5th International Workshop on Nonhydrostatic Models

(NHM2018)

Session Program

November 14 (Wed)

9:30- 9:50	Opening
9:50-11:40 Session 1 Global Modelling: Chair: Tomoki Miyakawa (The University of Tokyo)	
9:50-10:20	O1.1 An Update on Our Comparison of Alternative Dynamical Frameworks for Global Cloud-Resolving Models
	（Invited） David Randall （Colorado State University)
10:20-10:40	O1.2 Development of nonhydrostatic Double Fourier Series global spectral Model (DFSM) and Global 7km mesh Model Intercomparison Project for improving TYphoon forecast (TYMIP-G7)
	Hiromasa Yoshimura (Meteorological Research Institute, Forecast Research Department)
10:40-11:00	O1.3 The impact of hybrid usage of the Chikira-Sugiyama scheme on tropical convection and large-scale circulations in NICAM
	Tomoki Miyakawa (The University of Tokyo, Atmosphere and Ocean Research Institute)
11:00-11:20	O1.4 A preliminary result in the DYAMOND simulations by NICAM
	Ryosuke Shibuya (Japan Agency for Earth-Marine Science and Technology)
11:20-11:40	O1.5 Initiation processes of the tropical intraseasonal variability simulated in an aqua-planet experiment: Implication for MJO onset
	Daisuke Takasuka (The University of Tokyo, Atmosphere and Ocean Research Institute)
11:40-13:00 Lunch time	
13:00-14:50 Session 2 Rainfall event: Chair: Tetsuya Takemi (Kyoto University)	
13:00-13:30	O1.6 Tracking of convective rain events in idealized and realistic large eddy simulations
	(Invited) Christopher Moseley (Max Planck Institute for Meteorology, Hamburg, Germany Atmosphere in the Earth System)
13:30-13:50	O1.7 High-resolution large-eddy simulation of urban atmospheric boundary layer
	Antti Hellsten (Finnish Meteorological Institute)

13:50-14:10	O1.8 Importance of Terrain Representation in Simulating a Stationary Convective System for the July 2017 Northern Kyushu Heavy Rainfall Case
	Tetsuya Takemi (Kyoto University, Disaster Prevention Research Institute)
14:10-14:30	O1.9 Development of a high-resolution cloud-resolving model over complex topography (TaiwanVVM)
	Chien-Ming Wu (National Taiwan University,Atmospheric Sciences)
14:30-14:50	O1.10 Evaluation of WRF and WRF-Hydro Models in Simulating Heavy Rainfall and Streamflow in the Talomo Watershed: A Baseline Study for the Development of a HydroMeteorological Flood Forecasting System for Davao City
	Cathrene Ma. Lagare (Ateneo de Davao University, Environmental Science)
14:50-15:10 Break	
15:10-17:00 Session 3 Reanalysis and data assimilation: Chair: Shin Fukui (Tohoku University)	
15:10-15:40	O1.11 Regional Reanalysis systems and production in Europe
	(Invited) Per Unden (SMHI, Research)
15:40-16:00	O1.12 Towards a long-term high-resolution regional reanalysis over Japan by using NHM-LETKF
	Shin Fukui (Tohoku University, Graduate school of Science)
16:00-16:20	O1.13 Impacts of high-resolution Himawari-8 AMVs assimilation on TC forecast in HWRF
	Masahiro Sawada (Meteorological Research Institute, Japan Meteorological Agency, Typhoon Research Department)
16:20-16:40	O1.14 Regional atmospheric data assimilation coupled with an ocean mixed layer model: a case of typhoon Soudelor (2015)
	Kohei Takatama (RIKEN Center for Computational Science)
16:40-17:00	O1.15 Near-real-time SCALE-LETKF forecasts of the record breaking rainfall in Japan in July 2018
	Takumi Honda (RIKEN Center for Computational Science)
17:00-17:35 **Poster Session 1**	
	P1 Establishment of MRV system of greenhouse gas emission from Asian rice paddies by integrating multi-type satellite data and ground flux data
	Hironori Arai (the University of Tokyo, Institute of Industrial Science)

