

William Boos  
Earth and Planetary Science, MIT  
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I am interested in this summer school because I work on monsoon dynamics and want to better understand the role of convective systems in monsoons. Much of the work I have done thus far is framed in a convective quasi-equilibrium paradigm, and I hope to learn how current thinking about the multiple scales of convection might modify such a paradigm.

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CV:

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EDUCATION

Ph.D. in Climate Physics and Chemistry, expected 2007, advisor Kerry Emanuel Massachusetts Institute of Technology, Cambridge, MA Thesis investigates monsoon dynamics on seasonal and subseasonal timescales, in particular the abrupt onset and active-break episodes of the South Asian summer monsoon. Emphasis is given to wind-evaporation feedbacks in which the net heating of the fluid interacts with the circulation.

Professional M.S. in Geosystems, June 2002 Massachusetts Institute of Technology, Cambridge, MA Thesis used a primitive equation ocean model to find whether highly transient vertical mixing suggestive of that produced by tropical cyclones could support a meridional overturning circulation.

B.S. with Honors in Physics, B.A. in Mathematics, June 1997 State University of New York at Binghamton, Binghamton, NY

## SELECTED HONORS AWARDS

Martin Fellowship for Sustainability, MIT (2004-2005)

MIT Departmental Scholarship in Earth and Planetary Science (2002)

Phi Beta Kappa National Honor Society (1997)

Sigma Pi Sigma National Physics Honor Society (1996)

Goldwater Scholarship in Mathematics, Science and Engineering (1995)

## RESEARCH EXPERIENCE

Laboratoire de Mtorologie Dynamique, CNRS, Paris, France, Summer 2004 Conducted a preliminary study of the interaction of cirrus cloud radiative effects with tropical upper tropospheric dynamics.

Pennsylvania State University Department of Astronomy, State College, PA, 1996-1997 Used on-line databases and photographic prints to categorize objects in an astronomical sky survey based on morphology, then compiled a statistical model to characterize resolving ability of a telescope.

University of Chicago, James Franck Institute, Chicago, IL, 1995 Fabricated light emitting diodes using semiconductor nanocrystals and analyzed their performance.

## TEACHING EXPERIENCE

Teaching Assistant, MIT Department of Earth and Planetary Science, 2003-2004 -Fluid Dynamics of the Atmosphere and Ocean -Quasi-Balanced Circulations in Oceans and Atmospheres -Hurricane portion of Geosystems course

Teaching Assistant, Binghamton University Department of Physics, 1995 Instructed laboratory sections of introductory physics courses.

## WORK PROFESSIONAL ACTIVITIES

Reviewer for Journal of the Atmospheric Sciences, Journal of Physical Oceanography, 2005-2006

Consultant to Institute for Civil Society, Newton, MA, 2002-2004 Composed content as part of team of authors for a CD-ROM presentation on climate change.

Analyst, Accenture (formerly Andersen Consulting), New York, NY, 1997-1999 Performed database design, supported development environment, and implemented code management strategy as part of a software development team at client sites.

## PUBLICATIONS

Mechanisms of the seasonal intensification of the Somali jet, W.R. Boos and K.A. Emanuel, in prep.

Seasonal transitions of zonally symmetric Hadley circulations, W.R. Boos and K.A. Emanuel, in prep.

Zonally symmetric WISHE modes and moist convective amplification, W.R. Boos and K.A. Emanuel, in prep.

Transient Diapycnal Mixing and the Meridional Overturning Circulation, W.R. Boos, J.R. Scott, and K.A. Emanuel, *Journal of Physical Oceanography*, 2004, 34 (1), 334341.

#### SELECTED PRESENTATIONS

Seasonal transitions of zonally symmetric circulations, W. R. Boos, talk at the American Meteorological Society's 27th Conference on Hurricanes and Tropical Meteorology, Monterey, California, April 2006.

Intraseasonal modulation of Hadley circulations by wind-evaporation feedback, W. R. Boos, talk at the Northeast Tropical Workshop, Rensselaerville, New York, June 2005.

Cloud-radiative interactions with upper-tropospheric circulations, W. R. Boos and S. Bony, poster at the Fall 2004 Meeting of the American Geophysical Union, San Francisco, USA.

Semi-Empirical Definition of the Galaxy-Quasar Transition Zone for 1.2m Schmidt Cameras, W.R. Boos, M.M. Chester, and P.D. Usher, *Bulletin of the American Astronomical Society*, 1996, 28, 1321.

#### ACTIVITIES

FloodSafe Honduras, Honduras and Cambridge, MA, 2005-present Led hydrology team to provide data and modeling support for implementation of an early warning system for floods in the Rio Aguan basin in northern Honduras.

Club of Rome, Hamburg, Germany, 2002-2005 Member of tt30, a group of young people from academia and industry serving to advise the Club of Rome, a non-governmental think tank on global humanitarian issues.

Intensive Program on Sustainability, Bangkok and Chonburi, Thailand, Summer 2004 Attended a two-week workshop on food security in Southeast Asia organized by the University of Tokyo and the Asian Institute of Technology.

Students for Global Sustainability, MIT, 2003 Coordinated the review of submissions for the annual conference of the World Student Community on Sustainable Development.