2007 Atmospheric and Oceanic Sciences Student Poster Conference

University of Colorado at Boulder

Friday, October 26, 2007
1:00pm-5:30pm
Stadium Club

Sponsored By

LEAP: Leadership Education for Advancement and Promotion
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National Science Foundation
Participants by Research Area:
All posters will be on display in the Gallery for the duration of the conference. Note: posters are separated by research area and then listed in order by poster number, followed by the author’s name; poster title; and student’s home department.

Session 1 - Atmospheric Chemistry (CHEM)

CHEM-01: Allison C. Aiken; Organic Aerosol Analysis with the High-Resolution Time-of-Flight Aerosol Mass Spectrometer (HR-ToF-AMS) at T0 in Mexico City during MILAGRO/MCMA-2006 (Chemistry)

CHEM-02: Kelly Baustian; Laboratory Study of Ammonium Sulfate Aerosol Particles as Ice Nuclei (Atmospheric and Oceanic Sciences)

CHEM-03: Melinda Beaver; Relative Humidity Dependence of Light Extinction by Mixed Organic/Sulfate Particles (Chemistry)

CHEM-04: Ryan Daly; Study of Diurnal and Seasonal Variations of Monoterpene and Sesquiterpene Emissions from Vegetation (Mechanical Engineering)

CHEM-05: Peter DeCarlo; Fast airborne aerosol size and composition measurements from the C-130 during the MIRAGE-Mex 2006 field campaign (Atmospheric and Oceanic Sciences)

CHEM-06: H. Langley DeWitt; Organic Haze Formation in a Hydrogen-Rich Early-Earth Atmosphere (Chemistry)

CHEM-07: Meghan Dunn; Sunlight Initiated Atmospheric Photochemistry of Organic Acids (Chemistry)

CHEM-08: Adam Eisele; Understanding Air Toxics at the Urban/Mountain Interface in Boulder County (Mechanical Engineering)

CHEM-09: Marta K. Kapala; The Effect of Water on Spectra and Photo Reaction Dynamics of Organic Acids (Mechanical Engineering)

CHEM-10: Joshua McGrath; Development of a Total OH Loss Rate Measurement Technique Using Select Ion Chemical Ionization Mass Spectrometry (Atmospheric and Oceanic Sciences)

CHEM-11: Brian Seok; Carbon Dioxide Gas Exchange Through the Snowpack and Its Contribution to the Ecosystem Carbon Budget in a High-Elevation, Subalpine Forest (Atmospheric and Oceanic Sciences)

Session 2 - Atmospheric Dynamics (DYN)

DYN-01: Brad Beechler; Jet Alignment in a 2 layer Quasi-Geostrophic System Using One-Dimensional Mesh Warping (Atmospheric and Oceanic Sciences)

DYN-02: Derek Brown; Comparative Hydrology Over Monsoonal Regions Using Seasonal Distributions of Stable Water Isotopes (Atmospheric and Oceanic Sciences)
**DYN-03: Nikolaus Buenning;** The Impact of Isotope Hydrology Variations on $\delta^{18}O$ of Atmospheric CO$_2$ (Atmospheric and Oceanic Sciences)

**DYN-04: Loren Chang;** Effects of Planetary Wave Activity at Winter High Latitudes on the Equatorial Lower Thermosphere (Aerospace Engineering Sciences)

**DYN-05: Stephanie Evan;** Intermediate-scale tropical inertia gravity waves observed during TWP-ICE campaign (Atmospheric and Oceanic Sciences)

**DYN-06: Jonathan Fentzke;** A semi-empirical model of the contribution from sporadic meteoroid sources on the meteor input function observed at Arecibo (Aerospace Engineering Sciences)

**DYN-07: Joel Finnis;** Self-organizing Maps as a Tool for Model Verification and Intercomparison (Atmospheric and Oceanic Sciences)

**DYN-08: Jeffery France;** Understanding the Variability of the Stratopause and its Correlation to the Structure of the Polar Vortex (Atmospheric and Oceanic Sciences)

**DYN-09: Ming Ge;** The climatology of the sea-breeze in the New York City area: Toward a better understanding of the urban, littoral-zone boundary layer (Atmospheric and Oceanic Sciences)

**DYN-10: Katelynn Greer;** Wintertime Polar Stratopause Warming and Mesospheric Cooling Events (Aerospace Engineering Sciences)

**DYN-11: Scott Gregory;** Variability in the Teleconnection Between the El Nino Southern Oscillation and the West Antarctic Climate (Atmospheric and Oceanic Sciences)

**DYN-12: Sherri Heck;** Regional and local carbon flux information from a continuous atmospheric CO$_2$ network in the Rocky Mountains (Atmospheric and Oceanic Sciences)

