

## **SARAH F. TEBBENS, Ph.D.**

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Department of Physics  
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### **EDUCATION**

1994 Columbia University, Ph.D. in Marine Geology and Geophysics  
1992 Columbia University, M.Phil. in Marine Geology and Geophysics  
1989 Columbia University, M.A. in Marine Geology and Geophysics  
1987 Vassar College, B.A., cum laude and Departmental Honors (Thesis), Geology  
1983 Mamaroneck High School, Mamaroneck, NY 10543

### **PROFESSIONAL EMPLOYMENT EXPERIENCE**

2004 – Present Associate Professor, Department of Physics, Wright State University  
2003-2004 Associate Professor (with tenure), College of Marine Science, Univ. of South Florida  
1996-2003 Assistant Professor, College of Marine Science, Univ. of South Florida  
1994-1995 Visiting Assistant Professor, Dept. of Marine Science, Univ. of South Florida  
1987-1993 Graduate Research Assistant, Lamont-Doherty Earth Observatory  
1987-1988 Teaching Assistant (Paleomagnetism), Columbia University  
1986-1987 Senior Geology Intern, Vassar College  
Summer 1986 Summer Intern (Physical Oceanography), Lamont-Doherty Geological Obs.

### **HONORS AND AWARDS**

2002 USF award for excellence in teaching and mentorship at the doctoral level as major Professor for Stephen Burroughs, a USF 2002 Outstanding Dissertation Prize recipient  
2001 White House fellowship, selected as sole *USF* candidate, advanced to Regional Finalist  
1997 Oak Ridge Associated Universities (ORAU) Junior Faculty Enhancement Award  
1996 USF Special Award (Project Oceanography; awarded by Department of Marine Science Chairman and College of Arts and Sciences Dean)  
1996 Environmental Excellence Award (Project Oceanography and Oceanography Camp for Girls) presented by Environmental Excellence  
1987 National Association of Geology Teachers (NAGT) Field Course Scholarship  
1987 Vassar College Alumni Fellowship for Graduate School  
1987 Erminnie A. Smith Memorial Prize for excellence in the study of Geology, Vassar College

### **FUNDED PROJECTS**

P.I. or co-P.I. on over one million dollars in research and education grants (1996-2006)

### **PROFESSIONAL INTERESTS**

Nonlinear analysis and modeling of geophysical processes including coastal change, tsunamis, forest fires, seismology, and environmental hazards.

### **PROFESSIONAL AFFILIATIONS**

American Geophysical Union; American Association for the Advancement of Science; Sigma Xi; The Society of Woman Geographers; The New York Academy of Sciences.

## I. TEACHING AND EDUCATIONAL OUTREACH

### TEACHING

#### Undergraduate Courses taught at Wright State University

- PHY 111 Principles of Physics I (lecture and 2 recitations; Fall 2004 and 2005)
- PHY 112 Principles of Physics II (lecture and 2 recitations; Winter 2005 and 2006)
- PHY 113 Principles of Physics III (lecture and 1 recitation; Spring 2005)

#### Graduate Lecture Courses taught at Wright State University

- PHY 799 Analyses and Prediction (co-taught, Winter 2005)
- GL 699 Order and Complexity in Natural Systems (co-taught, Spring 2005)
- ES 707 Lab Rotation II (Fall 2004)
- ES 799 Independent Topics & Research (Summer 2005 and Fall 2005)
- ES 813 Dissertation Research (Fall 2005)

#### Undergraduate Courses taught at University of South Florida

- MSC OCE 2001 Basic Oceanography (co-taught 9 times)
- MSC OCE 4930 Natural Hazards (co-taught 5 times)
- GLY GLY 4930 Plate Tectonics (co-taught 4 times)