	P2　Forecast skill of intraseasonal oscillation events over the Maritime Continent in a global cloud-system-resolving model
	Tomoe Nasuno (Japan Agency for Marine-Earth Science and Technology, Department of Seamless Environmental Prediction Research)
	P3　Continental-scale simulation of diurnal variations in South Asian summer monsoon: Insights from the explicit and parameterized convection experiments
	Rakesh Teja Konduru (Tokyo Metropolitan University)
	P4　An oceanic impact of the Kuroshio path on snowfall on the Kanto region of Japan in the cold season.
	Takuya Yamazaki (Tokyo Metropolitan University, Laboratory of Climatology)
	P5　Sensitivity of coastal front simulation to the thermal diffusivity in the PBL scheme
	Kento Suzuki (Tohoku University, Atmospheric Science)
	P6　Data assimilation and forecast experiments for the record-breaking rainfall event in Japan in July 2018 with NICAM-LETKF at 112-km and 28-km resolution
	Koji Terasaki (RIKEN Center for Computational Science)
	P7　Data Assimilation Experiments with Himawari-8 Optimal Cloud Analysis Products
	Michiko Otsuka (Meteorological Research Institute, Forecast Research Department)
	P8　Precipitation nowcasting with Phased-Array Weather Radar: a case of July 2018 record-breaking rainfall in Western Japan
	Shigenori Otsuka (RIKEN Center for Computational Science)
	P9　Impact of every 30-second phased array weather radar data on simulating a torrential rainfall event on July 6, 2018 around Kobe city
	Yasumitsu Maejima (RIKEN Center for Computational Science)
	P10　Fine-scale Structure of Mesoscale-beta-scale vortices that caused tornado-like vortices
	Eigo Tochimoto (Atmosphere and Ocean Resaerch Institute, The University of Tokyo)

November 15 (Thu)

9:40-11:40 Session 4 Data Assimilation: Chair: Takuya Kawabata (Meteorological Research Institute)	
9:40-10:10	O2.1 Particle Filters for Convective Scale NWP
	(Invited) Potthast Roland (Deutscher Wetterdienst)
10:10-10:40	O2.2 Regional Weather Forecasting Using the Local Particle Filter
	(Invited) Jonathan Poterjoy (University of Maryland, Atmospheric and Oceanic Science)
10:40-11:00	O2.3 A Study on Non-Gaussian Probability Densities on Convection Initiation and Development using a Particle Filter with a Storm-Scale Numerical Weather Prediction Model
	Takuya Kawabata (Meteorological Research Institute, Japan Meteorological Agency, Forecast Research Department)
11:00-11:20	O2.4 LETKF Perturbations by Ensemble Transform in a Cloud Resolving Model
	Kazuo Saito (University of Tokyo, Atmosphere and Ocean Research Institute)
11:20-11:40	O2.5 Model Parameter Estimation with Data Assimilation using NICAM-LETKF
	Shunji Kotsuki (RIKEN Center for Computational Science)
11:40-13:00 Lunch time	
13:00-14:50 Session 5 Physics 1: Chair: Wojciech Grabowski (Grabowski Wojciech)	
13:00-13:30	O2.6 Towards a super dynamics for the gray zone
	(Invited) Shian-Jiann Lin (GFDL, The Weather and Climate dynamics division)
13:30-13:50	O2.7 A three-dimensional turbulence scheme for the gray zone in a convective boundary layer
	Yuji Kitamura (Meteorological Research Institute, Japan Meteorological Agency, Atmospheric Environment and Applied Meteorology Research Department)
13:50-14:10	O2.8 Plumes, thermals and chains: A critical examination of the various conceptual models for moist convection
	Hugh Morrison (ucar)
14:10-14:30	O2.9 Separating dynamic and thermodynamic impacts of climate change on daytime convective development over land
	Wojciech Grabowski(NCAR, MMM Lab)

