Academic Affiliates Meeting Minutes  
6 October 2010  
Center Green, Boulder, Colorado

Academic Affiliates members in attendance:

David Smith, Chairman U.S. Naval Academy  
Juan Arratia Universidad Metropolitana, Puerto Rico  
Nolan Atkins Lyndon State College  
William Capehart South Dakota School of Mines  
Sen Chiao (Sub) Florida Institute of Technology  
Oswaldo Garcia San Francisco State University  
Anne Case Hanks University of Louisiana, Monroe  
Anthony Hansen St. Cloud State University  
Redina Herman Western Illinois University  
Eric Hoffman Plymouth State University  
Mike Larsen (Faculty Guest) College of Charleston  
Varavut Limpasuvan Coastal Carolina University  
Jose Maliekal The College at Brockport  
Doug Miller University of North Carolina – Asheville  
Richard Mower Central Michigan University  
Gretchen Mullendore (Faculty Guest) University of North Dakota  
Michael Poellot University of North Dakota  
Alfred Stamm State University of New York – Oswego  
Scott Steiger (Faculty Guest) State University of New York – Oswego  
Richard Wagner Metro State College of Denver  
Arne Winguth University of Texas at Arlington  
Sepideh Yalda Millersville University  
Joseph Zehnder Creighton University

Rick Anthes, UCAR President, welcomed the Affiliates, congratulating them on their 20th anniversary. He related the history of how non-Ph.D. granting institutions became formal participants in UCAR. Initially, the Member Universities responded to the white paper jointly prepared by Russ DeSouza and Rick by limiting the number of Academic Affiliates to only five. However, realizing that Affiliate members fill a vital role in the community and including them in UCAR benefitted everyone, they soon dropped the limitation on the number of Affiliates. With this year’s two new members, The State University of New York at Oswego and the University of North Carolina at Asheville, the number of Academic Affiliates now stands at 25. In addition, affiliate members now chair the Membership Committee (Eric Hoffman) and the President’s Advisory Committee on University Relations (Lisa White). Rich Clark, another Affiliate, is a member of the Board of Trustees. The Member

Universities have actively embraced the Affiliates. Rick expressed his pride in the Affiliates and their many contributions over the years.
Mary Marlino, NCAR Library Director, highlighted two initiatives: building capacity for scientific data creation and the debut of the NCAR OpenSky database. Eighty percent of all research data is produced by three disciplines, of which atmospheric science is second. Although there is a growing recognition of the national need in libraries and academic institutions to preserve and make this scientific data accessible, there are serious workforce issues related to the extreme scarcity of qualified data curation professionals. The new NSF mandate to include a written data management plan in proposals, as well as the need to link data sets with the actual publication, is creating a push to train new digital data conservation professionals.

The NCAR Library, in partnership with the University of Illinois and the University of Tennessee, has received a grant from the Institute of Library and Museum Sciences to fully fund four Ph.D. and four Master’s students for two to four years. Marlino suggested that some students in Affiliate institutions might be interested in pursuing this field, which will offer huge job opportunities. The deadline for application is 5 January 2011. Details can be found at: http://www.lis.illinois.edu/academics/programs/phd

Jamaica Jones, NCAR Special Projects Librarian, gave the background of the new NCAR OpenSky institutional repository (http://opensky.library.ucar.edu/), which is the realization of UCAR’s open access policy established in September 2009. OpenSky contains over 200 peer-reviewed journal articles (from 2009 forward); UCP and NCAR publications; NCAR Tech Notes; and UCAR-authored manuscripts, monographs, proceedings, presentations, posters, and educational materials. OpenSky allows free and open access to Affiliates, students, and other researchers around the world. The NCAR Library has been working with the AMS, AGU, and the Springer Publishing House and will honor the publisher’s policies and restrictions. Although data sets are not currently linked, this is a goal for the future.

Susan Foster, UCAR Education and Outreach (EO) Director, reviewed the recent history of changes in EO with Roberta Johnson stepping down as Director and the Windows to the Universe program moving to NESTA. In June, Susan was appointed Director for a one-year term, and Raj Pandya accepted the Deputy Director position in addition to also being Director of the Community Building and SOARS programs. Maura Hagan, NCAR Deputy Director, chaired a committee of UCAR education-oriented staff to advise the UCAR President on the “new” EO office function, leadership, and organizational home. Recommendations included moving EO under the UCAR Corporate Affairs entity, which Jack Fellows directs. This recommendation was implemented. Doing so allows closer alignment with the UCAR Community Programs. New guiding principles include focusing on service and support of NCAR and UCAR Programs and being funded primarily by UCAR with some support from NCAR; EO will no longer be primarily grant driven. The core strengths of K-12 and professional development, workforce development and diversity, web and virtual resources, public education and outreach, and exhibits will continue. However, EO is seeking ways to expand their impact nationally through collaborations such as the upcoming public outreach with the NCAR DOW radar, which will take place on 23-24 October in Washington, D.C. for the Science and Engineering Festival. EO is preparing visualizations and material that will travel with the DOW as it is taken out on field projects. EO will also provide consulting services as needed as well as compile key research ideas around which to develop materials to disseminate nationally through partners like the Affiliates.
Foster said that EO is here to serve, has capabilities not found elsewhere, can test ideas, and help build better collaborations between the Affiliates, UCAR, and others. The following ideas were discussed:

