



ESSO



IITM

Agenda
of
INTROSPECT 2017
13-16 February

Meghdoot Auditorium, IITM, Pune, India

13 February 2017 Monday

0900-0930: Registration of the workshop

0930 - 1020: Inauguration of the INTROSPECT

By Chief Guest, Prof. J. Srinivasan,
Distinguished Scientist, Divecha Centre for Climate Change,
Honorary Professor, Centre for Atmospheric and Oceanic
Sciences, Indian Institute of Science, Bangalore

Guest of Honour: Dr. Georg Grell, Chief, Model Development
Branch, NOAA Earth System Research Lab., USA, Inaugural
lecture "Parameterizing and Simulating Physics Processes in
Present and Future NWP - Breaking Down Walls"

1020-1045 High Tea and Group Photo

**Theme: Dynamical Core and Cloud Physics in Next Generation
Weather and Climate model;**

**Chairman: Dr. A. K. Sahai, Sc-G, IITM & Head, Office of
Climate Services, IMD**

(Rapporteur: Dr. Medha Deshpande and Malay Ganai)

1045-1115: Prof. Rodam Narasimha, FRS, JNCASR, Bengaluru,
"On Cloud Flow" (Through video conference)

1115-1155: Prof. In-Sik Kang, SNU, Korea "GCMs with Implicit
and Explicit Representation of Cloud Microphysics: Simulation
of Extreme Precipitation"

1155-1235: Dr. Bill Skamarock, NCAR "Global Nonhydrostatic
Atmospheric Modeling Using Unstructured Voronoi Meshes: The
Model for Prediction Across Scales - MPAS"

1235-1305: Dr. Peter Bechtold, ECMWF "Winds of convection"

1305-1400 LUNCH BREAK

**Theme: Cloud and Convective Processes in model and as
constrained by advanced Observation**

Chairman: Prof. J. Srinivasan, CAOS, IISc

(Rapporteur: Dr. Phani Murali Krishna and Sahadat Sarkar)

1400-1445: Prof. W. -K. Tao, GSFC, NASA, "Goddard Multi-
scale Modeling Systems with Unified Physics"

1445-1530: Prof. G. S. Bhat, CAOS, IISc, Bengaluru "Radar and
disdrometer derived microphysical properties of monsoonal
clouds"

1530-1615: Prof. Anne Pier Sibesma, KNMI/DELFT University,
Netherland : " New developments in Cloudy Boundary Layer
Parameterizations"

Tea\Coffee Break 1615-1630

Theme: New approaches of Global modelling and observations

Chairman : Prof. J. Shukla, COLA, GMU

(Rapporteur: Dr. Phani Murali Krishna and Sahadat Sarkar)

1630-1715 Prof. Hiroaki Miura, Univ. of Tokyo "A global cloud-system-resolving model for studies on tropical meteorology and climate."

1715-1745: Dr. Ziad Haddad, JPL "Analyses of in-situ hydrometeor distribution measurements and their parameters for retrieval algorithms and data assimilation".

1745-1815: Dr. Andrew Gettelman, NCAR "How not to build a global model: coupling cloud parameterizations across scales"

1930 hrs onwards Workshop Dinner hosted by Secretary, MoES

14 February 2017

Theme: Scale Aware Convective parameterization and beyond

Chairman: Prof. U. C. Mohanty

(Rapporteur: Dr. Medha Deshpande and Tanmoy Goswami)

0900-0945 Prof. David Randall, CSU through video "Testing a Resolution-Independent Parameterization of Deep Convection"

0945-1015 Dr. Peter Bechtold, ECMWF, "Status and challenges in cloud and convection parametrization at ECMWF"

1015-1045 Dr. Saulo Freitas, CPTEC, (Currently at GSFC) "Recent developments and applications of the Grell-Freitas convection parameterization."

