## UCAR Board of Trustees

### Board of Trustees Meeting

#### MINUTES

**FEBRUARY 10, 2016**

<table>
<thead>
<tr>
<th>TYPE OF MEETING</th>
<th>Annual Meeting of the Board of Trustees</th>
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<tbody>
<tr>
<td></td>
<td>Eric Betterton, University of Arizona – Chair</td>
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<tr>
<td></td>
<td>Kristie Boering, University of California, Berkeley</td>
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<td></td>
<td>Roberta Balstad, Columbia University</td>
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<td></td>
<td>Chris Bretherton, University of Washington</td>
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<td></td>
<td>Tony Busalacchi, University of Maryland (present via phone)</td>
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<td>Kelly Fox, University of Colorado</td>
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<td>Charlette Geffen, Pacific Northwestern National Lab</td>
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<td>Everette Joseph, SUNY – Albany</td>
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<td>Petra Klein, University of Oklahoma</td>
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<td>Gudrun Magnusdottir, University of California, Irvine</td>
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<td>Jerry Mellilo, Marine Biological Lab (present via phone)</td>
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<td>Michael Morgan, University of Wisconsin, Madison</td>
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<td>Romy Olaisen, Harris Corp. (present via phone)</td>
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<td>Kathleen Ritzman, Scripps Institution of Oceanography</td>
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<td>Scott Sternberg, Vaisala Inc.</td>
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<tr>
<th>TRUSTEES PRESENT</th>
<th>Rena Brasher-Alleva, NCAR Directorate</th>
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<tbody>
<tr>
<td></td>
<td>Mary Campagnolo, Internal Auditor</td>
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<td>Rachael Drummond, UCAR Communications Director</td>
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<td>David Edwards, NCAR ACOM Director</td>
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<td>Aneka Finley, Governance Liaison</td>
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<td></td>
<td>Vanda Grubišić, Earth Observing Lab Director</td>
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<td>Jim Hurrell, NCAR Director</td>
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<td>Maria Isquierdo, Human Resources Director</td>
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<td>Lana Kimayeva, UCP Business Operations</td>
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<td>Al Kellie, CISL Director</td>
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<td>Melissa Klos, UCAR Governance</td>
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<td>Bill Kuo, UCP Director</td>
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<td>Meg McClellan, UCAR Chief Legal Officer</td>
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<td>Melissa Miller, Vice President, UCAR Finance &amp; Administration</td>
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<td>Susan Montgomery-Hodge, UCAR President's Office</td>
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<td>Scott Rayder, Senior Advisor for Development and Partnerships</td>
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<td>Mohan Ramamurthy, Unidata Director</td>
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<td>Kelly Smith, UCP Proposal &amp; Budget Manager</td>
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<td>Gina Taberski, UCAR Contracts Director</td>
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<td>Meg Thompson, Federal Science Partners</td>
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<td>Michael Thompson, UCAR Interim President</td>
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<td>Joel Widder, Federal Science Partners</td>
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<td>Shawn Winkleman, UCAR IT Director</td>
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**WEDNESDAY FEBRUARY 10, 2016**

The Board convened in Executive Session and those minutes were kept separately.

The Board convened in open session.

1. **Board Chair**, Eric Betterton welcomed the new Trustees Kristie Boering, Michael Morgan and Kathleen Ritzman. Betterton also congratulated Kelly Fox and Rafael Bras and mentioned that he too was re-elected to serve a second term on the Board. He also offered congratulations to Trustee Tony Busalacchi who was recently elected to the National Academy of Engineering. Betterton reviewed the items to be approved from the consent agenda: Board Nominating Committee report *(attached)*, minutes
from the October 2015 Board of Trustees meeting, the 2016 Banking resolution (attached) and the annual appointment of the Ombuds (attached). A motion was made to approve all the items [the consent agenda]: the motion was seconded and all were approved unanimously without change or discussion.

2. Betterton thanked Roberta Balstad for all the work she had done over the past year serving ex-officio then he read the following resolutions of appreciation for out-going Trustees Ken Bowman, Gene Takle and Jerry Melillo:

Whereas, Ken Bowman has served as Trustee since 2011

Whereas Ken has diligently served on the Audit and Finance Committee, the NCAR Budget and Programs Committee and as the Chair of Board Nominating Committee, while also serving on the Governance Task Group and as Chair and member of the Membership Committee.

Whereas, Ken’s tenure on the Board of Trustees has been marked by his good nature, integrity and professionalism with a true commitment to the service of the UCAR members and the Board of Trustees. Ken always weighted in with thoughtful comments and pointed direction.

