, Colorado School of Mines |
| 11:40 – 12:00 | TALK: Ensure the correctness and reproducibility in UFS Weather Model CI | <i>Jun Wang</i> NOAA NWS/EMC |
| 12:00 – 12:20 | TALK: Methods and Tools for the Application of UFACT to New Climate Models | <i>Teo Price-Broncucia</i> Department of Computer Science, University of Colorado Boulder |
| 12:20 – 1:20 | LUNCH | Mesa Lab cafeteria (Included with registration) |
| 1:20 – 1:40 | TALK: Towards Ensuring Statistical Climate Reproducibility of Earth System Models in the Exascale Age | <i>Salil Mahajan</i> Computational Earth Sciences Group, Oak Ridge National Laboratory |
| 1:40 – 2:00 | TALK: Improvements in Reproducibility Testing Through False Discovery Rate Correction | Michael Kelleher Computational Earth Sciences Group, Oak Ridge National Laboratory |
| 2:00 – 3:30 | PANEL: Correctness and verification across platforms | <u>Moderator:</u> <i>Brian Dobbins</i> , NCAR <u>Panelists:</u> - <i>Ilene Carpenter</i> , Hewlett Packard Enterprise - <i>Karsten Peters-von Gehlen</i> , Deutsches Klimarechenzentrum GmbH (DKRZ) - <i>Ganesh Gopalakrishnan</i> , University of Utah - TBA |
| 3:30 – 4:00 | BREAK | Beverages and light snacks |
| 4:00– 5:00 | CLOSING DISCUSSION | All |

*Indicates speaker is remote