University Name Rutgers University
Name of Member Representative Alan Robock
Name of Member Representative James Miller

PROGRAM INFORMATION

List the departments and programs at your institution that are engaged in atmospheric and related sciences.

- Department of Environmental Sciences
- Undergraduate Program in Meteorology
- Graduate Program in Atmospheric Science
- Department of Marine and Coastal Sciences
- Undergraduate Marine Science Program
- Graduate Program in Oceanography

Indicate the total number of tenure-track and non-tenure-track faculty in the departments and programs listed above who are involved in atmospheric and related sciences.

- Department of Environmental Sciences
  - Undergraduate Program in Meteorology (10 faculty)
  - Graduate Program in Atmospheric Science (18 faculty)
- Department of Marine and Coastal Sciences
  - Undergraduate Marine Science Program (28 faculty)
  - Graduate Program in Oceanography (47 faculty)

List the relevant degrees, certificates, and other educational programs offered in the atmospheric and related sciences at your institution.

- B.S., Meteorology
- M.S., Atmospheric Science
- Ph.D., Atmospheric Science

- B.S., Marine Science
- M.S., Oceanography
- Ph.D., Oceanography

How many undergraduate degrees were awarded in atmospheric and related sciences during the last eight years? 150

How many graduate degrees were awarded in atmospheric and related sciences during the last eight years? 75

PROGRESS IN ATMOSPHERIC AND RELATED SCIENCES
Indicate your institution's progress and contributions in the atmospheric and related sciences within the last eight years. Check all that apply.

- Produced refereed and/or non-referreed publications
- Produced textbooks or other teaching materials
- Received external funding
- Participated in scientific societies

Briefly describe any additional contributions or information you wish to share with the committee. (optional)

Alan Robock has attended each Heads and Chairs Meeting for Atmospheric Science Undergraduate Programs at NCAR, and helped write the revised AMS Statement on degree requirements for a B.S. in Meteorology.

PARTICIPATION IN UCAR ACTIVITIES

How many of the last eight Annual Members Meetings has at least one Member Representative from your institution attended? 8

If applicable, list the UCAR Governance Committees that your faculty and staff have served on during the last eight years.

Alan Robock has been:
Member Representative for Rutgers University, 2001 – present.
Elected member of President’s Advisory Committee for University Relations (PACUR; formerly University Relations Committee), 2005-2011.
Elected member of Board of Trustees, 2012 – 2015.
– Member, Budget and Programs Committee, 2012 – 2015.
– Chair, Board Nominations Committee, 2014 – 2015.
Member, Governance Task Group, 2015 – present.

Jim Miller has been a Member Representative for Rutgers University as a full UCAR member, 2001 – present, and before that served as our Academic Affiliate representative

If applicable, list the NCAR Advisory Committees or Panels that your faculty and staff have participated in during the last eight years.

Ann Marie Carlton serves on the ACCORD (Atmospheric Chemistry Observations and Modeling) Science Committee.

If applicable, briefly list UCAR/NCAR facilities and/or resources used by your faculty, staff, and students during the last eight years.
A number of us use CESM on Yellowstone and WRF on Yellowstone and on other computers.

Rebecca Jordan used the educational resources; most notably globe and budburst.

Ann Marie Carlton used NCAR's C-130, ISS (Integrated Sounding System) and ISFS (Integrated Surface Flux System) for the SOAS campaign in 2013.

If applicable, briefly list examples of collaborative research activities with UCAR/NCAR staff by your faculty, staff, and students during the last eight years.

Robert Kopp served with Brian O’Neill on IPCC AR5 WG2 ch. 19.

Robert Kopp is a co-author on a paper led by Brian O’Neill:


Robert Kopp is a co-author with Claudia Tebaldi:


Enrique Curchitser is an NCAR Affiliate Scientist, and spends most summers working at NCAR.

