ERIC R. SNODGRASS

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DEPARTMENT of ATMOSPHERIC SCIENCES
UNIVERSITY of ILLINOIS URBANA-CHAMPAIGN
105 S. GREGORY STREET
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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

Instructor of Introductory Courses August 2006 – Present

- **Teach atmospheric science courses with special emphasis on utilizing current technology to examine weather conditions.**
- **Organize and coordinate multiple sections of general education courses in atmospheric sciences.**
- **Recruit, train, supervise and orient all graduate teaching assistants.**
- **Undergraduate Advising**
- **Assisted in Graduate Advising**
- **Departmental services include curriculum development committee, web development committee and the awards committee.**

COURSES TAUGHT***

ATMS 120 Severe and Hazardous Weather, August 2006 - Present

This large (~600 students per semester) survey course 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.

ATMS 100 Introduction to Meteorology, June 2008 – Present
(Also as a Grad Teaching Assistant, Aug 2002-May 2003; Aug 2004-Dec 2004)

This large (~500 students per semester) survey course was designed to introduce undergraduate students to basic atmospheric processes that influence the weather and climate.

ATMS 201 General Meteorology, Spring 2009 – Present

This course is designed to prepare atmospheric science majors for upper level course work in areas of radiation, thermodynamics, fluid dynamics and weather analysis. The course work is heavy in problem solving and focuses on the physical and mathematical interpretation of the fundamental behavior of the atmosphere.

ATMS 403 Weather and Forecasting, Spring 2006

As a guest lecturer, I focused on the mathematical derivation of the key atmospheric variables of potential temperature, equivalent potential temperature, virtual temperature and sea level pressure. I introduced the students to weather analysis software package GARP (GEMPACK) and conducted labs on frontal analysis and forecasting using radar, satellite, station observations, constant pressure maps and cross-sections.

*** For course descriptions see http://courses.illinois.edu/cis/2009/fall/schedule/index.html

James Scholar Program (2006-Present)

As a part of the College of Liberal Arts and Sciences James Scholar Program, I oversee and advise nearly 40 students per semester through the completion of an honors project within the course I teach.

Blended Learning in Large Enrollment Classes Spring 2008

In Spring 2008 semester, I taught ATMS 120 as a hybrid course to approximately 100 students. A hybrid course is one were 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 enrolment atmospheric science courses.

Current Course Development (2008-Present)

As a part of the B.S. degree in the Program of Environmental Sustainability at the University of Illinois Global Campus, I will be developing online versions of three courses in the following subject areas:

1. Renewable and Alternative Energy Sources
2. Water, Oil and Climate
3. Severe and Hazardous Weather

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: This work was published in the *Journal of Applied Met. and Clim. March 2009*

Field Campaign Involvement

RICO (*R*ain *I*n *C*umulus over the *O*cean) 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 (*B*ow Echo *A*nd *M*CV *Ex*periment) 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

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
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 July 2009.

Charlevoix, D.J., **E. Snodgrass,** and B. Guarente (2009): Blended Learning in Large Enrollment Classes. *Internet and Higher Education.* To be submitted Summer 2009

Charlevoix, D.J., S. Strey, B. Guarente, and **E. Snodgrass** (2009) Evaluation of Student Success in Large Enrollment Blended Learning. *Journal of Excellence in College Teaching.* To be submitted Summer 2009

Snodgrass, E., D.J. Charlevoix, B. Guarente, and S. Strey (2009): Tools for Teaching in a Blended Learning Format. *Journal of Geoscience Education.* To be submitted Summer 2009

AWARDS, HONORS and RECOGNITIONS

University of Illinois at Urbana-Champaign

Incomplete List of Teachers Ranked as Excellent By Their Students

Spring 2006, 2007, 2008 Fall 2003, 2004*,2006, 2007, 2008*

(*Ranked as Outstanding)

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

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

Western Illinois University
Dept. of Geography Student Scholar 2002
Member Phi Eta Sigma, Phi Kappa Phi and Kappa Mu Epsilon Honor Societies

SCHOLASTIC OUTREACH

Event coordinator for the 2007, 2008, 2009 Illinois Science Olympiad
Event coordinator for the 2007, 2008, 2009 Urbana, IL Regional Science Olympiad

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, CanvasX, Adobe Illustrator, Compass, HTML, Microsoft Office (Access, Excel, PowerPoint, and Word), SOLOII, GARP, Transform, Noesys, IDV, NCPlot, HEG, Turbine Video Encoder, ULEAD, Flash, and several software packages for digital image manipulation.**

PROFESSIONAL MEMBERSHIP

American Geophysical Union
American Meteorological Society

REFERENCES

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