Oswaldo Garcia - suggestions for exhibits around seismograph equipment; Eric Hoffman - NCAR exhibits possibly going on the road; Scott Steiger - doing local weatherfests similar to what AMS does to support local student chapters; Juan F. Arratia - ideas in connection with the CISL educational facility; Gretchen Mullendore - connect with scientific outreach professionals and communicating with someone working in the field for students; Doug Miller - effective outreach, bringing in teachers, designing metrics; (name unknown) - education in-reach – for example, using Unidata’s integrated data viewer in the classroom, especially K-12; Rich Wagner - career exploration and enabling middle and high school students to explore the different areas of atmospheric science. For instance, is there a catalog of different scientists and what they do to give students career ideas and possibilities, perhaps videos and/or interviews, a kind of one-stop shop similar to what Jim Yoder did for oceanography? What about a survey, like Project Tomorrow to discover students’, administrators’, and educators’ use of technology in the classroom? Also survey students’ interest in science and ask what would motivate them to move forward in STEM careers.

UCAR has a "CAREERS in Atmospheric Sciences" website: [http://www2.ucar.edu/opportunities/careers-atmospheric-earth-system-science](http://www2.ucar.edu/opportunities/careers-atmospheric-earth-system-science). There is also a UCAR student recruiting site which could be helpful: [http://www.ucar.edu/student_recruiting/](http://www.ucar.edu/student_recruiting/).

Rich Wagner reported on the Listening Conference held in March 2010 at the Denver Auraria campus, the purpose of which was to take a first step in addressing the lack of representation of Hispanics and other minorities at the Ph.D. level in atmospheric and related sciences. The title of the conference, “Meeting the challenge of Denver’s future: Preparing a diverse next generation of weather and climate professionals,” focused on understanding what in our community might be relevant to the Hispanic community’s needs. The idea was to start with a local conference, develop local solutions through local networks, and eventually take what’s learned to a wider area beyond Colorado. It was agreed that community colleges are a critical pipeline for students going on for Masters and Ph.D.s in the STEM fields.

Wagner stated that Colorado is a paradox; although it has a highly educated workforce, the rate of Hispanics graduating from high school and furthering their education is very low. Colorado is focusing on growing a “green economy,” which needs expertise in all areas of science and engineering. However, the minority community is in jeopardy of not benefitting from this new economy because of three inter-related problems: the low rate of minority participation in STEM careers, particularly in the areas of Weather and Climate; poor environmental and STEM literacy in the general public; and limited economic opportunity, especially for minority communities.

Some of the lessons learned include: family values are very important and understanding the family dynamics will help attract Hispanics into science; Hispanic families have little knowledge about realistic STEM careers and financial opportunities – it is helpful to translate salaries to dollars per hour; interest in STEM must, at the latest, start in middle school. In addition, there
must be multiple interactions as a family with both science and scientists, or the family will not encourage their children to pursue careers in this area. STEM literacy precedes climate and weather literacy. Geosciences and “green” jobs are unfamiliar and deemed risky careers compared to more familiar areas such as medicine, law, or business; related to this is the concern that, should Hispanics go into “green” careers, the jobs will not be there when these students come out of school.

Suggested strategies for the future include development of the next-generation workforce curriculum, targeted messengers and messages in various venues, and Community Colleges partnering with the Colorado Alliance for the Development of STEM-related Careers. More immediate strategies included a major outreach to the Hispanic community and families for UCAR’s 50th anniversary public open house held in June and the development of a high school internship program this summer, High school Internships and Research Opportunities (HIROS), which was hugely successful with ten students in its inaugural year.

For Rich, this has personally been a transformative experience. Collaborations are now occurring with the Community College of Denver (a major Hispanic serving institution) and other community colleges like Metro State. A new sustainability and climate change education program is being coordinated on the Denver campuses. Finally, Workforce Denver is working with high schools and teachers to identify community problems and seek creative solutions to address these issues.