Now Therefore let it be resolved that the UCAR Board of Trustees proclaims its deep appreciation and gratitude for his many contributions

Resolution of Appreciation approved by the UCAR Board of Trustees on February 10, 2016.

Whereas Gene Takle has served as Trustee since 2010

Whereas, throughout his tenure on the Board, Gene has served most graciously, and skillfully as Chair and committee member on the Personnel Committee. Gene has also brought his expertise and fairness to the Board Nominating Committee and Executive committee and his diligence as the board secretary for the past two years.

Whereas, Gene’s service on the Board has been characterized by his sincerity, thoughtful deliberations on all matters, and willingness to chair a committee on a moment’s notice. Gene’s grounded perspective on weighty matters will be sorely missed.

Now Therefore let it be resolved that the UCAR Board of Trustees takes this opportunity to publicly announce their most sincere appreciation and gratitude and wish him well in the future.

Resolution of Appreciation approved by the UCAR Board of Trustees on February 10, 2016.

Whereas Jerry Melillo has served as Trustee since 2010

Whereas Jerry has most adepely served both as Chair and committee member of the Personnel and NCAR Budget and Programs Committees as well as on the Audit and Finance Committee.

Whereas, Jerry’s astute perception and wisdom has provided valuable and timely knowledge to the Board and UCAR. Jerry’s broad expertise has enlightened many board discussions on a wide range of topics.

Now Therefore let it be resolved that the UCAR Board of Trustees proclaims its most heartfelt appreciation and gratitude for his service.

A motion was made to approve all the resolutions of appreciation: the motion was seconded and unanimously approved.
3. UCAR Chief Legal Officer, Meg McClellan reminded the new Trustees of their responsibilities on the Board, including their fiduciary duties and presented them with UCAR hats to serve as a reminder that they should always have on their "UCAR hat" on when considering UCAR business. She also reminded everyone of the importance of maintaining confidentiality.

4. UCAR Treasurer and Audit & Finance Committee Chair, Kelly Fox provided a report from the Audit and Finance Committee meeting held the previous day. The committee heard a report from UCAR Internal Auditor, Mary Campagnolo, and noted that the committee would see the audit schedule for 2016 in May. KPMG reported to the committee that UCAR received a clean audit. Fox pointed out that FY2015 revenues ended slightly up due to a small increase in base funding. She also reported that the committee would hear a more detailed update on the investments in May and would also take a fresh look at the investment strategy.

5. Governance Task Group Co-Chair, Scott Sternberg reviewed the history and the charge of the Governance Task Group (GTG), and reminded the Board that the GTG’s main goal was to look at ways to enhance UCAR’s ability to serve the Members. He reported that the GTG had examined all the areas laid out in the original charge of the GTG, except the removal of the Scientific Programs Evaluation Committee (SPEC). He reviewed the outcome of all the proposed Bylaw changes and the committee procedures the GTG had helped facilitate. Sternberg presented proposed options to the Board for the GTG moving forward in 2016: With the UCAR President Search and the Re-compete coming up, perhaps the GTG should be suspended for a year; or the GTG could propose a Bylaw change that would eliminate the Scientific Programs Evaluation Committee (SPEC) and/or host a listening session at the 2016 Members Meeting to discuss revisiting changing UCAR’s membership fee structure. After discussion the Board was in agreement that the GTG should look deeper into the proposal to dis-band SPEC, including thoughts about this proposal from NSF and the Members, then report back to the Board in May with a proposal.

6. UCP Director, Bill Kuo provided the Board with an update from UCP. He reminded the Board that while NCAR focuses on the science it’s UCP’s job to focus on the services. Kuo gave an overview of UCP which includes eight externally funded programs, a twenty-five plus year history, and a staff of two hundred and sixty-two educators, instructional designers, software engineers, scientists and logistical specialists. He reviewed the portfolio of service: education & training, data support, integrated science support and crosscutting support. Some of the program highlights included Unidata’s partnership with Amazon web services and Open Commons Consortium on NOAA’s Big Data Project deploying Unidata tools so the university community can access, analyze and visualize NOAA data; COMET’s course development with UCAR’s member universities, including the University of Oklahoma and the University of Arizona; and UCP’s support to help NOAA’s launch of the National Water Center located at the University of Alabama. Kuo reported that the UCP goals for 2016 include the implementation of UCP’s strategic plan, the successful merger of JOSS and VSP, and the retention of UCP’s three biggest awards all NOAA cooperative agreements up for re-competition in 2016.

7. NCAR Computational & Information Systems Lab (CISL) Director Al Kellie gave an update on cybersecurity. Kellie reminded the Board of the background that he had provided to them on cyber security at the May 2015 board meeting. He updated them on the detailed progress that CISL and IT have made towards the implementation of FISMA. He also reported that the security plan would be finalized by May 2016.

