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Department of Atmospheric Sciences
University of Illinois Urbana-Champaign
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Education

MS Atmospheric Sciences

University of Illinois at Urbana-Champaign, December 2006

Thesis Title: “Synergizing High Resolution Satellite and Ground-Based Radar Data to Assess Trade Wind Cloud Precipitation”*

Thesis Advisors: Professors Larry Di Girolamo and Robert Rauber

BS Geography (with emphasis on Meteorology)

Western Illinois University, Macomb IL, May 2002

Mathematics Minor

Cum Laude

Teaching Experience

Dept. of Atmospheric Sciences, University of Illinois

Academic Advisor and Instructor August 2006 – Present

- Teach atmospheric science courses with special emphasis on utilizing current technology to examine weather conditions.
- Director of Undergraduate Studies: Organize and coordinate multiple sections of general education courses in atmospheric sciences (2000-3500 students per year).
- Graduate TA Coordinator:
 - o Recruit, train and supervise graduate teaching assistants.
 - o Prepare and conduct TA orientation
 - o Manage and organize TA appointments
 - o Hire and manage Undergraduate TAs
- Advise all undergraduate majors and minors in atmospheric science (approx. 120 students)
 - o Advise Approximately 120 students (majors/minors)
 - o Summer Orientation for Freshmen
 - o Summer Orientation for Transfer Students
 - o Meet with all prospective students
 - Coordinate with campus visits (i.e., Orange and Blue Days)
 - o Coordinate Graduation Ceremonies
 - o Recruit at Majors/Minors Fair
 - o Organize student conference attendance
 - o Organize and oversee student internships
 - o Coordinate with WCIA broadcast meteorology interns

Current Course Load:

(For course descriptions see <http://courses.illinois.edu/cis/index.html>)

ATMS 120 Severe and Hazardous Weather, August 2006 - Present

Description: This large survey course (1000-1800 students annually) was designed to introduce undergraduate students the most extreme manifestations of weather and climate by analyzing the physical, economic, historical and human impact of extreme weather events. Course satisfies the Illinois General Education Credit requirement for Natural Sciences and Technology and Quantitative Reasoning 2. Also taught as a Discover Course in the Fall.

ATMS 100 Introduction to Meteorology, June 2008 – Present

(Also as a Grad Teaching Assistant, Aug 2002-May 2003; Aug 2004-Dec 2004)

Description: This large survey course (1000 students annually) was designed to introduce undergraduate students to basic atmospheric processes that influence the weather and climate. Course satisfies the Illinois General Education Credit requirement for Natural Sciences and Technology and Quantitative Reasoning 2

ATMS 201 General Meteorology, Spring 2009 – Present

Description: This course is designed to prepare atmospheric science majors for upper level course work in areas of atmospheric radiative transfer, thermodynamics, fluid dynamics and weather analysis/forecasting. The course work is heavy in problem solving and focuses on the physical and mathematical interpretation of the fundamental behavior of the atmospheric. 70 students annually

James Scholar Program, 2006 – Present

As a part of the College of Liberal Arts and Sciences James Scholar Program, I oversee and advise approximately 45 students per semester through the completion of an honors project within the courses I teach.

Blended Learning in Large Enrollment Classes, Spring 2008

In the Spring 2008 semester, I taught ATMS 120 as a hybrid course to approximately 100 students. A hybrid course is one where learning is divided or “blended” into both online and face-to-face learning. The students spent half of their time in guided learning of online materials that I developed and the other half of their time in a face-to-face hands-on classroom learning environment. This course design was the first of its kind in large enrollment atmospheric sciences courses.

ATMS 491: Guided Individual Study

Mentored students through independent research

ATMS 492: Capstone Research

Coordinated senior research projects

Online Courses (Moodle Courses)

ATMS 120 Online

Description: Same as above.