#### Graduate Courses taught at University of South Florida

- MSC OCE 6934 Fractals, Chaos, and Non-linear Dynamics (taught 2 times)
- MSC OCE 6934 Coastal Processes (taught once)
- MSC OCE 6934 Seamounts (co-taught once)
- MSC OCG 6080 Plate Tectonics (co-taught 4 times)
- MSC OCG 6050 Geological Oceanography (co-taught 8 times)
- MSC OCE 6934 Natural Hazards (co-taught 5 times)
- MSC OCE 6934 Methods in Geological Oceanography (taught once)

#### Courses taught by Distance Learning at University of South Florida (televised live to distant locations) (the list below indicates how often courses listed above were taught by distance learning)

- MSC OCG 6080 Plate Tectonics (taught once)
- GLY GLY 3400 Structural Geology, Undergraduate course (taught once)
- MSC OCE 6934/4940 Natural Hazards, Graduate and Undergraduate level (taught 4 times)
- MSC OCE 2001 Basic Oceanography (co-taught 9 times)

#### Guest Instructor

1995 National Science Foundation Teacher Enhancement Workshop to bring Chaos and Fractals to the High School Math Classroom, Florida Atlantic University.

### GRADUATE STUDENT ADVISING

#### M.S. Major Advisor

**Joseph vanGalen (M.S., 2004)**

**Advisor, August 2002 – 2004**

*Thesis: "Longshore sediment transport from northern Maine to Tampa Bay, Florida: A comparison of longshore field studies to relative potential sediment transport rates derived from wave information hindcast data"*

Current position: Coastal Scientist, PBS&J Services Group, Tampa, FL.

**Douglas Wilder**

**Co-Major Advisor, 2001-2003**

**Member of M.S. committee, 1998-2001**

Thesis: “Pacific-Nazca/Farallon evolution from chron 10 to chron 4”

Current position: Research Assistant at the University of Alaska, Fairbanks.

**Eric Nelson (M.S., 2001)**

**Advisor, 1998-2001**

Thesis: “The role of subaerial geomorphology in coastal morphodynamics, Outer Banks, NC.”

Position upon graduation: Research Assistant at the U.S. Geological Survey Center for Coastal & Regional Marine Studies, St. Petersburg, FL. Mr. Nelson applied IDL skills, learned as part of his studies at USF, to research that supported the USGS coastal change program. In 2003, Nelson returned to USF to study Architecture.

**Brian Donahue (M.S., 1999)**

**Co-Major Advisor, 1996-1999**

Thesis: “The Effect of Sea-Level Rise and Estuarine Retreat on the Sediment Distribution Seaward of the Mouth of Tampa Bay.”

Current position: Marine Technician and Assistant Instructor at the USF College of Marine Science. Donahue works with Prof. Naar and is responsible for maintaining the Kongsberg Simrad EM 3000 shallow-water multi-beam sonar system.

#### **Ph.D. Advisor**

**Jorge Gomez**

**Advisor, May 2002-Dec 2002**

Mr. Gomez left USF at the end of 2002. His research interests changed to a more environmental emphasis. He received an American States scholarship to support his new research direction.

**Stephen Burroughs (Ph.D., 2001)**

**Advisor, 1997-2001**

Dissertation: “New methodologies for scaling laws to quantify geologic phenomenon.”

Current position: Associate Professor at the Department of Chemistry and Physics, University of Tampa. Dr. Burroughs teaches courses in Physics, Marine Geology, and Oceanography. He is a co-author of five peer-reviewed publications, with a sixth accepted for publication. Dr. Burroughs received one of only five 2002 USF Outstanding Dissertation Awards.

#### **M.S. Committee service**

**Greg Berman (M.S., 2002)**

**Committee member, 1998-2002**

Thesis: “Morphologic Characterization and Evolution of Egmont Deep and its Influence on the Ebb-Tidal Delta of Tampa Bay, Florida”

Current Position: Research Assistant, U.S. Geological Survey Center for Coastal & Regional Marine Studies, St. Petersburg, FL.