8. UCAR Senior Advisor, Scott Rayder presented the proposal for the creation of the UCAR Advocacy for the Science Community Committee (UASC). He reviewed the memo regarding UASC that was provided to the Board ahead of the meeting, (attached) which outlines the goals, membership and operations of the proposed committee. There was discussion and the Trustees emphasized the importance of getting the UCAR members to buy-in, and the assurance that the members will be well represented on the committee. A Motion was made to approve the creation of UASC as outlined in the attached memo: the motion was seconded and approved.
9. Meg Thompson and Joel Widder from Federal Science Partners provided the government relations update. Thompson and Widder reported that the FY2016 Federal budget ended up with increases for NSF, NOAA, NASA, and DOE. The FY2017 budget will remain at 2016 levels, at least until January 2017 when the new Administration and Congress are sworn in, due to the Continuing Resolution that was passed in September. Thompson and Widder reported that over the next year their focus will be on adjusting to a new Administration, Congress and new leadership at key agencies and on Congressional committees. They will engage UASC to develop and communicate the UCAR public policy agenda and collaborate with AMS, AGU, the Consortium for Ocean Leadership, IRIS and others.

The Board convened in Executive Session.

~End of Minutes~

[Signature]
Minutes prepared by Aneka Finley

[Signature]
Minutes approved by Tony Busalacchi
Report of the UCAR Board of Trustees Nominating Committee

The Board Nominating Committee conducted its work by email and conference call prior to the 2016 Annual Board of Trustees Meeting. Below are the slates of Officers and Committees submitted for approval at the Annual Board of Trustees Meeting on February 10, 2016. New appointments are indicated in blue.

Officers of the Corporation
Chair Eric Betterton
Vice Chair Everette Joseph
Secretary Tony Busalacchi
Treasurer Kelly Fox
Assistant Secretaries Aneka Finley, (Director of Governance)
Meg McClellan (Chief Legal Officer)
Assistant Treasurers Melissa Miller, (UCAR Vice President, Finance and Administration)

Others: Michael Thompson – Interim President, UCAR
Jim Hurrell - Director, NCAR
Melissa Miller - Vice President, Finance and Administration
Meg McClellan - Chief Legal Officer

Executive Committee
The Executive Committee of the Board of Trustees shall have and may exercise all the powers vested in the Board of Trustees during intervals between meetings of the Board unless the full Board of Trustees determines otherwise.

Chair Eric Betterton
Members Chris Bretherton
Rafael Bras
Tony Busalacchi
Kelly Fox
Charlette Geffen
Everette Joseph
Petra Klein
Scott Sternberg

Audit & Finance Committee
This committee oversees UCAR's investment policy; reviews the annual corporate audit; appoints the independent auditors to be engaged to carry out the audit; and reviews internal audit activities.

Chair Kelly Fox
Members Tony Busalacchi
Romy Olaisen
Kathleen Ritzman
Rafael Bras
Charlette Geffen
Ken Washington
**Personnel Committee**
The committee is responsible for reviewing and recommending to the Trustees UCAR personnel policies, monitoring the development of effective affirmative action and safety programs, and annually reviewing the procedures followed during the annual salary review and examining the results of the salary adjustments.

**Chair**  
Rafael Bras

**Members**  
**Kristie Boering**  
Gudrun Magnusdottir  
**Michael Morgan**  
Romy Olaisen  
Scott Sternberg

**Board Nominating Committee**
Responsibilities of this Committee are to provide the slate of nominees, at the Annual UCAR Board meeting, for Board officers, the four standing Board committees, ad hoc committees of the Board and Trustee liaisons to serve on the Members Nominating Committee and PACUR. The officers are Chair, Vice Chair, Secretary and Assistant Secretaries, and Treasurer and Assistant Treasurers. The Board committees are Executive, Nominating, Audit and Finance, and Personnel.

**Chair**  
Eric Barron

**Members**  
Don DeHayes  
**Gudrun Magnusdottir**  
Romy Olaisen

**NCAR Budget & Programs Committee**
The NCAR B&P Committee will provide guidance and oversight to NCAR and UCAR management for the development of NCAR strategic plans and annual program plans. The B&P Committee will have more detailed, ongoing interactions with the NCAR Director and senior staff on NCAR programs, budgets and management issues, while the full UCAR Board will maintain its wider purview over NCAR and all other UCAR activities. NCAR's yearly science and facilities program plans will be presented to the subcommittee for discussion, advice, input and approval before submitting to the NSF for approval.

