The Abdus Salam International Centre for Theoretical Physics

Spring Colloquium on the Physics of Weather and Climate: Regional Weather Predictability and Modelling

Organizer(s): F. Mesinger, S.C. Chou, F. Giorgi
Trieste - Italy, 11 - 22 April 2005

Venue: Adriatico Guest House Kastler Lecture Hall

Final programme

Workshop on "Design and Use of Regional Weather Prediction Model" (Room:Adriatico Guest House Kastler Lecture Hall)

11 April 2005

08:30 - 10:00	(Room: Adriatico Guest House (Lower Level 1)) --- REGISTRATION ---
10:00 - 10:30	**Welcome & Introduction to the Colloquium**
10:30 - 11:00	--- Coffee Break ---
11:00 - 12:00	--- Free time for administrative / financial matters ---
12:00 - 14:00	--- Lunch ---
14:00 - 15:15	**F. Mesinger** / *NOAA/NCEP, Camp Springs & U. of Maryland, USA* **Regional NWP modeling and predictability, introduction. The Eta Model numerical design: Lateral boundary conditions, time differencing**
15:15 - 15:45	--- Coffee Break ---
15:45 - 17:00	**S.C. Chou** / *INPE/CPTEC, Sao Paulo, Brazil* **The Eta Model at CPTEC. Applications**

Workshop on "Design and Use of Regional Weather Prediction Model" (Room:Adriatico Guest House Kastler Lecture Hall)

12 April 2005

09:00 - 10:15	**F. Freedman** / *San Jos? State University, USA* **Eta land-surface, surface layer and PBL parameterization schemes, Part I**
10:15 - 10:45	--- Coffee Break ---
10:45 - 12:00	**T. Vukicevic** / *Colorado State Univ., CIRA, Fort Collins, USA* **Data assimilation in regional modeling and prediction: Assimilation**
12:00 - 14:00	--- Lunch Break ---
14:00 - 15:20	(Room: Adriatico Guest House Informatics Lab.) **J. Grassberger** / *ICTP* **Infolab - Familiarization with computing environment in ICTP lab**
15:20 - 15:40	--- Coffee Break ---
15:40 - 17:00	(Room: Adriatico Guest House Informatics Lab.) **Infolab - Formation of working groups and start-up session on data handling and visualization**

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13 April 2005

09:00 - 10:15	**S.C. Chou** / *INPE/CPTEC, Sao Paulo, Brazil* **Cumulus parameterization**
10:15 - 10:45	--- Coffee Break ---
10:45 - 12:00	**F. Mesinger** / *NOAA/NCEP, Camp Springs & U. of Maryland, USA* **The Eta Model numerical design: Vertical coordinate**
12:00 - 14:00	--- Lunch Break ---
14:00 - 15:20	(Room: Adriatico Guest House Informatics Lab.) **Infolab - Practical session**
15:20 - 15:50	--- Coffee Break ---
15:50 - 17:10	(Room: Adriatico Guest House Informatics Lab.) **Infolab - Practical session**
18:00 - 18:00	(Room: Adriatico Guest House Cafeteria) --- RECEPTION ---

Workshop on "Design and Use of Regional Weather Prediction Model" (Room:Adriatico Guest House Kastler Lecture Hall)

14 April 2005

09:00 - 10:15	**F. Freedman** / *San Jos? State U., USA* **Eta land-surface, surface layer and PBL parameterization schemes, Part II**

10:15 - 10:45 --- Coffee Break ---

10:45 - 12:00 **T. Vukicevic** / *Colorado State Univ., CIRA, Fort Collins, USA*
Data assimilation in regional modeling and prediction: Applications of 4DVAR and ensemble KF techniques

12:00 - 14:00 --- Lunch Break ---

14:00 - 15:20 (Room: Adriatico Guest House Informatics Lab.)
Infolab - Practical session

15:20 - 15:50 --- Coffee Break ---

15:50 - 17:10 (Room: Adriatico Guest House Informatics Lab.)
Infolab - Practical session

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15 April 2005

09:00 - 10:15 **S.C. Chou** / *INPE/CPTEC, Sao Paulo, Brazil*
Cloud Microphysics

10:15 - 10:45 --- Coffee Break ---

10:45 - 12:00 **B. Rajkovic** / *U. of Belgrade, Serbia & Montenegro*
Formation of Turbulence Closure Model 2.5 (M-Y)

12:00 - 14:00 --- Lunch Break ---

14:00 - 15:20 (Room: Adriatico Guest House Informatics Lab.)
Infolab - Practical session

15:20 - 15:50 --- Coffee Break ---

15:50 - 17:10 (Room: Adriatico Guest House Informatics Lab.)
Infolab - Practical session

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18 April 2005

09:00 - 10:15 **M. Zupanski** / *Colorado State Univ., CIRA, Fort Collins, USA*
Probabilistic assimilation/prediction

10:15 - 10:45 --- Coffee Break ---

10:45 - 12:00 **M. Rancic** / *NASA and U. Maryland, U.S.A.*
The Eta Model numerical design: Gravity wave coupling, horizontal advection - I