**DYN-13: Hiroyuki Iimura;** Comparisons of the Summer Non-Migrating Semidiurnal Tide over Antarctica and Arctic Determined from TIDI Wind Measurements (Aerospace Engineering Sciences)

**DYN-14: M. Pilinski;** Studying Neutral Density, Wind, and Composition in the Upper Atmosphere with a University-Class Spacecraft (Aerospace Engineering Sciences)

**DYN-15: Cecile Marie Piret;** On choosing a radial function and a shape parameter when solving a convective PDE on a sphere (Applied Mathematics)

**DYN-16: David Porter;** A Comparison of the Large-scale Arctic Energy Budget in Reanalyses (Atmospheric and Oceanic Sciences)

**DYN-17: Peter Schmitt;** Point Vortex Identification in 3D Quasi-Geostrophic Turbulence Simulations (Applied Mathematics)

**DYN-18: Keah Schuenemann;** Analysis of the Synoptic Forcing for Precipitation and Precipitation Trends over Greenland from 1961 – 1999 (Atmospheric and Oceanic Sciences)

**DYN-19: Donavan Wheeler;** Pan-Arctic Studies of the Coupled Tropospheric, Stratospheric and Mesospheric Circulation (Atmospheric and Oceanic Sciences)

**DYN-20: Kaj Williams;** The possibility of melting dusty snowpacks on Mars (Atmospheric and Oceanic Sciences)
DYN-21: Wei Yu; *An evaluation of 3DVAR, nudging-based FDDA and a hybrid scheme for summer convection forecasts* (Atmospheric and Oceanic Sciences)

Session 3 - Clouds and Aerosols (CLAE)

CLAE-01: Charles Bardeen; *Numerical Simulations of the Three-Dimensional Distribution of Polar Mesospheric Clouds* (Atmospheric and Oceanic Sciences)

CLAE-02: Gregory Brinkman; *Personal Exposure to Trace Organics in PM2.5* (Mechanical Engineering)

CLAE-03: Steven Dutton; *Denver Aerosol Sources and Health (DASH) Study* (Civil Engineering)

CLAE-04: Jason English; *Climate Forcing from Asian Sulfate Aerosols using CAM* (Atmospheric and Oceanic Sciences)

CLAE-05: Tianyi Fan; *Global Sea Salt Aerosol Modeling using Coupled Microphysical and Climate Model* (Atmospheric and Oceanic Sciences)

CLAE-06: Christa Hasenkopf; *Optical constraints of Titan and early Earth haze analogs* (Atmospheric and Oceanic Sciences)

CLAE-07: Lansing Madry; *Incorporating MODIS data into sea salt model comparisons* (Atmospheric and Oceanic Sciences)

CLAE-08: Lin Su; *Asian Dust Storms Simulations by the CAM/CARMA Dust Model* (Atmospheric and Oceanic Sciences)

Session 4 - Oceanography (OCE)

OCE-01: Jillian Cadwell; *Reaction Enhancement of Distant Scalars in a Quasi-Turbulent Vortex Field* (Civil Engineering)

OCE-02 Samuel Dorsi; *Satellite Observations of Sea Level Change* (Atmospheric and Oceanic Sciences)

OCE-03: Carl Drews; *Storm Surge* (Atmospheric and Oceanic Sciences)

OCE-04: Benet Duncan; *Indian Ocean Intraseasonal SST Variability During Boreal Summer* (Atmospheric and Oceanic Sciences)

OCE-05: Nicholas Hoffmann; *Gulf of Mexico Loop Current Metrics* (Aerospace Engineering Sciences)

OCE-06: Dax Matthews; *Mapping Ekman currents from satellite and in situ data in the California Current System* (Aerospace Engineering Sciences)

OCE-07: Laurie Trenary; *Mechanisms responsible for the tropical thermocline cooling in the Indian Ocean* (Atmospheric and Oceanic Sciences)
Session 5 - Remote Sensing/Radiative Transfer (RSRT)

RSRT-01: Susanne Benze; Comparison of PMC measurements from AIM and SBUV/2 (Atmospheric and Oceanic Sciences)

RSRT-02: Matthias Brakebusch; Development of an automated cloud detection method for advanced photogrammetric systems (Atmospheric and Oceanic Sciences)

RSRT-03: Laura Brower; Mesospheric Joule Heating During the Halloween 2003 Superstorm (Aerospace Engineering Sciences)

RSRT-04: Odele Coddington; Measurement and Error Analysis of Spectral Surface Albedo during MILAGRO (Atmospheric and Oceanic Sciences)

RSRT-05: Matthew Edwards; Simulation of an Airborne Laser Profiling System for Freeboard Sea Ice Measurements (Aerospace Engineering Sciences)