Enrique Curchitser, Robert Kopp and others were co-PI on a NSF grant with NCAR employees:

Cara Cuite has been collaborating with two NCAR scientists from the Mesoscale and Microscale Meteorology Laboratory, Rebecca Morss and Julie Demuth. They collaborated on a survey designed to test the effectiveness of weather-related evacuation messaging. They are currently writing a paper they will submit to Weather, Climate and Society next month, and they are planning for additional publications. Other Rutgers researchers involved in this collaboration include Rachael Shwom, Bill Hallman, Karen O’Neill, Steve Decker, Dave Robinson, and Chris Obropta. In addition, Human Ecology and Environmental Sciences are co-hosting a visit from Rebecca in April 2016.

Rebecca Morss gave a seminar in the Department of Environmental Sciences in April 2016.

Ann Marie Carlton had a visit from Mary Barth through the UVISIT program in the summer of 2015. As a direct result of this visit they were recently awarded an NSF workshop proposal for a meeting at Whiteface Mountain in the summer of 2016.

Ann Marie Carlton was recently recommended for funding by NOAA for their FIREX campaign with NCAR PI Christine Wiedinmyer.

Alan Robock visited NCAR with a Faculty Fellowship in the Fall of 2011.

Alan Robock collaborated with Caspar Ammann on the climatic effects of volcanic eruptions; Phil Rasch, Simone Tilmes, John Fasullo, and Jean-François Lamarque on geoengineering; and Mike Mills on nuclear winter; and published refereed journal articles with each. He worked with Jon Braun on GPS atmospheric profiling, and published a paper together in BAMS. He continues to work with Mike Mills and Simone Tilmes on geoengineering and the effects of volcanic eruptions.

Alan Robock used the NCAR/NCEP reanalysis in several different research projects, including as boundary conditions for regional climate modeling and as validation for climate model simulations. Has also published several papers evaluating the soil moisture simulations from the reanalysis using actual in situ observations.

Alan Robock’s Ph.D. student Mira Berdahl used WRF on the NCAR computer system to study the impacts of volcanic eruptions on Arctic climate, visited NCAR in 2010 to attend the WRF workshop, and spent October 2011 at NCAR as part of his Faculty Fellowship. She completed her Ph.D. in 2014.

Alan Robock’s Ph.D. student Lili Xia used the NCAR Community Earth System Model on the NCAR computer system to study the impacts of geoengineering on climate, attended the 16th Annual CESM Workshop in
Breckenridge in 2011, and spent October 2011 at NCAR as part of his Faculty Fellowship. She completed her Ph.D. in 2014. She continues to work as his postdoc with Simone Tilmes on CESM modeling of geoengineering.

Alan Robock’s Ph.D. student Thomas Collof used WRF on the NCAR computer system to study land-atmosphere interactions and impacts on convection. He completed his Ph.D. in 2014.

Alan Robock’s Ph.D. student Corey Gabriel is using the NCAR Community Earth System Model on the NCAR computer system to study the impacts of geoengineering on climate.

Alan Robock’s postdoc Joanna Slawinska is collaboration with Bette Otto-Bliesner on PMIP runs and analysis.

If applicable, list participation in any other UCAR/NCAR activities by your faculty, staff, and students during the last eight years that are not already indicated above.

Since its inception in 2001, Rutgers has sponsored a Junior Meteorology major each year to attend the NCAR Summer Undergraduate Leadership Workshop.

In collaboration with Simone Tilmes and Mike Mills, Alan Robock organized an Early Career Summer Workshop on Geoengineering at NCAR in July 2015.

Jim Miller and Alexandria Herman represented Rutgers at the UCAR Weather Day on Capitol Hill in May 2015.

Jim Miller and Alan Robock hosted a visit by Tom Bogdan, UCAR President, to Rutgers on September 11, 2013.

Jim Miller and Alan Robock have brought early career faculty members to the annual UCAR meeting almost every year that it was possible.

Various Rutgers faculty members have responded to UCAR requests to write letters or directly contact Congressional representatives on various issues.

The total number of degrees listed above looks like a round number guess, but the totals just worked out that way:

130 B.S., Meteorology
15 M.S., Atmospheric Science
16 Ph.D., Atmospheric Science

120 B.S., Marine Science
21 M.S., Oceanography
23 Ph.D., Oceanography