Massachusetts Institute of Technology

UCAR Membership Report on 2009 Membership Renewal

The Massachusetts Institute of Technology (MIT), was a founding member of UCAR in 1959 and it is home of the first meteorology department in the United States. MIT’s Program in Atmospheres, Oceans, and Climate (PAOC), a subset of the Department of Earth, Atmospheric, and Planetary Sciences (EAPS), provides a broad and integrated program of education and research in atmospheric science, physical and chemical oceanography, and climate. PAOC’s research emphasis is on basic science employing theoretical, modeling, and experimental approaches. Centers and programs within PAOC include the MIT Climate Modeling Initiative, the Advanced Global Atmospheric Gases Experiment (AGAGE), and the Joint Program on the Science and Policy of Global Change. PAOC offers Masters and doctoral degrees in meteorology, physical oceanography, and climate physics and chemistry. The EAPS undergraduate program provides students with a solid background in applied chemistry, classical physics, and applied mathematics as well as a full introduction to the core areas of earth science: geology, geophysics, geochemistry, atmospheric science, oceanography, planetary science, and astronomy. PAOC offers undergraduate major and minor programs focusing more specifically on Atmospheres, Oceans and Climate. The PAOC graduate program currently enrolls 55 graduate students. During the past 5 years PAOC has granted 34 doctoral degrees and 20 Masters degrees. The broad impact of MIT’s graduate program is evidenced by the fact that 39 MIT graduates are currently employed as faculty members in UCAR university departments.

PAOC currently consists of approximately 13 academic faculty, 22 research scientists, and 20 post-doctoral fellows. Two faculty searches are currently underway to increase the size and breadth of the program’s academic faculty. PAOC provides a wide array of state-of-the-art infrastructure for research and education. Facilities include a synoptic laboratory, a fluid dynamics laboratory, and an extensive suite of geochemical analysis facilities. The PAOC scientific research program is quite prodigious with a continuing stream of peer-reviewed publications.

PAOC faculty are also extremely active participants in UCAR governance (as UCAR Trustees and committee members), collaborative research (particularly climate research and modeling activities), programs (UCAR workshops) and facilities (NCAR datasets and supercomputing resources).

The UCAR Membership Committee concludes that the membership criteria are fulfilled, and recommends to the Members’ Representatives that the Membership of Massachusetts Institute of Technology be continued as provided by the UCAR bylaws.