RSRT-06: Scott Ellis; Humidity and Cloud Liquid Water Content Retrievals Using Dual-frequency Radar measurements (Atmospheric and Oceanic Sciences)


RSRT-08: Benjamin Hamlington; Hilbert-Huang Transform Analysis of Sea Surface Height (Aerospace Engineering Sciences)

RSRT-09: Matt Hayman; Instrumentation for CU Research Lidar (Electrical Engineering)

RSRT-10: Kyle Johnson; A Numerical Model for VHF Meteor Radars (Aerospace Engineering Sciences)

RSRT-11: Chunmei Kang; A detailed error analysis for meteor radar system (Aerospace Engineering Sciences)

RSRT-12: Bruce Kindel; Solar Spectral Irradiance Measurements During the PACific Dust EXperiment (PACDEX) (Atmospheric and Oceanic Sciences)

RSRT-13: Justin Mabie; Analysis of Simple Inner Magnetosphere Model (Atmospheric and Oceanic Sciences)

RSRT-14: Patrick McBride; Ground-based Zenith Radiance Measurements for Retrieval of Cloud and Aerosol Properties (Atmospheric and Oceanic Sciences)

RSRT-15: Amal Ramachandran; Gravity wave observations from the AIM Spacecraft (Aerospace Engineering Sciences)

RSRT-16: Jonathan Sparks; Observed Seasonal and Diurnal Variability of Meteor Activity at High Latitudes using AMISR (Aerospace Engineering Sciences/Engineering Physics)

RSRT-17: Ashley Wiren; Determining Polar E-Region Neutral Wind from ISR Measurements of Ion Characteristics (Aerospace Engineering Sciences)
Participants by alphabetical order:

All posters will be on display in the Gallery for the duration of the conference. Note: participants are listed below in alphabetical order by last name of the author, followed by the poster location.

Allison C. Aiken, CHEM-01
Charles Bardeen, CLAE-01
Kelly Baustian, CHEM-02
Melinda Beaver, CHEM-03
Brad Beechler, DYN-01
Susanne Benze, RSRT-01
Matthias Brakebusch, RSRT-02
Gregory Brinkman, CLAE-02
Laura Brower, RSRT-03
Derek Brown, DYN-02
Nikolaus Buenning, DYN-03
Jillian Cadwell, OCE-01
Loren Chang, DYN-04
Odele Coddington, RSRT-04
Ryan Daly, CHEM-04
Peter DeCarlo, CHEM-05
H. Langley DeWitt, CHEM-06
Samuel Dorsi, OCE-02
Carl Drews, OCE-03
Benet Duncan, OCE-04
Meghan Dunn, CHEM-07
Steven Dutton, CLAE-03
Matthew Edwards, RSRT-05
Adam Eisele, CHEM-08
Scott Ellis, RSRT-06
Attila Elteto, RSRT-07
Jason English, CLAE-04
Stephanie Evan, DYN-05
Tianyi Fan, CLAE-05
Jonathan Fentzke, DYN-06
Joel Finnis, DYN-07
Jeffery France, DYN-08
Ming Ge, DYN-09
Katelynn Greer, DYN-10
Scott Gregory, DYN-11
Benjamin Hamlington, RSRT-08
Christa Hasenkopf, CLAE-06
Matthew Hayman, RSRT-09
Sherri Heck, DYN-12
Nicholas Hoffmann, OCE-05
Hiroyuki Iimura, DYN-13
Kyle Johnson, RSRT-10
Chunmei Kang, RSRT-11
Marta K. Kapala, CHEM-09
Bruce Kindel, RSRT-12
Justin Mabie, RSRT-13
Lansing Madry, CLAE-07
Dax Matthews, OCE-06
Patrick McBride, RSRT-14
Joshua McGrath, CHEM-10
M. Pilinski, DYN-14
Ceclie Marie Piret, DYN-15
David Porter, DYN-16
Amal Ramachandran, RSRT-15
Peter Schmitt, DYN-17
Keah Schuenemann, DYN-18
Brian Seok, CHEM-11
Jonathan Sparks, RSRT-16
Lin Su, CLAE-08
Laurie Trenary, OCE-07
Donavan Wheeler, DYN-19
Kaj Williams, DYN-20
Ashley Wiren, RSRT-17
Wei Yu, DYN-21

Special thanks to the ATOC Poster Conference Committee Members, Staff, and Student Volunteers:

Weiqing Han
Scott Kittelman
Benet Duncan
Jason English
Christa Hasenkopf
Laurie Trenary
Sherry Yearsley

Laurie Conway
Kelly Duong
Susanne Benze
Patrick McBride
Tanya Phillips
Keah Schuenemann
Lin Su

We also thank MCDB and Psychology Departments for their generosity of lending us poster boards.