ENSU 310 Renewable and Alternative Energy: Developed Summer-Fall 2010

Description: Upon completion of this course, the students will have knowledge of the fundamental scientific principles behind the production and use of renewable and alternative energy sources. They will be well versed in the benefits and consequences of expanding the use of renewable and alternative energy at all levels of society (from the individual, to the small business, to governments and the world economy). Students will also discover how weather and climate impact the usage of these energy sources.

Committees/Academic Responsibilities

- **Office of Sustainability (Illinois) Education Task Force**
- **Participant in the Provost task force on improving large enrollment freshmen courses**
- **Participated in the Education Committee as a part of the U of I Sustainability**
- **NASA INSPIRES proposal reviewer**
- **Graduate Student Recruiter at Annual AMS conference**
- **Assisted in Graduate Advising**
- **DAS Committees: Curriculum Development, Web Development News Letter and Awards**

Research Experience and Field Work

Graduate Research Assistant, Dept. of Atmospheric Sciences, Univ. of Illinois

May 2003-Aug 2004; Jan 2005-August 2006

Summary: To assess the role of trade wind shallow convective precipitation in global water and energy budgets, I collocated high resolution satellite data and ground based dual-polarization radar data. This technique allowed me to develop relationships between trade wind clouds as observed from space and their precipitation as derived from ground based radar.

Current Status: Published in the *Journal of Applied Meteorology and Climatology* 2009

Field Campaign Involvement

RICO (Rain In Cumulus over the Ocean) Nov 2004-Jan 2005

Responsibilities: Pre-fieldwork included coordinating radar operations with satellite overpass times. During the field campaign, I actively participated in science meetings, flight planning, rawinsonde launchings and forecasting. I also served as radar coordinator for the S-POLKa radar where I managed radar operations during research flights.

BAMEX (Bow Echo And MCV Experiment) June 2003-July 2003

Responsibilities: I served in the field with the Mobile Integrated Profiling System (MIPS) chasing and sampling bow echoes and MCVs during intensive operation periods.

Recent Presentations

Invited speaker at Alpha Phi Omega on Severe Weather (April 16, 2011)

Key Note Speaker at the U of I 4-H Scholarship Banquet (April 12, 2011)

Invited Lecture on Climate Change at Crystal Lake High School (Dec 10, 2010)

Invited Lecture at Illinois Tower Residence Hall on Severe Weather (Dec 7, 2010)

Invited Lecture at the Illinois State Science Olympiad Coaches Clinic (Oct 20, 2010)

Key Note Speaker for the AVID program at Lynhurst Middle School in Indianapolis, IN (Oct. 8, 2010)

Invited Speaker at Edison Middle School Champaign, IL (Featured in the News Gazette 11-13-10), Kennedy

Middle Grade School Kankakee, IL (featured in the UI Alumni Magazine), John F. Kennedy Middle School

Plainfield, IL and Rantoul Middle School, Rantoul, IL Spring 2010

Invited speaker to the IUB Green initiatives April 22, 2010

Invited Speaker for the 2009 350.org Rally for Climate Change Oct. 2009

Invited Speaker for the Fall 2009 Brown Bag CITES Edtech Seminar Series Oct 2009

Key Note Speaker for the Students for the Environment @ UIUC April 2009

Key Note Speaker for the International Business Association March 2009

Guest Speaker for Alpha Rho Chi Prof. Architecture Society on Climate Change Oct 2009

AMS Annual Meeting: Education Symposium Jan 2008 (Oral)

CITES Educational Tech. Brown Bag Series, Featured Speaker Oct 2007 (Oral)

AMS Cloud Physics and Radiation Conference June 2006 (Oral*)

CIAMS January Meeting 2006 (Oral)

RICO Science Meeting Jan. 2006 (Oral)

AGU Fall Meeting Dec. 2005 (Poster)

Dept. of Atmospheric Sciences Masters Thesis Seminar Nov. 2005 (Oral)

AMS Radar and Mesoscale Conference Oct. 2005 (Poster*)

