

Swiss COSMO User Workshop

3 December 2014

Goal

The Swiss COSMO User Workshop is intended as a platform to meet other COSMO users and get to know the work of each other. The two main topics of this edition are the scientific application of the COSMO model across various spatial and temporal scales and HPC aspects. The program consists of short talks aiming at introducing new COSMO users/developers and their project, group overviews, more in-depth project presentations and introduction presentations to HPC tools and techniques for robust and efficient code development.

We hope that you will enjoy this lively mix in an informal and interactive atmosphere!

Location

ETH Zurich, CHN building, room L17.1

Program

- 10.15 – 10.20 Anne Roches, C2SM
Welcome and general information
- COSMO across the scales: scientific applications from coarse to fine resolution***
- 10.20 – 10.40 Linda Schlemmer, IAC, Climate and Water Cycle group
Coupling of convection and mesoscale circulation across resolution
- 10.40 – 10.45 Dominik Büeler, IAC, Atmospheric Dynamics group
Quantifying effects of latent heating on midlatitude cyclones under different climate conditions
- 10.45 – 11.00 Edouard Davin, IAC, Land-Climate Dynamics group
COSMO activities in the Land-Climate Dynamics group
- 11.00 – 11.15 Dominik Brunner, EMPA, Modelling and Remote Sensing group
The Air Quality Model Evaluation International Initiative AQMEII-2: Evaluation of chemistry and meteorology in COSMO-ART
- 11.15 – 11.30 Marina Dütsch, IAC, Atmospheric Dynamics group
Stable water isotopes in idealised cyclones
- 11.30 – 11.50 Marco Arpagaus, MeteoSwiss, APN group
COSMO-NExT overview
- 11.50 – 11.55 Christina Klasa, MeteoSwiss, APN group / IAC, Atmospheric Dynamics group
Stochastic perturbation of physical tendencies in COSMO-E

- 11.55 – 12.10 Brian Oney, EMPA, Modelling and Remote Sensing group
Evaluation of COSMO at CarboCount sites with respect to meteorology and trace gas transport
- 12.10 – 12.25 Michael Keller, IAC, Climate and Water Cycle group
Evaluation of convection-resolving models using satellite data: The diurnal cycle of summer convection over the Alps
- 12.25 – 13.55 *Lunch break***
- 13.55 – 14.10 Nikolina Ban, IAC, Climate and Water Cycle group
Convection-resolving climate change simulations: Short-term summer precipitation extremes in a changing climate
- 14.10 – 14.25 Daniel Wolfensberger, EPFL, Environmental Remote Sensing Laboratory group
Comparison of COSMO with high-resolution polarimetric radar data over the alps
- 14.25 – 14.40 Olga Henneberg, IAC, Atmospheric Physics group
Modelling of aerosol-cloud interaction with focus on mixed-phase clouds on the kilometer-scale
- 14.40 – 14.55 Davide Panosetti, IAC, Climate and Water Cycle group
Effect of multiple mountains on convective initiation
- Behind the scene: technique and numerics*
- 14.55 – 15.10 Jean-Guillaume Piccinali, CSCS, User Engagement and Support group
Parallel Debugging and Performance Analysis Tools at CSCS: status update and open discussion
- 15.10 – 15.45 *Coffee break***
- 15.45 – 16.00 Sandie Moody, MeteoSwiss, APN group / Geneva university, Math Section
A New Horizontal Diffusion Operator
- 16.00 – 16.15 Xavier Lapillonne, C2SM
An update on the COSMO-GPU developments
- 16.15 – 16.20 Stefan Rüdüsühli, MeteoSwiss, APN group
Porting the COSMO Version 5 Fortran code to GPU
- 16.20 – 16.25 Andrea Arteaga, MeteoSwiss, APN group
C++ porting of the dynamical core
- 16.25 – 16.40 Carlos Osuna, MeteoSwiss, APN group
How to write robust code with regression testing
- 16.40 Open end *Apero***