UCAR Trustee Candidate
Alan Robock

Having conducted research with NCAR staff and computer models for many years, having served as the UCAR Member Representative from Rutgers University for the past 10 years and on the UCAR President’s Advisory Committee on University Relations for the past six years, and currently as a visiting NCAR Faculty Fellow, along with two of my graduate students, I have come to realize how incredibly valuable are NCAR and its facilities, staff, and resources for the entire weather and climate community. I am honored to be nominated and am interested in serving on the UCAR Board so as to contribute to the preservation and improvement of this unique, fantastic institution. By institution, I mean the combination of UCAR and NCAR, each of which plays important roles. In particular, in light of anti-science views rampant in certain political camps, and the expression of those views in public policy debates, it is incumbent upon UCAR to maintain and continue its fight to have scientific evidence accepted as a national resource for economic and social progress. And NCAR needs to continue its leadership in the provision of outreach, education, and research collaboration and resources.

I would also like to work on more frequent communication between the UCAR representatives and the Board, so that the annual meetings feel less like we are rubber-stamping decisions in which we had no involvement or knowledge. The monthly UCAR Updates are great, but I would like to implement a more interactive participation between the Member Reps and the Board, so that the Member Reps are informed of the issues facing UCAR and NCAR and can give input into the decisions that are being made. This input will be advisory, but I think UCAR can gain from the viewpoints that will be expressed by those Member Reps who take the time to get involved.
Alan Robock

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EDUCATION:
B.A. in Meteorology, 1970
University of Wisconsin, Madison
Honors: Phi Eta Sigma, Phi Kappa Phi, Honors Program, Graduated with Distinction
S.M. in Meteorology, 1974
Massachusetts Institute of Technology
Thesis: “Spin-down of a Stratified, Rotating Fluid”
Advisor: Norman A. Phillips
Ph.D. in Meteorology, 1977
Massachusetts Institute of Technology
Dissertation: “Climate Predictability and Simulation with a Global Climate Model”
Advisor: Edward N. Lorenz
Honors: NSF Graduate Fellow, Sigma Xi

EXPERIENCE:
Professor II [Distinguished Professor], Department of Environmental Sciences, Rutgers University, July, 2003 – present. (Professor, January, 1998 – June, 2003)
Director, Meteorology Undergraduate Program, Rutgers University, July, 2006 – present.
Director, Atmospheric Sciences Option, Environmental Sciences Graduate Program, Rutgers University, January, 1998 – December, 2007.
Associate Director, Center for Environmental Prediction, Rutgers University, July, 2005 – present. (Director, July, 2001 – June, 2005)
Faculty Fellow, National Center for Atmospheric Research, Boulder, Colorado, August – November, 2011.
Member, Environmental and Occupational Health Sciences Institute, Rutgers University, January, 1999 – June, 2004.
AAAS Congressional Science Fellow (Legislative Assistant, Congressman Bill Green (NY); and Research Fellow, Environmental and Energy Study Conf.), September, 1986 – August, 1987.
Fellow and Council Member, Cooperative Institute for Climate Studies, University of Maryland, June, 1984 – January, 1990.
Snow Forecaster, Montgomery County (Maryland) Public Schools, 1980 – 1981.
Peace Corps Volunteer, Philippines, 1970 – 1972. (Developed curricula and trained teachers of meteorology in the fishery vocational colleges.)
UCAR/NCAR PARTICIPATION:

Invited NCAR academic visit, June, 1978. (Invited by Steve Schneider)
Currently on an NCAR academic visit as a Faculty Fellow, August-November, 2011.
Author of Rutgers University application to move from UCAR Academic Affiliate to Full Member, 2000.
UCAR Member Representative from Rutgers University to UCAR, March, 2001 – present.
Author of Rutgers University UCAR renewal membership application, 2008.
Since its inception in 2001, I have sponsored a Rutgers Junior Meteorology major each year to attend the NCAR Summer Undergraduate Leadership Workshop.
Honored by UCAR for advocacy on behalf of the scientific community above and beyond the call of duty, October, 2004; October, 2005; October, 2006; October, 2007; October, 2008; October, 2009; October, 2010.
Elected member of UCAR President’s Advisory Committee (formerly University Relations Committee), 2005-2011.
  – Member, subcommittee to review the NCAR/ASP Faculty Fellowship applications.
My Ph.D. student Elif Sertel used WRF on the NCAR computer system for her Ph.D. dissertation, completed in 2008, and visited NCAR in 2007 for consultations on WRF.
Worked to facilitate a visit to NCAR in May 2008 by former postdoc and current colleague, Prof. Gonzalo Miguez-Macho, to work with Fei Chen to implement a hydrology module in WRF. Prof. Miguez-Macho also implemented spectral nudging into WRF, and has been an NCAR summer visitor each year since.
Collaborated with Caspar Ammann on the climatic effects of volcanic eruptions and Phil Rasch on geoengineering, and published refereed journal articles with both.
Currently use the NCAR/NCEP reanalysis in several different research projects, including as boundary conditions for regional climate modeling and as validation for climate model simulations. I have also published several papers evaluating the soil moisture simulations from the reanalysis using actual in situ observations.
Current student Mira Losic is using WRF on the NCAR computer system to study the impacts of volcanic eruptions on Arctic climate, and visited NCAR in 2010 to attend the WRF workshop. She is spending October 2011 at NCAR as part of my Faculty Fellowship.
Current student Lili Xia is using NCAR Community Earth System Model on the NCAR computer system to study the impacts of geoengineering on climate, and attended the 16th Annual CESM Workshop in Breckenridge in 2011. She is spending October 2011 at NCAR as part of my Faculty Fellowship.

