

CMMAP Summer Education and Diversity Retreat
 Tamasag Retreat Center
 Monday, August 6, 2012
 8:30am-4:30pm

Meeting Minutes (prepared by M. Donnelson and M. Burt)

Participants:

Rodger Ames, Josh Anderson, Matt Aronson, Michele Betsill, Cherie Bornhorst, Melissa Burt, John Calderazzo, Sue Ellen Campbell, Silvia Canetto, Colleen Cope, Elliot Dale, Scott Denning, Aryeh Drager, Marcia Donnelson, Sheila Ferguson, Claire Fleming, Brian Jones, Rebecca Haacker-Santos, Catherine Keske, Mike Lacy, Jan Lanting, Heather Michalak, Indira Nair, Mary Ontiveros, Dave Randall, Randy Russell, Carlie Trott, Andrea Weinberg, Barbara Whitten, and Thomas Windham

Agenda

CMMAP Summer Education and Diversity Retreat Tamasag Retreat Center		
Monday, August 6, 2012		
8:30	Coffee and Pastries	
9:00	Melissa Burt	Welcome and Introductions
9:15	Scott Denning	CMMAP E&D in a nutshell
9:45	Jeni Cross Elliot Dale Catherine Keske	Governor's Energy Office (GEO) Projects
10:30	Scott Denning Rebecca Haacker-Santos	Pointe Aux Chenes Research with CHART and CMMAP/SOARS Proteges
11:15	Melissa Burt Thomas Windham	CMMAP Internship and Recruiting Strategies
11:45	Andrea Weinberg Leonard Albright	CMMAP E&D Evaluation updates
12:15	Lunch	
1:00	LSOP	Energy & Climate Activities from the Little Shop of Physics
1:45	Rodger Ames Josh Anderson Colleen Cope Scott Denning	iPad App and K-12 Education
2:30	Randy Russell	Future NSTA Webinars
3:00	Carlie Trott Silvia Canetto	Why so few? Educational persistence views and experiences of atmospheric science female graduate students
3:30	Everyone	Open Discussion
4:30	Adjourn	

9:00 am - Welcome and Introductions (Melissa Burt)

Melissa Burt began the meeting with introductions and an overview of the day. Indira Nair was introduced as a newly appointed EAP member for Education and Diversity.

9:15 am - CMMAP E&D in a nutshell (Scott Denning)

Scott Denning presented a history and overview of CMMAP education and diversity efforts.

Highlights of his presentation include:

- Little Shop of Physics
 - Everyday Science videos – over 30 produced so far
 - ~20,000 kids seen each year
 - LSOP atHESTEC
- Weather and Climate for Teachers Course
 - LSOP, CMMAP, ATS Faculty and ATS Graduate Students
 - 2 courses this year, beginner and intermediate -- most teachers took both courses
- Undergraduate Internship Program
 - 10-12 interns each summer -- form a cohort and work with other CSU programs
 - CMMAP and ATS Faculty work with interns
 - Multidimensional mentoring (faculty, research scientists, graduate student mentoring)
- Windows to the Universe Website/80,000 views per month
- Colorado Global Climate Conference
 - 400 high school students participated in October, 2011
- Creating new undergraduate courses on climate
 - Climate Science for Poets
 - 3 courses at Colorado College
- Scott's work with the "Climate Deniers" at Heartland Institute
- Changing Climates at CSU
 - Led by John and SueEllen from CSU English
 - So far, 120 presentations with over 6,000 listeners
- Graduate Students
 - Each summer professional development workshop

- grad students are starting to finish - 3 students are now assistant professors

9:45 am - Governor's Energy Office (GEO) Projects (Michele Betsill, Elliot Dale, Catherine Keske, and Hillary Dobos)

Michele Betsill started this session giving an overview of the projects associated with the Governor's Energy Office. The GEO funded projects are a good example of science policy and the connection to the greater community.

CMMAP funded 4 pilot projects in coordination with the GEO and Hillary Dobos. Michele Betsill and Hillary Dobos worked together to select the projects to be funded. Two presentations were given.

Pilot projects:

Scott Cohn - "Assessing and Improving Methods of Waste Diversion"

Jeni Cross - "Greening Correctional Facilities: Impacts of Integrated Design for Long Term Sustainability"

Catherine Keske - "Using Biodiesel to Replace City Fleet Vehicles in Rural Communities"

Elliot Dale - "Rocky Mountain National Park Campground Recycling and Landfill Waste Diversion Behavioral Change Initiative"

Elliott Dale presented on his work in the Rocky Mountain National Park (RMNP) focused on re-cycling. He pointed out that RMNP receives over 2 million visitors per year. He used the *Collective Behavior and Social Movements (CBSM)* method to help develop and evaluate the research. He performed observations around camper behavior regarding recycling, the availability of recycling and surveyed park visitors regarding attitudes about recycling. In conjunction with park employees, he developed a re-usable recycling bag to hand out to campers at Moraine Park. Some of his findings include: 1. CBSM behavior change recycling initiative was a success; 2. Recyclables in Family and Group Campground waste streams decreased in 2012 from 2011; and 3. entrance gate commitment and recycling bag handout are the most effective at creating behavior change.

Catherine Keske presented on her work to encourage farmers to use their marginal cropland to grow bio energy crops. She is working with the City of Rifle, Colorado to utilize these crops in a bio refinery. In working with Calvin Pearson of the CSU Western Colorado Research Center, she has developed a bio mass expense calculator. This calculator helps a producer determine overall expense and revenue from various types of grasses.

