



Annual Seminar 2015

Physical processes in present and future large-scale models

1–4 September 2015

Programme

Tuesday 1 September		
08:30-09:45	Registration	
Introduction		Chair: Peter Bauer
09:45-10:00	Opening	Erland Källén (ECMWF)
10:00-10:45	Introduction to parametrization development	Anton Beljaars (ECMWF)
10:45-11:15	<i>Coffee break</i>	
Session 1: Radiation		Chair: Peter Bauer
11:15-12:00	Fundamentals of radiation	Keith Shine (University of Reading)
12:00-12:45	Fast radiative transfer models and representation of clouds	Robin Hogan (ECMWF)
13:00-14:00	<i>Lunch break</i>	
14:00-14:45	Verification of radiation in large-scale models	Martin Wild (ETH Zürich)
Session 2: Convection		Chair: Richard Forbes
14:45-15:30	Superparametrization in climate and what do we learn from high-resolution	Marat Khairoutdinov (Stony Brook University)
15:30-16:00	<i>Coffee break</i>	
16:00-16:45	Parametrized convective heating and large-scale waves	Peter Bechtold (ECMWF)
16:45-17:30	High-resolution forecasts of summer convection	Martin Köhler (DWD)
18:00	<i>Drinks Reception</i>	
Wednesday 2 September		
09:15-10:00	Seamless prediction of weather and climate : an opportunity and a challenge for physical parametrization development	François Bouyssel (Météo-France)
Session 3: Clouds		Chair: Irina Sandu
10:00-10:45	The representation of cloud microphysics in numerical weather prediction models	Jason Milbrandt (Environment Canada)
10:45-11:15	<i>Coffee break</i>	

11:15-12:00	Representing subgrid heterogeneity of cloud and precipitation	Richard Forbes (ECMWF)
12:00-12:45	Evaluating and Improving Simulation of Clouds	Andrew Gettelman (NCAR)
12:45-13:30	<i>Optional Computer Hall tour</i>	
13:00-14:00	<i>Lunch break</i>	
Session 4:	Gravity waves	Chair: Piotr Smolarkiewicz
14:00-14:45	Gravity waves: introduction and global view	Peter Preusse (Forschungszentrum Jülich GmbH)
14:45-15:30	Ground-based and airborne observations of stratospheric and mesospheric gravity waves	Andreas Dörnbrack (DLR)
15:30-16:00	<i>Coffee break</i>	
16:00-16:45	Representation of sub-grid orography in models	Steve Derbyshire (Met Office)
Session 5:	Boundary layer	Chair: Peter Bechtold
16:45-17:30	Arctic boundary layers	Gunilla Svensson (Stockholm University)
19.00	<i>Seminar dinner</i>	
Thursday 3 September		
09:15-10:00	Impact of diffusion in stable layers and orographic drag	Irina Sandu (ECMWF)
10:00-10:45	PBL-cloud/convection interaction	Chris Bretherton (University of Washington)
10:45-11:15	<i>Coffee break</i>	
11:15-12:00	Coupling between clouds and their large-scale environment: using observations to constrain models	Louise Nuijens (MPI, Hamburg)
Session 6:	Land surface	Chair: Gianpaolo Balsamo
12:00-12:45	Land surface processes and interaction with the atmosphere	Paul Dirmeyer (George Mason University)
12:45-13:30	<i>Optional Computer Hall tour</i>	
13:00-14:00	<i>Lunch break</i>	
14:00-14:45	Land surface schemes	Aaron Boone (Météo-France)
14:45-15:30	Land water and energy budgets and their impacts on extremes	Sonia Seneviratne (ETH Zürich)
15:30-16:00	<i>Coffee break</i>	
Session 7:	Verification, uncertainty	Chair: Marta Janisková
16:00-16:45	Representation of model uncertainties for ensemble forecasts	Sarah-Jane Lock (ECMWF)
16:45-17:30	Model climate diagnostics	Linus Magnusson (ECMWF)
Friday 4 September		
Session 8:	Physics in data assimilation	Chair: Elias Holm
09:15-10:00	The challenges of linearized physics	Philippe Lopez (ECMWF)

10:00-10:45	Applications of linearized physics	Marta Janisková (ECMWF)
10:45-11:15	<i>Coffee break</i>	
11:15-12:00	Assimilation of cloud and rain from satellite	Alan Geer (ECMWF)
12:00-12:45	Grid and sub-grid scale process in tracer transport modelling	Saulo Freitas (CPTEC)
12:45	Closure	Erland Källén (ECMWF)