**Chair**  
Tony Busalacchi

**Members**  
Eric Betterton  
Chris Bretherton  
Donald DeHayes  
Kelly Fox  
**Michael Morgan**  
Petra Klein
**Governance Task Group:**

Mark Abbott and Fred Carr are the current co-chairs of the GTG. GTG member Scott Sternberg will now serve as co-chair with Fred Carr as Mark Abbott has stepped down from the GTG.

Rainer Lohmann, University of Rhode Island will be a new member of the GTG.

**Trustee Liaisons**

**PACUR:** **Kristie Boering**

**Members Nominating:** Everette Joseph

Respectfully Submitted,

Eric Barron, Board Nominating Committee Chair
Romy Olaisen
Don DeHayes
Ken Bowman
RESOLUTION REGARDING AUTHORIZATION FOR CORPORATE BANKING,
INVESTMENT AND OTHER FINANCIAL TRANSACTIONS

WHEREAS, the Board of Trustees of the University Corporation for Atmospheric Research ("Corporation") desires to reconfirm its authorization of certain corporate officers and employees to engage in banking, investment and all other financial transactions.

WHEREAS, the Corporation has found that the transactions authorized by this resolution are or will be in the Corporation’s best interests and to its financial benefit.

NOW, THEREFORE, IT IS RESOLVED that the Corporation's President, Vice President for Finance and Administration, and Director of Treasury and Finance be, and they are hereby, authorized to open regular or special purpose bank accounts, investment accounts, or engage investment managers, to borrow and incur indebtedness in the form of standard lines or credit, letters of credit, and any other credit or financial accommodation and to conduct all financial transactions of the Corporation, with financial institutions, such as, but not limited to, commercial banks, investment banks, investment firms, and brokerage firms as they may designate from time to time, and/or continue or close such existing bank, lending, credit facilities and/or investment accounts as necessary to meet the financial needs of the Corporation.

FURTHER RESOLVED that the Corporation's President, Vice President for Finance and Administration and Director of Treasury and Finance be and they are hereby authorized to draw, endorse and discount any and all drafts, trade acceptances, assignments, applications and reimbursement agreements for lines of credit, letters of credit, transfers, and any other documents deemed necessary or required to carry out the authority contained in this resolution, and any one or more renewals, extensions, modifications, refinancings, consolidations or substitutions of any of the foregoing.

FURTHER RESOLVED that in the case of lines of credit and other extensions of credit, to designate additional or alternate individuals as being authorized to request advances and the issuance of letters of credit under such lines, and other extensions of credit, and to direct the disposition of such advances.

FURTHER RESOLVED that the opening or closing of any and all accounts, or any extensions of credit shall be reported to the Audit and Finance Committee of the Board of Trustees of the Corporation at regularly scheduled meetings.

FURTHER RESOLVED that the Corporation's President, Vice President for Finance and Administration and Director of Treasury and Finance be, and they are hereby, authorized to purchase, sell, assign, and endorse for transfer, certificates representing stocks, bonds, or any and all securities (whether registered, certificated or not) in the name of the Corporation or held in trust for the Corporation or registered in the name of the Corporation’s nominee, agent or representative.
FURTHER RESOLVED that the Corporation's President, Vice President for Finance and Administration, Director of Treasury and Finance be, and they are hereby, authorized to enter into any agreement for a foreign exchange transaction, a currency forward transaction, currency option or any other similar transaction.

FURTHER RESOLVED that the Corporation's President, Vice President for Finance and Administration, Director of Treasury and Finance, General Accounting Manager and other staff of the Corporation at sites outside of Colorado, as authorized by the Corporation's President or Vice President for Finance and Administration, all or any one or more of them be and are hereby authorized to execute, collect, discount, negotiate, endorse and assign, in the name of the Corporation, all checks, drafts, notes, and all other papers, which are payable to the Corporation, or in which the Corporation has an interest; also in the name of the Corporation, to endorse all checks, drafts, notes or other paper, for deposit in a duly authorized financial institution, to the credit of the Corporation, all checks against the funds of the Corporation on deposit in any such financial institution, and upon such checks to withdraw from any such financial institution such funds, and to do all such other acts and things as may be incidental to the authority and powers herein before given; provided that any check, draft or wire or other electronic fund transfer in excess of Ten Thousand Dollars ($10,000.00) shall be signed or authorized by at least two of them.

FURTHER RESOLVED that the officers and employees of the Corporation who have been authorized pursuant to the foregoing resolutions to take certain actions on behalf of the Corporation are authorized to use any means of electronic banking or account management offered by the applicable financial institution to take any of such actions authorized in the foregoing resolutions.