EDITORIAL SERVICE:

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

- Member, Committee on Climate Variations, 1997 – 2003.
- Member, Committee to draft a policy statement on geoengineering, 2008 – 2009.
- Member, Committee to rewrite degree requirements for a B.S. in Meteorology, 2010.
- Member, Commission on the Weather and Climate Enterprise (CWCE)/Board on Enterprise Communication (BEC) Committee on Improving Climate Change Communication, 2010 – present.
- Member, Committee to revise policy statement on global warming, 2011.

American Geophysical Union, 1978 – present. (Elected Fellow, 2011)
- Atmospheric Sciences Section
  - Member, Executive Committee, 2000 – present.
  - Chair, Climate Technical Committee, 2005 – 2006.
  - Chair, Kaufman Award Committee, 2010, 2011.
  - Chair, Holton Award Committee, 2010, 2011.
- Member, Meetings Committee, 2006 – 2008.

American Association for the Advancement of Science, 1975 – present. (Elected Fellow, 2008)
- Member, Congressional Science Fellow Selection Committee, 1987.
- Atmospheric and Hydrospheric Sciences Section (Section W)
  - Member, Electorate Nominating Committee, 1999 – 2002.
  - Chair, 2010 – 2011.
  - Retiring Chair, 2011 – 2012.

International Association of Volcanism and Chemistry of the Earth’s Interior, 2000 – present.

MEMBERSHIP ON STATE, NATIONAL, AND INTERNATIONAL PANELS:


Working Group I of the Intergovernmental Panel on Climate Change (IPCC), 1990 – present.


International Association of Volcanism and Chemistry of the Earth’s Interior (IAVCEI) and International Association for Meteorology and Atmospheric Sciences (IAMAS) Commission on Volcanism and the Earth’s Atmosphere 1992 – present. (Secretary, 1992 – 2000; Leader, 2000 – 2004).
Soil Moisture and Ocean Salinity (SMOS) Validation and Retrieval Team, 2005 – present.
SPARC Scientific Steering Group, 2010 – present.
Geoengineering Model Intercomparison Project (GeoMIP), 2010 – present.
SPARC CCM-Val Geoengineering Model Intercomparison Project, 2010 – present.

21 M.S. Students Supervised

Author of 171 Refereed Articles (H-index = 48), 1 Edited Book, and 130 Other Articles
Click here for copies of most of the papers and here for the complete CV (97 pp.)

438 Papers Presented at Conferences; 30 Conference Sessions Convened

243 Invited Lectures (since 1988)

Invited Participation in 198 National Workshops and International Symposia

51 Grants from National Funding Agencies + 3 from New Jersey Dept. of Env. Protection

HONORS:

Cook College (Rutgers University) Research Excellence Award, for active and original research documented by a series of research papers, 2001.
GCIP (GEWEX (Global Energy and Water Experiment) Continental-scale International Project) Program Management Award, “For his efforts in preparing useable soil moisture data sets and making them available to the GCIP Community,” 2002.
Honored by *Web of Science* for a Highly Cited Article: “Since 2000, you have had 61 citations to your article, ‘The Global Soil Moisture Data Bank.’ This means that the number of citations your article received places it in the top 1% within its field according to *Essential Science Indicators*SM. Your work is highly influential among your colleagues in your field of study.” (2005) [currently 345 citations]
Honored by *Web of Science* for a Highly Cited Article: “Since 2000, you have had 87 citations to your article, ‘Volcanic Eruptions and Climate.’ This means that the number of citations your article received places it in the top 1% within its field according to *Essential Science Indicators*SM. Your work is highly influential among your colleagues in your field of study.” (2005) [currently 552 citations]
Editor’s Award, *Journal of Hydrometeorology*, “for providing timely, insightful, and comprehensive reviews that have helped to ensure the publication of high quality research,” presented at American Meteorological Society Annual Awards Banquet, February 1, 2006.
Rutgers University Board of Trustees Award for Excellence in Research, the university’s highest honor for distinguished research contributions, May 4, 2006.
Bradley Prize for best talk of the year, Geological Society of Washington, December, 2007. “Your award consists of a silver bowl, with your name inscribed on it, and a check for $200.”
American Meteorological Society/Sigma Xi Distinguished Lecturer, 2008-2009.
Elected Fellow, American Association for the Advancement of Science, 2008.
Elected Fellow, American Geophysical Union, 2011.

**SUMMARY**

Prof. Robock has been a researcher in the area of climate change for more than 35 years. He is a leading expert on the effects of volcanic eruptions on climate, using climate models and observations, and also works on the related areas of remote sensing of stratospheric aerosols and producing time series of past forcing from volcanic eruptions. He also works on soil moisture observations, maintaining the Global Soil Moisture Data Bank for many years, which has been used by researchers around the world as a source of data for use in climate model development and evaluation, remote sensing, and studying climate change. It is now housed at the *International Soil Moisture Network*. In addition, Prof. Robock has worked in the area of global warming for his entire career. He published the first transient climate model simulation of the effects of increasing carbon dioxide, and continues to work on using observations and climate models to quantify the effects of human activities on past and future climate change. Recently he has produced important new work on geoengineering, regional hydrology and atmospheric interactions, and the climatic consequences of regional and superpower nuclear conflicts.

August 30, 2011