Dept. of Atmospheric Sciences 20th Anniversary Celebration (Poster)

UIUC Tri-Department (Geog., Geol. and Atmos. Sci.) Poster Session (2003, 2004)

* <http://www.atmos.uiuc.edu/~snodgrss/research.html>

Publications

Conference Preprints

Snodgrass, Eric, Larry Di Girolamo, Robert Rauber and Guangyu Zhao, 2005: *Synergizing high resolution EOS-Terra satellite data and S-POLKA radar reflectivity to assess trade wind cumuli precipitation*. Proc. 11th AMS Conf. Mesoscale Processes and 32nd Conf. on Radar Meteor., October 2005. Albuquerque, NM. Poster JP3J.2

Genkova, I., G. Zhao, G. Seiz, **E. Snodgrass**, M. Colon, L. Di Girolamo, R. Rauber, 2005: Validation of trade wind cumulus cloud properties produced by meteorological satellites. SPIE International Symp. Remote Sens., Bruges, Belgium, September 2005

Genkova, I., M. Wilson, Y. Yang, G. Zhao, B. Chapman, **E. Snodgrass**, D. Mazzoni, L. Di Girolamo, 2005: The synergy of the MISR cloud masks for a global cloud climatology. SPIE International Symp. Remote Sens., Bruges, Belgium, September 2005

Refereed Publications

Genkova, I., G. Seiz, G. Zhao, **E. Snodgrass**, and L. Di Girolamo (2006): A comparison of cloud top heights derived from Terra instruments for trade wind cumulus clouds. *RSE Special Issue on MISR*

Rauber, R.M., B. Stevens, H.T. Ochs, C. Knight, B.A. Albrecht, A.M. Blyth, C.W. Fairall, J.B. Jensen, S.G. Lasher-Trapp, O.L. Mayol-Bracero, G. Vali, J.R. Anderson, B.A. Baker, A.R. Bandy, E. Burnet, J.L. Brenguier, W.A. Brewer, P.R.A. Brown, P. Chuang, W.R. Cotton, L. Di Girolamo, B. Geerts, H. Gerber, S. Göke, L. Gomes, B.G. Heikes, J.G. Hudson, P. Kollias, R.P. Lawson, S.K. Krueger, D.H. Lenschow, L. Nuijens, D.W. O'Sullivan, R.A. Rilling, D.C. Rogers, A.P. Siebesma, **E. Snodgrass**, J.L. Stith, D.C. Thornton, S. Tucker, C.H. Twohy, and P. Zuidema, 2007: Rain in Shallow Cumulus Over the Ocean: The RICO Campaign. *Bull. Amer. Meteor. Soc.*, **88**, 1912–1928.

Rauber, R.M., B. Stevens, J. Davison, S. Göke, O.L. Mayol-Bracero, D. Rogers, P. Zuidema, H.T. Ochs, C. Knight, J. Jensen, S. Bereznicki, S. Bordoni, H. Caro-Gautier, M. Colón-Robles, M. Deliz, S. Donaher, V. Ghate, E. Grzeszczak, C. Henry, A. Marie Hertel, I. Jo, M. Kruk, J. Lowenstein, J. Malley, B. Medeiros, Y. Méndez-Lopez, S. Mishra, F. Morales-García, L.A. Nuijens, D. O'Donnell, D.L. Ortiz-Montalvo, K. Rasmussen, E. Riepe, S. Scalia, E. Serpetzoglou, H. Shen, M. Siedsma, J. Small, E. Snodgrass, P. Trivej, and J. Zawislak, 2007: In the Driver's Seat: Rico and Education. *Bull. Amer. Meteor. Soc.*, **88**, 1929–1937.

