



## PROVISIONAL AGENDA

### Forum on Modeling the Atmospheric Boundary Layer

May 19-23, 2003  
University Park Holiday Inn  
Fort Collins, CO

Sponsored by The Army Research Laboratory and the  
DoD Center for Geosciences/Atmospheric Research

\* **Forum Format** – At this meeting we are attempting to have representation from 7 major Mesoscale modeling systems and for each of the topical areas, a representative for each of the models will be asked to present a brief (note times allocated) technical description of the manner in which the particular entity is implemented with an explanation of why this approach was used. Additional information/comments associated with a topic area may be requested. Once each model has presented it's information for a particular topic, there will be an open discussion focusing on: (1) applicability of the various technique to the the Army mission; and (2) a discussion of associated research opportunities/requirements alternate techniques.

Please note that due to the ambitious scheduling, the times allotted to each model for presentation will be strictly controlled.

#### Monday, May 19th

1400-1700 Welcome and Forum Overview – *Dr. Jon Mercurio – ARL, Adelphi  
Prof. Roger Pielke, Sr., and Dr. Tomislava Vukicevic – CG/AR, CSU*

\* ARL will provide a presentation on Army requirements for meteorological information and modeling, followed by a general discussion on how the Army's needs coincide or depart from the general meteorological modeling framework.

1800-2000 *Icebreaker in the Atrium (appetizers and a cash bar)*

#### Tuesday, May 20th

0800-0805 Welcome and Opening Comments – *Dr. Jon Mercurio*

0805-0915 Coordinate System – *Roger Pielke, Sr., Chair*  
(generalized vertical coordinate, horizontal spatial grid, associated numerical errors) \*10 min/model

0915-0955 Open Discussion

- 0955-1015 *Break*
- 1015-1200 *Dynamic Core – Tomislava Vukicevic, Chair*  
(representation of advection, pressure gradient force, time derivative, conservation properties, assumptions used to derive basic model equations, such as Reynolds averaging, tradeoff between efficiency and accuracy) \*15 min/model
- 1200-1230 *Open Discussion*
- 1230-1400 *Lunch (on your own)*
- 1400-1545 *Sub-Grid Scale Fluxes – Jon Mercurio, Chair*  
(planetary boundary layer turbulence, surface layer turbulence, surface heat and moisture representations, heterogenous sub-grid scale effects) \*15 min/model
- 1545-1605 *Break*
- 1605-1650 *Open Discussion*

### **Wednesday, May 21st**

- 0800-0805 *Opening Comments – Dr. Jon Mercurio*
- 0805-0950 *Radiative Fluxes – Roger Pielke, Sr., Chair*  
(long wave, short wave; clear, partially cloudy, cloudy skies; aerosol effects)  
\* 15 min/model
- 0950-1030 *Open Discussion*
- 1030-1050 *Break*
- 1050-1200 *Initial Conditions – Tomislava Vukicevic, Chair*  
(how obtained and applied, adaptability to 4DDA) \*10 min/model
- 1200-1230 *Open Discussion (30 min.)*
- 1230-1400 *Lunch (on your own)*
- 1400-1510 *Lateral and Top Boundary Conditions/Grid Nesting – Jon Mercurio, Chair*  
(how obtained and applied) \*10 min/model
- 1510-1540 *Open Discussion*
- 1540-1600 *Break*

1600-1710 Stratiform Clouds and Precipitation – *Roger Pielke, Sr., Chair*  
(treatment, time penalty, diagnostic, prognostic) \*10 min/model

1710-1750 Open Discussion

### **Thursday, May 22nd**

0800-0805 Opening Comments – *Dr. Jon Mercurio*

0805-0915 Convective Clouds and Precipitation – *Jon Mercurio, Chair*  
(treatment, time penalty, diagnostic, prognostic) \*10 min/model

0915-0955 Open Discussion

0955-1015 *Break*

1015-1125 Procedures for Model Evaluation – *Tomislava Vukicevic, Chair*  
(comparison to ?; sensitivity of results to uncertainty of model parameterizations,  
and lateral, top and initial boundary conditions, publication of results)  
\*10 min/model

1125-1155 Open Discussion (30 min.)

1200-1330 *Lunch (on your own)*

***Note: The final three topic areas will be discussion sessions only.***

1330-1410 Ensemble Modeling – *Roger Pielke, Sr., Chair*  
(compare advantages of low and high resolution application)

1410-1450 Assimilation of Atmospheric and Land Surface Data (4DDA) – *Tomislava Vukicevic, Chair*

1450-1530 Prognostic vs. Diagnostic as a Nowcasting Approach – *Jon Mercurio, Chair*

1530-1550 *Break*

1550-1700 Breakout session to draft outline of BAMS article

### **Friday, May 23rd**

0830-1030 Summary Session

1030 Travelers depart for Denver International Airport