FURTHER RESOLVED that such financial institutions are authorized and directed to honor and pay any checks, drafts, notes, wire or electronic fund transfers, or orders so drawn, as directed by the persons so authorized pursuant to the foregoing resolutions to approve such transactions, whether so payable to the order of any of the authorized persons in their individual capacities or not, and whether such proceeds are deposited to the individual credit of any of the authorized persons or not.

FURTHER RESOLVED that the officers and employees of the Corporation who have been authorized pursuant to the foregoing resolutions to take certain actions on behalf of the Corporation are authorized to pay any and all fees and costs, and execute and deliver such other documents and agreements as any authorized representative of the Corporation may in his or her discretion deem reasonably necessary or proper to carry into effect the provisions of this resolution.

FURTHER RESOLVED that these resolutions shall continue in force and effect and all of the financial institutions may consider the facts concerning the holders of said offices, respectively, and their signatures to be and continue as set forth in the certificate of the Secretary or Assistant Secretary, accompanying a copy of these resolutions when delivered to any such financial institution or in any similar subsequent certificate, until written notice to the contrary is duly served on the financial institution.
FURTHER RESOLVED that the authority given these resolutions are retroactive, and any and all acts referred to which were performed prior to the adoption of these resolutions are ratified and affirmed.

FURTHER RESOLVED that the Corporation will notify the Bank prior to any change in the Corporation’s name; change in the Corporation’s address; change in the authorized signers; change in the Corporation’s business entity or principal place of business; or any other change in the Corporation that directly relates to any of these resolutions or agreements resulting from the resolutions.
MEMORANDUM

Date; January 20, 2016

To: UCAR Board of Trustees

From: Melissa Miller

Regarding: UCAR Ombuds Appointments

In accordance with the Charter Agreement for the UCAR Ombuds Office, Ombuds report to the UCAR Board of Trustees, and are appointed for 12 month terms that may be renewed by the Board of Trustees.

This memo asks the Board of Trustees to reappoint Loretta Quinn (JOSS), Wendy Abshire (COMET) and Richard Valent (CISL) as UCAR Ombuds. Their curriculum vitae are attached

Thank you

~END OF MEMORANDUM ~
LORETTA QUINN
510 N. Parkside Drive, F • Longmont, CO 80501 • (Cell) 303.887.6972 • Iquinn@ucar.edu

Experience
Extensive experience planning domestic and international events, including site selection and negotiations. Advanced skill in budget development and analysis, cost control and project accounting. Substantial travel related experience including complex international travel. Excellent interpersonal skills. Extensive knowledge of database software and web based event registration products. Ability to work under pressure in constantly changing situations. Broad knowledge base working in multicultural and politically sensitive environments.

History
University Corporation for Atmospheric Research ♦ UCAR ♦ May 1994 – Present
The University Corporation for Atmospheric Research is a consortium of more than 100 member colleges and universities focused on research and training the atmospheric and related Earth system sciences. Through our community programs, UCAR provides innovative services in support of the community’s education and research goals.

Project Coordinator ♦ UCAR ♦ May 1994 – Present
Plans, manages and oversees logistics of domestic and international conferences and events for up to 400 attendees from beginning to end. This includes these ongoing responsibilities:
- Creating and monitoring budgets;
- Researching and recommending venues specific to event objectives and goals
- Negotiating contract agreements with vendors including ground transportation, hotel, event sites
- Attending and managing on-site logistics for domestic and international events
- Utilizes advanced knowledge of travel arrangements for staff and high level officials adhering to U.S. Government regulations

Special International Assignments:
Nicosia, Cyprus, May 2011
Lead project coordinator for an international workshop involving 12 Middle Eastern countries. This involved extensive pre-planning and numerous contract negotiations with hotels and ground transportation vendors. Attended event and managed on-site logistics. Administered international travel and post event reconciliation including expenses and travel vouchers.

Acted as project lead and/or co-lead for multiple international GLOBE Learning Expeditions and GLOBE Annual Conferences.
Cape Town, South Africa - July 2008,
Phuket Thailand - July 2006
Split, Croatia, July 2002
Helsinki, Finland July 1998.

Special Accomplishments:
Selected to serve on numerous UCAR management and vendor review teams
Incentive award received for effort in creating a new on-line resource for UCAR meeting planners.
Chaired re-engineering committee for revising internal event management process.

