



SCIENTIFIC PROGRAMS AND ACTIVITIES

August 10, 2011

September 4-7,
2007
**DATA
ASSIMILATION
WORKSHOP**
to be held at the
Fields Institute



Organizing Committee:
**Saroja Polavarapu and
Theodore Shepherd**
Physics, University of
Toronto



Environment
Canada

Environnement
Canada

Version 3.0 – August 2, 2007

TUESDAY SEPTEMBER 4, 2007

09:00 Welcome

09:10 SPARC Science and Data Assimilation **Saroja Polavarapu**

CHEMICAL DATA ASSIMILATION

09:30 **Richard Menard** *Coupled chemistry-dynamics data assimilation*

10:00 **Jean de Grandpré** *On the extraction of wind information from the 4D-var assimilation of chemical constituents*

10:30 Coffee break and posters

11:00 **Frank Baier**
The impact of ground based ozone monitoring on stratospheric ozone assessments: A case study using sequential and variational data assimilation

11:30 **Jörg Schwinger** *Cross validation of MIPAS/SAGE II and MIPAS/HALOE trace gas observations by means of four dimensional variational assimilation*

12:00 **Yves Rochon** – *3D-FGAT assimilation of MIPAS-IMK and GOMOS chemical data*

12:30 --- Lunch (90 min.) ---

14:00 **Sarah Lu** *Global aerosol forecasting and data assimilation in GFS/GSI: Overview and Progresses*

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14:30 [Gloria Manney](#) *Near-Real-Time Processing Plans for Aura MLS Data for Use in Data Assimilation*

15:00 [Poster Ads](#) (3 min each)

15:30 Coffee break

DYNAMICAL DATA ASSIMILATION

16:00 [Didier Auroux](#) *Back and forth nudging algorithm for data assimilation problems*

16:30 [Heiner Körnich](#) *Equatorial waves as a balance relationship in global data assimilation*

17:00 [Matt Reszka](#) *New 3D-Var Dynamical Constraints at Environment Canada*

17:30 Ice breaker and posters

WEDNESDAY SEPTEMBER 5, 2007

STRATOSPHERE-TROPOSPHERE COUPLING

09:00 [Adam Scaife](#) *INVITED* *Stratospheric influences on surface winter climate and prospects for seasonal forecasting*

09:45 [Ronald M. Errico](#) *General Characteristics of Stratospheric Singular Vectors*

10:15 [Mike Keil](#) *Impact of Different Representations of Ozone on Tropospheric Weather Forecasts*

10:45 Coffee break and posters

11:15 [Kris Wargan](#) *Variability of Assimilated Ozone in the Upper Troposphere and Lower Stratosphere*

11:45 [Michaela I. Hegglin](#) *The benefits of in-line advection - Assessing the transport characteristics of the CMAM-DAS*

12:15 --- Lunch (90 min.) ---

MESOSPHERE

13:45 [Charles McLandress](#) *INVITED* *An overview of the dynamics of the mesosphere and lower thermosphere*

14:30 [Ruth S. Lieberman](#) *Intercomparison and fusion of EOS/MLS and TIMED/SABER temperatures*

15:00 [Valery A. Yudin](#) *Constraining Zonal Mean Flow and Diurnal Tide by Space-borne Data*

15:30 Coffee break and posters

16:00 [V. Lynn Harvey](#) *The mesospheric polar vortices in GEOS, WACCM, SABER, and EOS-MLS*

16:30 [Lisa Neef](#) *Gravity Waves in Four-Dimensional Data Assimilation*

17:00 [Yulia Nezlin](#) *A study of the CMAM_DAS using simulated observations*

19:00 Banquet

THURSDAY SEPTEMBER 6, 2007

INTERNATIONAL POLAR YEAR – Canadian SPARC-IPY

09:00 [Mark P. Baldwin](#)
How will a changing stratosphere affect high-latitude climate?

09:45 [Gloria Manney](#)
Polar Stratopause and Tropopause Evolution and Transport and Implications for Assimilated Analyses

10:30 Coffee break and posters

11:00 [Karl Hoppel](#)
Stratospheric and Mesospheric Assimilation using the NOGAPS-ALPHA/NAVDAS forecast model

11:30 [Shuzhan Ren](#)
The constraint of data assimilation in the stratosphere and troposphere on mesospheric motions

12:00 [Craig Benson](#)
Detection of Antarctic Ice Polar Stratospheric Clouds from AIRS Assimilation

12:30 --- Lunch (90 min.) ---

14:00 [Richard L. Collins](#)
Pan-Arctic Study of the Coupled Tropospheric Stratospheric and Mesospheric Circulation

14:30 [Kimberly Strong](#)
Investigating Middle Atmospheric Chemistry at the Polar Environment Atmospheric Research Laboratory (PEARL)

15:00 [Kaley A. Walker](#)

The Atmospheric Chemistry Experiment (ACE): Mission Overview and Recent Results

15:30 Coffee break and posters

16:00 Discussion: The Data Assimilation contribution to SPARC IPY activity (1.5 h)

FRIDAY SEPTEMBER 7, 2007

INTERNATIONAL POLAR YEAR – International SPARC-IPY

09:00 **Norm McFarlane** Overview of SPARC-IPY and Introduction of the Objectives for the Day

09:15 **Saroja Polavarapu** Summary of CAN SPARC Activities

09:30 **Pablo Canziani (in absentia – presented by E. Farahani)**
Stratosphere-Troposphere Coupling Studies at High Southern Latitudes and Antarctic Historic Data Analysis

09:45 **Kaoru Sato (in absentia – presented by E. Farahani)**
Overview of PANSY Project

10:00 Coffee break and posters

10:30 **James Drummond** *INVITED* International Arctic Systems for Observing the Atmosphere (IASOA), IPY Activity 196

11:00 **Ellie Farahani** Overview of Other IPY-related Activities

11:15 Discussion on Data Sharing and Future Activities

12:15 **Norm McFarlane** Presentation of the Workshop Highlights and Action Items

12:30 End of Workshop

POSTERS

Asan Bacak

Surface measurements of size and composition of particulate matter at Eureka, Nunavut

Rebecca Batchelor

Measurements of atmospheric trace gases in the Arctic: First light measurements from the new FTIR spectrometer at PEARL

Zeyu Chen

Seasonal variations in the MLT tides in the 120E meridian

Young-Min Cho

Temperature correlation between the lower atmosphere and the MLT region

Tatyana Chshyolkova

Evolution of the Arctic polar vortex during 2004/05 and 2005/06 winter seasons based on the analysis of MetO assimilated fields

Annemarie Fraser

Ground-based Zenith-sky DOAS Measurements of Trace Gases at Eureka, Nunavut

Chongyin Li

Stratospheric Circulation—AO—Mei-yu Anomaly

Craig Long

Assimilation of Multiple Ozone Products into the NCEP Operational Forecast Model

Maelle Nodet

Assimilation of Lagrangian Data in Oceanography

Mark Parrington

Estimating ozone radiative forcing based on satellite observations

Alain Robichaud

Assimilation of MIPAS chemical constituents during a major EPP-NO_x event over Antarctic winter 2003

W.E. Ward

Tidal Signatures in the Extended Canadian Middle Atmosphere Model

William Ward

Waves and Coupling Processes at the Polar Environment Atmospheric Research Laboratory (PEARL)

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