Rauber, R.M., B. Stevens, H.T. Ochs, C. Knight, B.A. Albrecht, A.M. Blyth, C.W. Fairall, J.B. Jensen, S.G. Lasher-Trapp, O.L. Mayol-Bracero, G. Vali, J.R. Anderson, B.A. Baker, A.R. Bandy, E. Burnet, J.L. Brenguier, W.A. Brewer, P.R.A. Brown, P. Chuang, W.R. Cotton, L. Di Girolamo, B. Geerts, H. Gerber, S. Göke, L. Gomes, B.G. Heikes, J.G. Hudson, P. Kollias, R.P. Lawson, S.K. Krueger, D.H. Lenschow, L. Nuijens, D.W. O'Sullivan, R.A. Rilling, D.C. Rogers, A.P. Siebesma, **E. Snodgrass**, J.L. Stith, D.C. Thornton, S. Tucker, C.H. Twohy, and P. Zuidema, 2007: A Supplement to Rain in Shallow Cumulus Over the Ocean: The RICO Campaign. *Bull. Amer. Meteor. Soc.*, **88**, S12–S18.

Snodgrass, E.R., L. Di Girolamo, and R.M. Rauber, 2009: Precipitation Characteristics of Trade Wind Clouds during RICO Derived from Radar, Satellite, and Aircraft Measurements. *J. Appl. Meteor. Climatol.*, **48**, 464–483.

Snodgrass, E., (2009): Perceptions of Climate Change: An undergraduate survey at the University of Illinois. *Bulletin of the American Meteorological Society*. To be submitted Spring 2012

Awards, Honors and Recognitions

University of Illinois at Urbana-Champaign

Delta Sigma Omicron 2011 Distinguished Teaching Award

Illinois Student Senate Teaching Excellence Award 2010-2011

Featured in numerous Daily Illini interviews focusing primarily on severe weather, climate change and environmental sustainability.

Featured in the UI News (May 2011) for work with DRES to make our courses more accessible.

Featured in the Illinois Alumni magazine for storm chasing and severe weather education

Recognized as an "Outstanding Educator" by the men of Phi Kappa Psi (2007)

Selected as Alpha Lambda Delta "Outstanding Teacher of Freshmen" (2008)

Incomplete List of Teachers Ranked as Excellent By Their Students

Spring 2006, 2007, 2008, 2009*, 2010*, 2011* Fall 2003, 2004*, 2006, 2007, 2008*, 2009*, 2010* . Summer 2011*

(*Ranked as Outstanding)

Western Illinois University

Dept. of Geography Student Scholar 2002

Member Phi Eta Sigma, Phi Kappa Phi and Kappa Mu Epsilon Honor Societies

Scholastic Outreach

Invited participant by the Provost task force on improving large enrollment freshmen courses (Sept 2011)

Co-authored the open source book on Environmental Sustainability funded by the state of Illinois and coordinated by Rob Kanter (Summer 2011)

Featured on the U of I admission website. (July 2011)

Coordinated with Unit 4 Schools in Champaign to develop high school earth science curriculum through the ENLiST program (June 2011)

Illinois State Science Olympiad Event Supervisor for Remote Sensing 2007-2011 (both regional and state competitions)

Participated in the Education Committee as a part of the U of I Sustainability Office – worked closely with Steve Sonka (Spring 2010)

Relevant Course Work on Education

University of Illinois at Urbana-Champaign

ATMS 573: Teaching Higher Education in Earth and Environmental Sciences.

Western Illinois University

EIS 201: Educational Psychology – Human Growth and Development.

EIS 301: Educational Psychology – Learning and Instruction.

(<http://www.wiu.edu/catalog/programs/eis.shtml>)

Technical Skills

Proficient in: ArcGIS (Full Software Suite), FORTRAN77/90, UNIX, C-Shell Scripting, Windows 9x/2000/XP, OSX, Canvas, Compass, HTML, Microsoft Office (Access, Excel, PowerPoint, and Word), SOLOII, GARP, Transform, Noesys, IDV, NCPlot, HEG, Turbine Video Encoder, ULEAD, Flash, i-movie, and several software packages for digital image manipulation.

Professional Membership

American Geophysical Union
American Meteorological Society

References

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