**Patricia Pratt (M.S., 1997)**

**Committee member, 1995-1997**

Thesis: “Spectral Classification of Bottom Type in an Underwater Coastal Environment for Remote Sensing Applications”

**Yoav Rappaport (M.S., 1996)**

**Committee member, 1994-1996**

Thesis: “Seamount Shape and Size Distribution Near Easter Island”

Current Position: Working for the City of Tampa applying GIS skills to town planning such as storm water management.

## Ph.D. Committee service

**Zhengrong Jerry Lui, (Ph.D., 1996)                      Committee member, 1994-1996**

Dissertation: "The Origin and Evolution of the Easter Seamount Chain"

Current position: Dr. Lui's first position after completing his doctorate was as a System Administrator/ Analyst for the Geographical Information System Lab at Stanford University. Dr. Lui is currently the Chief Systems Architect at Sony Research and Development Center, San Jose, CA.

## EDUCATIONAL OUTREACH ACTIVITIES

**Project Oceanography.** Co-Principal Investigator (1995-2000). Project Oceanography is a live, interactive (via telephone call-in) weekly half-hour broadcast on marine science for middle school students. There are over 250 registered sites in 32 Florida counties, 27 US states, and Brazil. Contributed to proposals to support program. Served on Advisory Board. This program is still active today (see <http://www.marine.usf.edu/pjocean>). My role included preparing and presenting broadcasts and preparing teacher's packages with background materials on:

- Marine Geophysics, Spring 1996, pilot program, three 1/2-hour interactive programs
- Marine Geophysics, Fall 1996, six 1/2-hour interactive
- Environmental Hazards, Spring 1998, three 1/2 hour interactive programs on tornadoes, lightning, and tsunamis
- Careers in Marine Science and Technology, Spring 1998, interviewed as part of one 1/2 hour program
- Detecting coastal change with Lasers, Spring 2001, 1/2 hour interactive program

My programs continue to be replayed on local cable television stations nationwide.

Acclamation:

- USF Special Award presented by Dept. Chair and Dean, Fall 1996
- 1996 Environmental Excellence Award

**Oceanography Camp For Girls.** Co-Principal Investigator (1994-2000). The Oceanography Camp for Girls is a 3 week camp for 30 girls between their 8<sup>th</sup> and 9<sup>th</sup> grades. As part of a three week camp, prepare and present labs on marine geophysics and satellite remote sensing. This program is still active (see <http://www.marine.usf.edu/girlscamp>).

Acclamation: • 1996 Environmental Excellence Award

**Making Waves.** Co-Principal Investigator (1998-2000). Making Waves is a multimedia approach to learning that offers middle school teachers and students an inside view of current, relevant ocean science research. Articles are written by USF Marine Science students, with faculty advice, and published in *Interactive Teacher*, a magazine that reaches 185,000 teachers nationwide. A curriculum guide related to each article is available on the web at <http://waves.marine.usf.edu>.

## TELEVISED PRESENTATIONS (in addition to Project Oceanography broadcasts)

1999 F-TV16, Science Adventures 307, contribute to half-hour broadcast "Exploring the Deep"

1997 The Explorer Channel, Tampa, FL, half-hour broadcast "Plate Tectonics"

## II. SCHOLARSHIP

**PUBLICATIONS** (students Tebbens advised denoted by *italics*, students advised at time of publication underlined)

### Dissertation

Tebbens, S.F., Tectonic Evolution of the Southeast Pacific from Oligocene to Present, 184 pp., Columbia University, New York, 1994.