Skills and abilities:
Advanced knowledge in the field of international workshop/meeting management
Ability to plan and implement effective techniques to achieve programmatic mission and goals
Advanced knowledge of international travel procedures and regulations
Full working knowledge of international shipping procedures
Skill in budget development and analysis, cost control and project accounting
Full working knowledge of the contracts & procurement process
Skill in planning, implementation and evaluation of projects
Excellent interpersonal skills
Sensitivity in working in multi-cultural settings
Wendy Schreiber-Abshire

Objective
To increase both scientists' and the public's knowledge of atmospheric and related sciences to improve forecasts and weather-related decision-making and to benefit policy decisions affecting the earth-atmosphere system.

Education
1989 M.S. in Atmospheric Science — University of Wyoming
1985 B.S. in Meteorology — Metropolitan State College

Professional experience
2013 – 2014 (June – Feb) Interim Director, UCAR Spark Program
- Focus on staff development and programmatic change management
- Participate in UCAR and UCP management activities

2005 – Present Senior Project Manager/Supervisor
- Manage ~20+ projects simultaneously & supervise 5-7 professional staff
- Facilitate sponsor relationships in the areas of satellite meteorology, hydrology, climate, and water resource training
- Experience in Acting Director and Deputy Director roles
- Editor of Online Tropical Meteorology Textbook
- Lead development of three modules on satellite and radar meteorology, and ocean tides, and annual international satellite workshops
- Serve as UCAR Ombudsperson fall 2009 – Present
  - Actively gain skill in conflict management, listening, and coaching

2002 – Oct. 2005 Associate Scientist IV
University Corporation for Atmospheric Research (UCAR) Cooperative Program for Operational Meteorology Education and Training (COMET)
- Co-chair of 2nd National AMS Student Conference, 2003
- Course director for the Climate Variability Workshop series and COMAP Symposia on the PBL series.
- Project lead for numerous Webcast modules

1995 – 2002 Associate Scientist III
UCAR/COMET
- Project lead on COMET-Navy mesoscale met curriculum modernization
- Project lead on QPF/Flooding-related Webcast modules
  - Implementing new methods for audio and video delivery via the Web
- Course director for the NWP COMAP Symposia Series
- Contributing meteorologist to the NWP module series that serves as the NWP training resource for the modernized NWS
• Meteorologist and design contributor to *Predicting Supercell Motion Using Hodograph Techniques*, the 1st streaming media Webcast by COMET
• Meteorologist/design contributor to *Mesoscale Convective Systems: Squall Lines and Bow Echoes*, the first Web-based module by COMET

**1992 – 1995**  
Associate Scientist II  
UCAR/COMET
- Staff meteorologist on *The Convective Storm Matrix*, the first CD-ROM module produced by COMET
- Data production and scientific quality assurance on module titles:  
  - *The Forecast Process*
  - *Heavy Precipitation and Flash Flood Forecasting*

**1990 – 1992**  
Subject Matter Expert Assistant  
UCAR/COMET
- Data, content, and design support for the first two interactive multimedia laserdisc distance learning modules produced by COMET, including the award winning, *Boundary Detection and Convection Initiation* module

**1986 – 1989**  
Research Assistant  
University of Wyoming
- King Air aircraft flight data technician during CINDE experiment

**1986**  
Associate Scientist  
National Center for Atmospheric Research (NCAR)
- Field assistant to PI during MIST experiment, Alabama
- Radar meteorologist during GALE experiment, North Carolina

**1983 – 1985**  
Student Assistant II, III  
NCAR
- Participated in field work and data analysis of CI-84 and 85—resulting in co-authoring of a landmark paper on clear air boundaries and convection initiation
- Photographer/meteorologist during CLAWS experiment, 1985
- Cataloged and participated in analysis of the JAWS experiment dataset—led to publications on dry microbursts and increased aviation safety

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**Thesis**  
1989  
*Mesoscale Convergence Zone Development in Northeastern Colorado Under Southwest Flow, M.S. Thesis in Atmospheric Science, University of Wyoming, Laramie, ix + 111 pp.*

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**Publications**

Schreiber-Abshire, W., J-L. Evans, and A. Laing, 2008: An Online Textbook for Tropical Meteorology. *AMS Conference on Hurricanes and Tropical Meteorology*


Laing, A., J. Evans, W. Schreiber-Abshire, 2008: An online textbook: A


Schreiber-Abshire W., and T.C. Spangler, 1999: Convection initiation at radar-observed boundaries: A story of scientific and technologic innovation, Preprints, WMO Symp. on Continuing Education and
Training, Tehran, Iran.