It was suggested that Catherine could explore attending the annual meeting of the extension service to help disseminate her results.

10:30 am - Pointe Aux Chenes Research with CHART and CMMAP/SOARS Proteges (Scott Denning and Rebecca Haacker-Santos)

Scott Denning presented information about the Mississippi Delta and the rapid land loss that is occurring throughout the Louisiana bayou. Scott showed many photos of the area, how the land has changed in one human lifetime, the people who are still living in what remains of their homeland.

Two SOARS proteges and one RESESS intern worked in Pointe Aux Chenes on a variety of projects that were decided on by the community.

- Sandra Maina's project was titled "Protecting South Terreboone Parish, Louisiana through the development of *Vanishing Points*". She worked on developing an iPhone app to help motivate community and national involvement in coastal restoration.
- Frances Roberts-Gregory project was titled "Ethnobotanical Conversations along the Bayou." Frances worked with the community on community gardens and preserving medicinal and culturally meaningful native plants. She met with community elders to ask about their memories about various species of plants that would be appropriate to preserve.
- Jordan Allan project focused on salt-tolerant grasses for bank-stabilization.

Rebecca reported on the interaction she had with students in order to introduce them to CBPR research methods and to try to prepare them for the experience. In the end, it was felt that there was more work than expected, but that it was very rewarding.

11:15 am - CMMAP Internship and Recruiting Strategies (Melissa Burt and Thomas Windham)

Melissa's presentation focused on the summer undergraduate internship program and the matriculation of our interns into graduate school. The presentation also focused on our efforts to increase diversity in atmospheric science by recruiting students from historically underrepresented groups. A goal was set in 2011 to have 70% of our summer undergraduate interns to be from underrepresented groups. The 2012 group was 38% diverse.

11:45 - CMMAP E&D Evaluation updates (Andrea Weinberg)

Andrea Weinberg from CSU School of Education reported on the evaluation projects that are currently being conducted. She included the timeline for present and future evaluations.

Andrea reported on four evaluation studies:

LSOP Study 1: Influence of LSOP Internship Experience on CSU Students,
Teacher Workshop Study 1: Unique Aspects & Persistent Impacts,
UCAR SPARK Study 1: SOARS/CHART Intern Study,
Diversity Study 1: CMMAP Internship Experience

1:00 pm - Energy and Climate Activities from the Little Shop of Physics (LSOP Crew)

Brian Jones, Sheila Ferguson, Cherie Bornhorst and Heather Michalak presented on a few of the LSOP activities that took place over the last year. Highlights included HESTEC (1,000 kids a day) LSOP franchises (Pine Ridge, SD; Sterling, Co; Trinidad, Co; Cornell, NY; Austin, TX and Korea).

The 2012-2013 theme is Dimensions. Will be including 3-D glasses for all participants. Would like to have suggestions on a pithy theme name. The LSOP will also have a booth at NSTA in the Spring of 2013 where they will be introducing several new kits. Thanks to Cherie and the Bohemian Foundation, in 2011-2012 school year, LSOP distributed 31 instruction kits to PSD 4th grade classrooms and will distribute 31 more this current school year to 5th grade classrooms.

They also worked with the Alliance Partnership Schools (9th-12th grade), Noyce Fellows during the summer.

1:45 pm iPad App and K-12 Education (Colleen, Cope, Scott Denning, Rodger Ames and Josh Anderson)

Colleen discussed her involvement in developing K-12 curriculum that will involve iPad Applications. One of the possible applications is "Earth Carbon" which is being developed by Rodger Ames and Scott Denning. She is working on developing a corresponding curriculum to help integrate and demonstrate the app in classrooms in Poudre School District. She plans to also evaluate the impact of the app on students and teachers and disseminate the results at the end of the research study.

Rodger Ames showed "Earth Carbon" to the group. There has been significant improvement since he last showed the app at the Winter Meeting. He is also looking for feedback.

Josh Anderson, CMMAP Intern, showed his app that he has been developing to the group and asked for feedback. Josh hopes to be able to continue working on the app during the coming year.

2:30 pm - Future NSTA Webinars (Randy Russell)

Randy gave a brief overview of a webinar that he and Scott Denning presented on June 11, 2012. Teaching Climate Models: Breathing of the Earth, is the first

installment of a four-part series. Approximately 55 teachers attended the webinar. The next webinar is scheduled for September 24th. with a focus on heating and warming of the Earth. Randy also showed some of his animated interactives that he is currently working on.

3:00 pm- *Why get a Doctorate? Views and Experiences of Atmospheric Science Female Graduate Students (Carlie Trott)*

Carlie presented on a study she had done with female graduate students in Atmospheric Science at Colorado State University. The study was designed to examine ATS women graduate students' persistence views and experiences throughout graduate education. Participants were recruited, and participated in an in-depth, semi-structured interview. Their findings were consistent with findings from other STEM women's studies and they presented new information unique to the ATS experiences. There were some limitations of the present study and they hope to expand in the future to have a larger sample.

3:30 pm - Open Discussion

We opened the floor up to everyone. A few ideas were thrown out to the group as to how we can collaborate and seek future grants. There was also talk as to how to structure the next E&D Retreat.

The meeting adjourned at 4:30 pm.