

Preliminary Workshop Program “Conservation Principles, Data, and Uncertainty in Atmosphere-Ocean Modelling” – April 2-4, University Potsdam

	Tuesday, April 2 2019 – Energy budgets and energy transfer in climate models and data			Wednesday, April 3 2019 – Data assimilation			Thursday, April 4 2019 – Stochastic modelling in Atmosphere-Ocean science		
Time	Event	Title	Speaker	Event	Title	Speaker	Event	Title	Speaker
08:00 – 08:45	Registration								
08:45 – 09:00	Welcoming Project speakers								
	SESSION 1: OBSERVATIONS AND RECONSTRUCTIONS			SESSION 4: DA-APPROACHES SIDE-BY-SIDE			SESSION 7: STOCHASTIC REPRESENTATION OF MOIST PROCESSES		
09:00 – 09:40	Talk 1	Observing Earth's Energy Imbalance	Till Kuhlbrodt (Invited speaker)	Talk 13	Stabilizing unstable flows by coarse spatial scale observables and actuators - a pavement to data assimilation	Edriss Titi (Invited speaker)	Talk 25	Stochastic parameterisation of cumulus convection	Pier Siebesma (Invited speaker)
09:40 – 10:00	Talk 2	Using Lagrangian transit time distributions to investigate eddy effects on carbon and heat uptake in the ocean	Manita Chouksey	Talk 14	Downscaling data assimilation techniques applied to low Froude number shallow water flows	Stefan Vater	Talk 26	Constraining Stochastic Parametrisation Schemes using High-Resolution Model Simulations	Hannah Christensen
10:00 – 10:20	Talk 3	Improved estimates of the coupled Arctic energy budget	Steffen Tietsche	Talk 15	Algorithms for non-linear filtering and smoothing problems	Sahani Patheraja	Talk 27	Uncertainty quantification for cloud simulation	Bettina Wiebe
10:20 – 10:40	Talk 4	Inverse modelling of the Earth's energy and water budgets using EO satellite and reanalysis data	Keith Haines	Talk 16	Constructing sampling schemes via coupling: Poisson equations and optimal transport	Nikolas Nüsken	Talk 28	Finite-time breakdown of chemical precipitation patterns	Marcel Oliver
10:40 – 11:20	Coffee break								
	SESSION 2: MODELS AND REANALYSES			SESSION 5: FLOW CONTROL: APPROACHES, ANALYSIS, APPLICATIONS			SESSION 8: STOCHASTIC TRANSPORT IN THE OCEANS		
11:20 – 12:00	Talk 5	tbd	Doris Folini (tbc)	Talk 17	Nonlinear Filtering and Particle Filters for high-dimensional Systems	Roland Potthast (Invited speaker)	Talk 29	A consistent framework for stochastic representation of large-scale geophysical flows	Etienne Mémin (Invited speaker)
12:00 – 13:30	Lunch break								
13:30 – 13:50	Talk 6	Principles of energy consistent atmospheric modelling	Almut Gassmann	Talk 18	Assimilation of satellite sea surface temperature and profile observations into a coupled ocean-atmosphere model	Qi Tang	Talk 30	Stochastic modeling of oceanic dynamics for ensemble forecasting	Long Li
13:50 – 14:10	Talk 7	Energy cascades in extreme convective events simulated by	Nikki Vercauteren	Talk 19	Coupled Data Assimilation and Ensemble Initialization	Terence O'Kane	Talk 31	Data-driven augmentation of a low-resolution double-gyre flow	Eugene Ryzhov

14:10 – 14:30	Talk 8	storm-resolving ICON-LEM and ICON-NWP models Oceanic overturning and heat transport: The role of background diffusivity	Jonas Nycander	Talk 20	with Application to Multiyear ENSO Prediction Reanalysis of radiation belt electron phase space density using four spacecraft and the VERB code	Sebastian Cervantes	Talk 31	On fluctuating air-sea-interaction in local models: linear theory	Achim Wirth
14:30 – 15:10	Coffee break								
	SESSION 3: DYNAMICAL PROCESSES			SESSION 6: DA AND UNCERTAINTY			SESSION 9: STOCHASTICS, ENERGETICS, THERMODYNAMICS, AND UNCERTAINTY		
15:10 – 15:50	Talk 9	On the linkage between atmospheric circulation and Arctic weather and climate	Rune Graversen (Invited speaker)	Talk 21	On the Development of an Ensemble Data Assimilation and Forecasting System for the Red Sea	Ibrahim Hoteit (Invited speaker)	Talk 32	Stochastic parameterization by transport	Darryl Holm (Invited speaker)
15:50 – 16:10	Talk 10	The role of synoptic and planetary scale interaction for the linkage between Arctic sea ice changes and mid-latitude atmospheric circulation	Dörthe Handorf	Talk 22	Data assimilation for a quasi-geostrophic model with circulation-preserving stochastic transport noise	Igor Shevchenko	Talk 33	New derivation of Euler- α equations as a mean flow model for the motion of ideal fluid: stochastic approach	Sergiy Vasylyevych
16:10 – 16:30	Talk 11	Stimulated Imbalance and the Enhancement of Eddy Kinetic Energy Dissipation by Internal Waves	Roy Barkan	Talk 23	Conservation principles and data assimilation	Tijana Janjic	Talk 34	Dynamics under location uncertainty and other energy-related stochastic subgrid schemes	Valentin Resseguir
16:30 – 16:50	Talk 12	Monsoon Response to Mid-Holocene Orbital Forcing and Greenhouse Gas-Induced Global Warming and its link with Net Energy Input in the Atmosphere	Roberta D'Agostino	Talk 24	Parameter Estimation in Size-Structured Aerosol Populations using Bayesian State Estimation	Matthew Ozon	Talk 35	Numerical development and evaluation of an energy conserving conceptual stochastic climate model	Federica Gugole
	Evening program								
16:50 – 18:00	Stand-up reception			Poster session					