**Recent Presentations**

Invited speaker, AMS Early Career Professional Conference, and specialty presentations, February 2014
Invited speaker, AMS Student Conference, AMS Early Career Professional Conference, and two specialty presentations, January 2013

Invited speaker, AMS Student Conference, January 2011


Invited speaker, NWA Student Conference, October 2010 and 2011

Invited speaker, Northeastern Storm Conference, March 2009


Continuing education

Fundamentals of Earned Value Management, June 2013

Protecting Human Research Participants, and UCAR Human Subjects training, January 2013

UCAR: Introduction to Export Controls, Dec 2012

International Ombudsman Association 101 Course, March 2010

Completed UCAR Supervisor Certificate Program, January 2007

Participant in A Primer on Radar Analysis Techniques Used in Mesoscale Meteorology, October 2005

Graduated from UCAR Leadership Academy, June 2004

Audio voice narration training, May 2003

Participant in 2nd NCAR Radar Development and Applications Workshop, April 2003

Participant in NWS/COMET Climate Variability Workshop, August 2002

Participant in NASA NEW Workshop for Science and Museum Educators and the International Space Station Educators Conference, Feb. 2002

Participant in AMS 1st Communications Workshop, Jan. 2002

Participant in AMS/UCAR Summer Policy Colloquium, June 2001

Graduated from COMAP Symposium on Numerical Weather Prediction, September 1998
Participant in Joint NWS-NCSU Workshop on Cold Fronts Aloft, Gravity Waves and Mesocyclones in the Southeastern U.S., August 1998

Graduated from Creative Teaching at a Distance with the Merging Technologies, May 1998

Graduated from COMAP Symposium on Mesoscale Convective Systems, February 1998

Participant in AMS Intensive Short Course on Mesoscale Meteorology and Forecasting, 1984

**Professional memberships**

- 2010 – Present: International Ombudsman Association
- 2007 – Present: American Geophysical Union
- 2001 – Present: International Commission on History of Meteorology
- 1999 – Present: National Weather Association (NWA)
- 1983 – Present: American Meteorological Society (AMS)
- 1982 – Present: Denver-Boulder AMS Local Chapter
- 1987 – 1989: Southeast Wyoming AMS Local Chapter
- 1982 – 1985: Metropolitan State AMS Student Chapter

**Additional professional activities**

- 2014 – Present: Elected Councilor, American Meteorological Society
- 2013 – Present: 95th AMS 2015 Meeting Phoenix, Program Co-chair
- 2012: Elected Vice President, National Weather Association
- 2010 – Present: AMS Membership Committee, member (through 2016)
  - Member of Beacon Program and Local Chapter subcommittees
  - Chair-elect 2013, Chair Jan 2014 - Jan 2016
- 2009 – Present: Appointed Ombuds for UCAR
- 2009 – Present: AMS Planning Commission, member (through 2015)
- 2009 – 2011: Elected and Served as NWA Councilor
- 2008 – 2010: AMS Policy Curricula Advisory Committee
- 2007 – 2008: Atmospheric Science Literacy Organizing Committee, member
- 2006 – 2010: AMS Annual Meeting Oversight Committee, member
- 2005 – 2011: UOP representative to UCAR’s URC/PACUR
2004 – 2006  85th AMS Annual Meeting Atlanta, Program co-chair

2002 – 2008  AMS Board on Outreach and Pre-college Education
             – chair for 2005–2008 term
             • Served on AMS E&O Strategic Planning subcommittee
             • Authored BAMS article on Battan Award, Dec ’06
             • Served on Anderson Award committee 2005–2008
             • Serve on AMS Minority Scholarship Committee 2006
             • Coordinate establishment of AMS statement on the value of K-12
               earth science education, adopted 1/06
             • Ex-officio member of AMS Education Advisory Committee, 2005
               – Served on Battan Award committee 2003, 2004

2004  UCAR Education and Outreach Strategic Initiative
      Review committee

2003  UCAR External Awards Committee

2002 – 2004  NCAR WORD (Web Outreach Redesign and
             Development) Committee

2002 – 2004  WMO Virtual Training Library working group

2001 – 2002  AMS Adhoc Committee on increasing the society's
             membership inclusiveness

2001 – 2002  NCAR Director’s Committee on Scientist Positions

             – Worked with Ex. Council to establish Chapter of the Year Awards &
               the existence of Pre-college student chapters

1999 – 2001  UCAR/Employee Activities Committee
             (Chair, Children's Holiday Party)

1992 – 1999  UCAR Office of Programs Divisional Equity Committee
             (Co-chair)

1996 – 1998  NWS Scientific Advisory Team on Convective Watch
             Decentralization