1045-1115 Dr. Andrew Gettelman, NCAR "Cloud Microphysics Across Scales for Weather and Climate"

1115-1140 Tea Break and Poster

Theme: Latest approaches of convection in Climate models

Chairman: Prof. G. S. Bhat, CAOS, IISc, Bengaluru

(Rapporteur: Sahadat Sarkar and Snehlata Tirkey)

1140-1210: Prof. Ravi Nanjundiah, CAOS, IISc, Bengaluru, "Cloud resolving simulations of Convection over Bay of Bengal"

1210-1240: Prof. James Kinter, COLA, GMU "Alternative Atmospheric Convection Schemes in a Coupled Model: Reforecast Tests with CFS"

1240-1310: Dr. Peter Bechtold, ECMWF "Evolutions and strategy for the ECMWF Integrated Forecasting system"

1310-1400 Lunch Break

Session Theme: Latest Prediction techniques and process based understanding

Chairperson: Dr. Peter Bechtold, ECMWF

(Rapporteur: Tanmoy Goswami and Ms. Greeshma)

1400-1445 Dr. Yuejian Zhu, NCEP "Stochastic physics perturbations for ensemble prediction"

1445-1515 Prof. H. Annamalai, IPRC "Process-based understanding of monsoon precipitation representation in climate models"

1515-1555 Prof. Jai Ho Oh, Pukyong National Univ. South Korea "Ultra high resolution Agrimet information from seeding to harvesting"

1555-1645 Tea Break and Poster

1645-1745: Hands on

15 February 2017

Theme: Stochastic PDF based parameterization and scale Aware and Aerosol Aware framework and application

Chairman: Prof. In-Sik Kang, SNU, Korea

(Rapporteur: Dr. Radhika and Dr. Madhuparna)

0930-1015 Prof. Boualem Khouider, UVIC, "Stochastic and multi-cloud models for the parameterization of organized tropical convection"

1015-1100 Dr. Katherine Thayder Calder, NCAR "CLUBB in the Community Atmosphere Model as part of CESM2 and Beyond"

1100-1145 Dr. Georg Grell, NCAR, "NWP prediction at ESRL/GSD: Latest developments and applications for physics parameterizations"

1145-1230 Tea Break and Poster Presentation

1230-1315: Dr. R. Krishnanm CCCR, IITM: "IITM ESM development and future roadmap"

1315-1415 Lunch

Session Theme: Multiscale moist processes, latent heating, and clouds in climate models

Chairman: Dr. Bill Skamarock

(Rapporteur: Mr. Malay Ganai and Sahadat Sarkar)

1415-1445: W. -K. Tao, GSFC, NASA, "Goddard Latent Heating Algorithm and Goddard Microphysics: Recent Improvements"

1445-1530: Prof. Anne Pier Sibesma, KNMI/DELFT University, Netherland :

1530-1615: Dr. Ziad Haddad, JPL, NASA: "Effects of microphysical assumptions on the interpretation of remote-sensing observations of clouds and precipitation"

1615-1645: Tea Break and Poster Presentation

1645-1730: Prof. Dev Niyogi: Improving convection forecasting with enhanced surface representation

1730-1815: Hands on for the students at Aryabhatta Hall

1815 to 1915: Cultural Programme

Tea/Coffee Break

16 February

Theme: Challenges of representing suite of clouds and convection in climate models

Chairman: Prof. W. K. Tao, GSFC, NASA

(Rapporteur: Ms. Snehlata/ Ms. Shilpa Malviya)

0930-1015: Dr. Bill Skamarock, NCAR: "Variable-Resolution Global Atmospheric Models - Where are the Applications?"

1015-1045: Dr. Partha, IITM: "Attempts in improving low clouds, deep clouds and mean state of CFSv2"

1045-1130: Dr. Suzy and Prof. Brian Mapes, RSMAS, Univ. of Miami "Mesoscale convective eddy momentum flux in a global explicit-convection simulation".

1130-1200 Tea Break

1200-1245: Dr. Rajagopal, Head, National Center for Medium Range Weather Forecast (NCMRWF): NCMRWF's Activities and Plans in Modelling & Data assimilation

1245-1400 Lunch Break

1400-1530: Panel Discussion on the strategies of cloud and convection framework in the future weather and climate models (Chaired by Prof. J. Shukla) and Recommendation

Panel: Prof. J. Shukla, COLA, GMU, Prof. In-Sik Kang, SNU, Prof. W. K. Tao, GSFC, NASA, Prof. Bill Skamarock, NCAR, Prof. Pier Siebesma, Dr. Peter Betchold, ECMWF, Dr. Zhu, NCEP, Dr. Georg Grell, NOAA, ESRL, Prof. James Kinter III, Prof. Boualem Khouider, UVIC, Canada, Prof. G. S. Bhat, IISc, Prof. Dev Niyogi, Purdue University, Director IITM, Director, NCMRWF

1530-1545 closing of the workshop

1545-1630 Tea/Coffee Break