Tony Hansen related the process which ensued before implementation of the AMS Policy Statement on the B.S. Degree in Atmospheric Sciences; this is now a “done deal.” The committee worked hard, negotiating and discussing at length various issues covered in the document. The goal was to strike a balance between flexibility for programs while still maintaining rigor. The policy is the starting point to establish learning outcomes at each institution. However, although learning outcome assessment will help, there is no enforcement. It would be helpful to have external reviewers which would allow AMS to certify those institutions meeting these standards.

Nolan Atkins stated, that as a new department chair, he would really appreciate hearing strategies other departments/schools are using to deal with tight budgets in austere times. New sources of funding are needed, especially because of the downward population trend overall, which of course, results in downward enrollment trends for all departments. Many departments’ highest mission is recruiting more students. Following are some of the ideas discussed in creatively dealing with cutbacks:

- Be very pro-active to develop part-time faculty who can teach courses that previously were taught by full-time faculty. Institutions in more desirable geographical areas might have an easier time of hiring part-time faculty, especially if it is an area to which retired faculty are attracted. Many are willing to teach the fundamental courses. While there is concern with this strategy when an institution is approaching re-accreditation, many, if not most institutions are facing budget pressures and are making use of adjunct professors. At a recent Academic Chairs conference, it was revealed that in institutions across the county, the ratio of fewer full-time faculty members versus a much larger number of adjuncts is increasing.
- Cuts in IT support and computing require being pro-active in developing resources to raise funds, especially for equipment needs. Target alumni and let them know what is needed. Millersville has an IT person, who is also a full-time meteorologist and does forecasting for road conditions. His position is not a faculty line. What he earns, he turns back to the department. This is a hugely beneficial arrangement. An article about this was written in a recent BAMS.

- Some institutions are limiting how many credit hours they are allowed to offer each semester. Electives are also being cut. It is best to allow students to have input and give them a list of courses to prioritize what is most needed or desired. Some departments are going to an every-other-year schedule of professors teaching courses to allow rotation. However, if a student fails a course, it’s usually an up or out decision, or they decide to hang around for five to six years before graduating. Pressure to retain students and not lengthen the time to graduate are counter issues to consider. Other departments offer core classes every year and then rotate electives every two years. Whatever route is chosen, it requires a lot of communication with the administration, especially when dealing with students who are not adequately prepared before entering the program.

- For general ed classes, some professors are teaching the courses partially online, allowing them to increase the number of students. Offer and allow local community weather enthusiasts to take courses and charge higher course fees. Perhaps for specific courses, charge special fees per class. Minor amounts make a significant difference overall.

- Some institutions, recognizing that the budget issues are structural, and not just cyclical, are reducing the number of departments, either by combining small departments or eliminating them entirely. Take the initiative to pro-actively suggest combinations, such as combining geography with meteorology.

- Suggest a national survey of all Affiliates on retention and graduation rates in atmospheric sciences so there is something to compare with one’s own institution. It’s much better to rely on numbers than just anecdotal information.

- With the country in dire economic straits, we must remain creative and positive. For example, if you have a bright student, make them a TA to give them a more broad, more interesting education and greater responsibility. Have bright meteorology majors offer math tutoring to other meteorology majors. Look for ways to make the program indispensible and useful to others; you will benefit down the road. Perhaps create a storm chasing program that the institution publicizes; think of outside-of-the-box ways to make the Dean, President, and others aware of the program.

- Make use of the National Survey on Student Engagement, which measures how often students meet and interact with their faculty, both inside and outside of the course work. Many are developing a program to lift the NSSE scores while highlighting the program. Highlight and promote these rankings. Student engagement seems to be gaining a lot of traction right now. Anything we can do to generate ideas to help our students develop will benefit us. The nature of
our field encourages us to work together. Emphasize the department’s uniqueness in the state, its relevance, and rigorous standards.

- Fund-raising. Many institutions have government relations, fund-raising, and alumni all in one office. Leave asking for funds to the professionals. When talking to potential donors, your job is to convey enthusiasm for the program and how much you enjoy working with the students. Alumni tend to have loyalty to a program but not a general loyalty to the college as a whole. Identify specific needs in the department that a potential donor could contribute toward, perhaps a specific piece of equipment, for example.

- Many departments are focusing on “friend-raising”, which is connecting with people in your circle of influence but not asking for anything. Each small department has a limited number of faculty, but each faculty member knows many people.

- Encourage everyone in your department to contribute just $1 a month to the foundation fund; then you can highlight the percentage of the faculty (100%?!?) who are donating to the foundation and helping the college; this can make a huge difference in fundraising.

- AMS receptions for Affiliates; use these as opportunities to invite and meet alumni in the area; this has led to some donations. Start a scholarship in the department to which they can contribute. Give away inexpensive freebies. Provide a venue for people to find connections to the institution.

The Academic Affiliates meeting adjourned.

- End of Minutes -