14:30-14:50	O2.10 Super Fine Vertical Resolution Radiative-Convective Equilibrium Experiments on the High-Cloud Response to Sea Surface Temperatures
	Tomoki Ohno (The University of Tokyo, Atmosphere and Ocean Research Institute)
14:50-15:10 Break	
15:10-16:50 Session 6 Physics 2: Chair: Tatsuya Seiki (JAMSTEC)	
15:10-15:40	O2.11 Alleviating low cloud problem in climate and weather forecast models by adaptive vertical grid enhancement
	(Invited) Takanobu Yamaguchi (CIRES CU/NOAA ESRL, CSD)
15:40-16:00	O2.12 Evaluation of microphysics in mixed-phase clouds over the Southern Ocean in NICAM using Joint simulator
	Woosub Roh (The University of Tokyo, Atmosphere and Ocean Research Institute)
16:00-16:20	O2.13 Ice cloud modeling for simulating mixed-phase low-clouds
	Tatsuya Seiki(Japan Agency for Marine-Earth Science and Technology, Department of Seamless Environmental Prediction Research)
16:20-16:40	O2.14 A numerical investigation of the impact of aerosol-induced warming on deep convective updrafts with varying slope and width
	Zachary Lebo (University of Wyoming, Department of Atmospheric Science)
16:40-17:15 **Poster Session 2**	
	P11 30-second cycle LETKF assimilation of dual-phased array weather radar observations to short-range convective forecasts
	James Taylor (RIKEN Center for Computational Science - Dats Assimilation)
	P12 Surface flux parameterization for large eddy simulation
	Junshi Ito (University of Tokyo, Atmosphere and Ocean Research Institute)
	P13 LES analysis of the effect of source heights on the longitudinal distribution of plume concentration in the convective boundary layer capped by a temperature inversion
	Hiromasa Nakayama (Japan Atomic Energy Agency,Research Group for Environmental Sciences)
	P14 Intercomparison of rainfall simulations using different bulk microphysical models
	Yoshinori Yamada (Meteorological Research Institute, Forecast Research Department)

	P15　Revisit of the fixed anvil temperature hypothesis from nonhydrostatic global simulations
	Akira Noda (Japan Agency for Marine-Earth Science and Technology, Project Team for Advanced Climate Modeling)
	P16　High resolution simulation of the west Japan heavy rainfall in July 2018
	Tsutao Oizumi (Japan Agency for Marine-Earth Science and Technology, Project Team for HPC Advanced Predictions utilizing Big Data)
	P17　Development and validation of a diagonal ensemble transform Kalman filter
	Le Duc (Japan Agency for Marine-Earth Science and Technology, Department of Seamless Environmental Prediction Research)
	P18　4DEnVar with Iterative Calculation of Nonlinear Nonhydrostatic Model Compared to En4DVar
	Sho Yokota (Meteorological Research Institute, Forecast Research Department)
	P19　Ensemble-based Singular Value Decomposition Analysis to Clarify Relationship between the Atmospheric State and the Hydrometeors
	Sho Yokota (Meteorological Research Institute, Forecast Research Department)
	P20　Dense precipitation radar data assimilation with an ensemble Kalman filter: an observing system simulation experiment for a typhoon case
	Atsushi Okazaki (RIKEN Center for Computational Science)
	P21　Assimilating every-10-minute Himawari-8 infrared radiances to improve convective predictability
	Yohei Sawada(Meteorological Research Institute, Japan Meteorological Agency, Forecast Research Department)
18:00-20:00 Buffet	

November 16 (Fri)

9:40-11:40 Session 7 Dynamics: Chair: John McGregor (CSIRO, Oceans and Atmosphere)	
9:40-10:10	O3.1 Some preliminary results from Global SAM
	(Invited) Marat Khairoutdinov (School of Marine and Atmospheric Sciences, Stony Brook University)
10:10-10:40	O3.2 Atmospheric modelling on the equal-area cubed-sphere
	(Invited) John McGregor (CSIRO, Oceans and Atmosphere)
10:40-11:00	O3.3 A shallow-water model using the B-grid staggering on the spherical icosahedral grid
	Hiroaki Miura (The University of Tokyo, Graduate School of Science)
11:00-11:20	O3.4 A nestable, multigrid-friendly grid on a sphere for global spectral models based on Clenshaw-Curtis quadrature.
	Daisuke Hotta (Meteorological Research Institute, Japan Meteorological Agency, Forecast Research Department)
11:20-11:40	O3.5 Coupling isobaric physics with isochoric dynamics
	Youhei Kawano (Japan Meteorological Agency, Forecast Department)
11:40-11:50	Closing
	TBD (affiliation)