1997  NWS Science Team evaluating Severe Thunderstorm
      Warning Criteria

1995  Visiting scientist participant SCUM experiment, Florida

1995 – 1998  Denver-Boulder AMS Local Chapter Officer

2008 – 2010

1984 – 1985  AMS Student Chapter Officer

Community science involvement

2013  Invited Presentation UCAR Internship Students

2009, 2010  Metropolitan State College Senior Research Mentor

2007  UCAR Undergraduate Leadership Workshop Mentor
2004, 2006  Scientist volunteer facilitating UCAR Girl Scouts Day
2004  Co-developed Science Olympiad Meteorology Exam
2002 – 2008, 2011  Served yearly as SOARS- Program mentor
1997 – Present  Individually presented to ~995 K-12 children via numerous meteorology presentations at schools and/or scout meetings (as of Feb ’13)
2003  Invited speaker for 5th Women in Science Forum for 450 Wyoming Jr. high and high school-aged girls
2003, 2008  Co-led 3 workshops at CU’s Expanding Your Horizons experience for middle school-aged girls
2001 – 2005  Staff volunteer interacting with community annually at the NCAR booth at the Boulder Creek Festival
2001  On-camera meteorologist for the Weather Channel’s Weather Classroom Program on Local Winds
2000  Staff volunteer during NCAR’s 40th Anniversary Bubble and Balloon Festival
1998 – 2006  Eight time staff volunteer at UCAR’s Super Science Saturday community event
1986 – 2002  Served as science fair judge at five fairs
1998 – 2003  Initiated and oversaw 4 school-wide science fairs at Warder Elementary in Arvada, CO
1999  Invited panelist for 1st Women in Science Forum for high school girls, Cheyenne, WY
1997 – 1999  Project LEARN science mentor to teachers
1999  Invited teacher at Girl Scouts Mile Hi Council Earth Tunes: Digging Into the Sky workshop for top high school scouts
1998  Staff volunteer at Walter Orr Roberts Trail grand opening
1995, 1985  Served as staff volunteer during NCAR’s 35th and 25th Anniversary Open House

Honors/Awards
2009  Named AMS Fellow
2007  COMET Program Employee of the Year
2007  Named to Marquis Who’s Who in America
2013, 2006, 2000  Program Incentive Cash Awards
1996  Nominated for UCAR Outstanding Education Award
1993  Program Incentive Cash Award
1992  Nominated for UCAR Outstanding Technology Advancement Award
1987  Nominated for NCAR Outstanding Publications Award
1986  AMS Father James B. MacElwane Award, 1st Place for undergraduate research paper
1984, 1985  Colorado Scholars Academic Scholarship

References

Dr. Emily CoBabe-Ammann  Director, UCAR Community Programs
Dr. Keith Seitter  Executive Director, AMS
Dr. Bill Hooke  AMS Associate Ex. Director/Senior Policy Fellow, AMS
Dr. Richard Anthes  Retired UCAR Director
Mr. Jim Wilson  Senior Scientist, NCAR/ATD
Richard A. Valent
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EDUCATION
Ph.D., Mathematics, University of Colorado, 1973
Bachelor of Science, Mathematics, University of Colorado, 1967

PROFESSIONAL EXPERIENCE
2007-Present: NCAR casual employee working in the Consulting Services Group in the High Performance Services section of the NCAR Computational and Information Laboratory (CISL).
2004-2007: Consulting Services Group Head in CISL, managing five employees, and working directly with CISL groups and staff members, scientists and software engineers. I also worked with several colleagues at external computing sites.
2001 – 2004: Assistant Section Head, User Support Section, NCAR Scientific Computing Division (SCD). The USS included the Consulting Services Group, the Distributed Systems Group, and the Database Services Group.
1984 – 2001: General consultant specializing in mathematical libraries support, NCAR SCD.
1979 – 1984: Assistant Software Librarian in the Software Libraries Group, NCAR SCD.

PUBLICATIONS
- My doctoral thesis is entitled “Algebraic and Topological Aspects of the Lattice of Topologies”. I authored five refereed articles related to the thesis subject matter. Though unrelated to atmospheric science or geophysics, my academic background is an asset in interacting with scientists and engineers.
- NCAR/CISL computer notes and user guides: I have written, and continue to write, many notes and user guides for our user community.

GENERAL CAREER HIGHLIGHTS
- Worked with the SLATEC Math Library Committee in producing new library versions.
- Assisted HR production of the initial Software Engineer Classification Matrix. I have used the matrix in working with colleagues and employees who sought reclassification.
- Directly involved with the NCAR user community, in introducing new computers and removal of obsolete ones.
- Assisted NCAR/CISL in providing initial computer resources to the TeraGrid.
- Advised NCAR/CISL in development of its ExtraView trouble ticket system.
- Guided users in math software location and usage.
- Assisting colleagues resolve work-related issues, both technical and non-technical, is the most important aspect of my job.