12:00 - 14:00 --- Lunch Break ---

14:00 - 15:20 (Room: Adriatico Guest House Informatics Lab.)
Infolab - Practical session

15:20 - 15:50 --- Coffee Break ---

15:50 - 17:10 (Room: Adriatico Guest House Informatics Lab.)
Infolab - Practical session

Workshop on "Design and Use of Regional Weather Prediction Model" (Room:Adriatico Guest House Kastler Lecture Hall)

19 April 2005

09:00 - 10:15 **F. Mesinger** / *NOAA/NCEP, Camp Springs & U. of Maryland, USA*
Eta Model at NCEP: Challenges overcome and lessons learned

10:15 - 10:45 --- Coffee Break ---

10:45 - 12:00 **Student presentations**

12:00 - 14:00 --- Lunch Break ---

14:00 - 15:20 **Student presentations**

15:20 - 15:50 --- Coffee Break ---

15:50 - 17:10 **Student presentations**

Conference on "Current Efforts Toward Advancing the Skill of Regional Weather Prediction. Challenges and Outlook" (Room:Adriatico Guest House Kastler Lecture Hall)

20 April 2005

09:00 - 09:20 **Welcome and introduction to the Conference**

09:20 - 10:00 **D. Zupanski** / *Colorado State Univ., CIRA, Fort Collins, USA*
Information content in ensemble data assimilation

10:00 - 10:40 **S. Zilitinkevich** / *University of Helsinki, Finland*
Physical grounds for improved parameterization of stable boundary layers in atmospheric models

10:40 - 11:00 --- Coffee Break ---

11:00 - 11:40 **H. Riphagen** / *South Africa*
SE on the effect of AMDAR data on the Eta Model forecasts. General information on the Eta Model system at SAWS

11:40 - 12:00 **D. Klaric** / *RC LACE Project Leader, Croatian Met. Service, Croatia*
ALADIN Project. Information on new developments and plans re ALARO and AROME

12:00 - 14:00 --- Lunch Break ---

14:00 - 14:40 **F. Mesinger** / *NOAA/NCEP, Camp Springs & U. of Maryland, USA*
Vertical coordinate, QPF and resolution: Predictability as gleaned from recent Eta Model results

14:40 - 15:40 **P. Unden** / *Swedish Meteorological & Hydrological Institute, Norrkoping, Sweden*
The HIRLAM strategy for development of LAM forecasting

15:40 - 16:00 --- Coffee Break ---

16:00 - 16:40 **D. Zupanski** / *Colorado State Univ., CIRA, Fort Collins, USA*
Maximum Likelihood Ensemble FIlter (MLEF): an ensemble assimilation/prediction system based on control theory

16:40 - 17:00 **Discussion session**

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21 April 2005

09:00 - 09:20 **S. Krichak** / *Tel Aviv U., Israel*
A dynamic tropopause perspective of the Atlantic - Mediterranean Teleconnection event of November-December 2001

09:20 - 10:00 **G. Kallos** / *University of Athens, Greece*
Limited area modeling at the University of Athens with the Eta model

10:00 - 10:20 --- Coffee Break ---

10:20 - 11:00 **S. Tibaldi** / *Regional Meteorological Service, Bologna, Italy*
The limited area ensemble prediction system of ARPA-SMR

11:00 - 11:40 **J. Steppeler** / *Deutscher Wetterdienst, Offenbach, Germany*
The nonhydrostatic model LM and its version in z-coordinates

11:40 - 12:20 **L. Lazic** / *University of Belgrade, Yugoslavia*
Initialization" using an iterative Matsuno style scheme in the Eta model adjustment stage

12:20 - 15:00 --- Lunch Break ---

15:00 - 15:20 **S. Krichak** / *Tel Aviv U., Israel*
An adapative resolution study of December 3-5 2001 Mediterranean cyclone with torrential rains in Israel

15:20 - 16:00 **S. Vannitsem** / *Royal Meteorological Institute, Brussels, Belgium*
Model error dynamics and regional modeling

16:00 - 16:20 --- Coffee Break ---

16:20 - 16:20 **M. Rancic** / *NASA and U. Maryland, U.S.A.*
The Eta Model numerical design: Gravity wave coupling, horizontal advection - II

16:20 - 16:50 **Discussion session**

Conference on "Current Efforts Toward Advancing the Skill of Regional Weather Prediction. Challenges and Outlook"
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22 April 2005

09:00 - 09:40 **G. Kallos** / *University of Athens, Greece*
Limited area modeling at the University of Athens with the Eta Model

09:40 - 10:20 **S.C. Chou** / *INPE/CPTEC, Sao Paulo, Brazil*
Ensemble Seasonal Forecasts with the Eta Model over South America

10:20 - 12:00 **Contributions**

Physics Ensemble forecasts with the Eta Model over São Paulo (J. Gomes - INPE/CPTEC, São Paulo, Brazil) 20'

Predictability of the regional Eta Model weather forecasts over South America (J. Fonseca Bustamante - INPE/CPTEC, Sao Paulo, Brazil) 40'

12:00 - 12:00 **Closing remarks**