



OASIS Data Workshop
UC Davis, CA, Dec 10 & 11, 2009
Buehler Alumni & Visitors Center

Agenda

Thursday, Dec 10, 2009

- 9:00** **Welcome** Harry Beine & Cort Anastasio
Pia van Benthem (Outreach Coordinator, LAWR, UCD): Logistics
- 9:15** **Purpose & Format of Workshop**
Harry Beine & Paul Shepson
- 9:20** **Introduction:** Remind Ourselves of Our Big Science Questions
Paul Shepson
- A. Determining fluxes of trace gases into and out of the snow pack, and determining their impact on the overlying atmosphere.
 - B. Determining whether there is a connection between halogen chemistry and Arctic Haze.
 - C. Establishing the role of meteorology and boundary layer stability on surface layer chemistry.
 - D. Determining how the chemistry of Hg and Persistent Organic Pollutants (POPs) is impacted by halogen or oxidant chemistry, and by the physical/chemical nature of the snow and sea ice.
 - E. Determining the extent to which air-surface interactions in the Arctic can be accurately described by models.
- 9:40** Short break to grab a cup of coffee
- 9:50** **Overview of Barrow results:**
What data do we have, coverage/ quality/ precision/ nature/ highlights...
Everybody gets 5 minutes to show his/her data. Short presentations! *The aim here is to immerse ourselves totally in the data; show your data to get everybody excited and thinking! Results and topics will obviously be picked up in the following discussions. There will be room for one or two questions after each presentation (max 2 min!). The group can also identify topics that need to be discussed more.*

Discussion leader: **volunteer**

- 1 Boundary layer dynamics and ozone depletion events *Ralf Staebler*
- 2 HYSPLIT trajectories *Lee Mauldin*
- 3 Atmospheric actinic flux and photolysis frequencies during OASIS *Sam Hall*
- 4 Turbulence above the snowpack *Jose Fuentes*
- 5 Surface ozone from Barrow, OOTI, and the O-buoy *Jan Bottenheim*
- 6 Tethered balloon operation, met data, ozone data *Detlev Helmig*
- 7 Ozone fluxes from eddy correlation measurements; Ozone in the snowpack from sampling below the surface *Patrick Boylan*
- 8 Ozone and NO_x from tethered balloon and tower *Andy Weinheimer*
- 9 Ozonesonde data collected from the NOAA Barrow Observatory *Bryan Johnson*
- 10 Observations of VOCs from the tower, balloon, and selected roaming samples *Eric Apel*
- 11 DOAS, Max-DOAS, LP *Udo Friess*
- 12 ClO measurements and chlorine chemistry *Chelsea Thompson*
- 13 Observations of HOBr, BrO, and other halogen species by CIMS in Barrow, AK during OASIS. *Jin Liao*
- 14 BrO from Max-DOAS on ice *Stoyka Natcheva*
- 15 Speciation of organic matter in snow; Aldehydes in Arctic snow and their possible relationship to snow-air fluxes; Isotopic composition of atmospheric nitrate and its possible use in atmospheric modeling; Physical properties of the snowpack and of atmospheric snow crystals. *Florent Domine*
- 16 Barrow windpack: Optical properties, snow photochemistry and fluxes of photo-produced material from the snowpack on ice and land *Martin King*
- 17 Optical Absorption of Snow, Sea-Ice & Frostflowers *Harry Beine*
- 18 VOC in snow; Some VOC in air; Snow microbiological studies + DNA identification *Parisa Ariya's results*
- 19 Mercury in Barrow this year *Sandy Steffen*
- 20 Mercury in snow and frost flowers *Tom Douglas*
- 21 OH measurements and reactivity *Josh McGrath*
- 22 Behavior of HO_x radicals *Chris Cantrell*
- 23 Formaldehyde and Methane Measurements. *Alan Fried*
- 24 PAN observations and budget *Wengang Zheng*
- 25 HONO Measurements using LOPAP technique *Guillermo Villena*
- 26 Halocarbon measurements *John Orlando for Jim Greenberg, Andy Turnipseed, Alex Guenther*
- 27 Aerosol physical properties *John Orlando for Jim Smith*

12:00 Lunch

13:00 **Science discussions**

13:00 **B.L. Meteorology**

This discussion is led by **Ralf Staebler**, who will give an introductory presentation.

14:30 Coffee-break

15:00 **Snow: Physical, chemical, & optical properties, and interactions with the atmosphere**

The discussion is led by **Florent Domine**, who will give an introductory presentation.

17:00 End of first day

18:30 Dinner

Bus Pick up at 18:30 at hotel

- ~ 19:00 Wine tasting at Beryessa Gap
<http://www.berryessagap.com/berryessagap/page/tasting.jsp>
- 20:00 Dinner at Buckhorn Steak and Roadhouse
<http://www.buckhornsteakhouse.com/index.html>

Friday, Dec 11, 2009

- 9:00 Continue discussion of science topics
- 9:00 **Halogens:** HOBr, BrO, Cl, I, effects on Ozone and mercury
This discussion is led by **Paul Shepson**, who will give a short introductory presentation.
- 10:30 Coffee break
- 11:00 **Surface fluxes of other gas phase species:** NO_x/HONO and VOC
This discussion is led by **Frank Flocke**.
- 12:30 Lunch
- 13:30 **"General" photochemistry:** OH, HO_x, peroxy radicals, PAN, and formation of aerosols.
This discussion is led by **John Orlando**.
- 15:00 Coffee break
- 15:30 **Other business / topics;**
Harry Beine & Paul Shepson
- 16:00 **Summary & Outlook: list of planned publications**
Harry Beine & Paul Shepson
- 17:00 End of Workshop

Notes on logistics:

We will have a **printer/scanner**, tied to a dedicated laptop. You can print from a USB-stick (not wireless).

Please bring your presentation on a USB-stick; the meeting rooms have a ceiling mounted projector, but it will be easiest to use one computer only for presentations.

The meeting rooms will have **wireless internet access**.