### Refereed Articles (all articles are referred, R)

- (R) Tebbens, S.F., S.C. Cande, L. Kovacs, and J. C. Parra, 1997, The Chile Ridge: A Tectonic Framework, *J. Geophys. Res.*, 12,035-12,059.
- (R) Tebbens, S.F. and S.C. Cande, 1997, Southeast Pacific Tectonic Evolution from Early Oligocene to Present: *J. Geophys. Res.*, 12,061-12,084.
- (R) Tebbens, S.F., P.G. Coble, and T. Greely, 1998, Teaching Marine Science to the Next Generation: Innovative Programs for 6th - 8th Graders Gain momentum, *EOS Trans. AGU*, 79, 137,141.
- (R) Bird, R., S.F. Tebbens, D.F. Naar, and M.C. Kleinrock, 1999, Evidence for and implications of stepwise triple junction migration, *Geology*, 27, 911-914.
- (R) Kruse, S.E., S.F. Tebbens, D.F. Naar, and Q. Lou, 2000, Comparisons of gravity anomalies at pseudofaults fracture zones, and nontransfrom discontinuities from fast to slow spreading areas, *J. Geophys. Res.*, 105, 28,399-28,410.
- (R) *Burroughs, S.M.* and S.F. Tebbens, 2001, Upper-truncated power law distributions, *Fractals*, 9, 209-222.
- (R) *Burroughs, S.M.* and S.F. Tebbens, 2001, Upper-Truncated Power Laws in Natural Systems, *Pure and Applied Geophysics*, 158, 741-757.
- (R) Tebbens, S.F. and *S.M. Burroughs*, C.C. Barton, and D.F. Naar, 2001, Statistical self-similarity of hotspot seamount volumes modeled as self-similar criticality, *Geophys. Res. Lett.*, 28, 2711-2714.
- (R) Tebbens, S.F., *S.M. Burroughs*, and *E.E. Nelson*, 2002, Wavelet Analysis of Shoreline Change on the Outer Banks of North Carolina: An Example of Complexity in the Marine Sciences, *Proceedings of the National Academy of Sciences (PNAS)*, 99(1), 2554-2560.
- (R) Anderson, J., D. Belknap, B. Douglas, D. FitzGerald, C. Fletcher, R. Holman, R. Land, S. Leatherman, B. Richmond, S. Riggs, A. Rodriguez, S. Tebbens, T. Tornqvist, and O. van de Plassche, 2002, CoForce: Coastal forecasting in rapidly changing environments, *GSA Today*, 12 (2), 46.

- (R) *Burroughs, S.M.* and S.F. Tebbens, 2002, The upper-truncated power law applied to earthquake cumulative frequency-magnitude distributions, *Bulletin of the Seismological Society of America (BSSA)*, 92 (8), 2983-2993.
- (R) *Donahue, B.T.*, A.C. Hine, S. Tebbens, S.D. Locker, and D.C. Twichell, 2003, Late Holocene estuarine-inner shelf interactions: is there evidence of an estuarine retreat path for Tampa Bay, Florida?, *Marine Geology*, 200, 219-241.
- (R) Tebbens, S.F., and *S.M. Burroughs*, 2003, Self-Similar Criticality, *Fractals*, 11 (3), 221-231.
- (R) *Burroughs, S.M.*, and S.F. Tebbens, 2005, Power Law Scaling and Probabilistic Forecasting of Tsunami runup heights, *Pure and Applied Geophysics*, 162, 331-342.
- (R) *Berman, G.A.*, D.F. Naar, A.C. Hine, G.R. Brooks, S.F. Tebbens, B.T. Donahue, and R. Wilson, 2005, Geologic Structure and Hydrodynamics of Egmont Channel: An Anomalous Inlet at the Mouth of Tampa Bay, *Journal of Coastal Research*, 21, 331-357.
- (R) Tebbens, S.F. and *Burroughs, S.M.*, 2005, Forest fire burn areas in Western Canada modeled as self-similar criticality, *Physica D*, 211, 221-234.

#### **In Press (all articles are referred, R)**

- (R) *Van Gaalen, J.F.*, S.F. Tebbens, A.B. Murray, C.C. Barton, and D.F. Naar, Longshore sediment transport rates and directions from Tampa Bay, Florida to northern Maine: literature compilation, *Journal of Coastal Research*, in press.

#### **In Review (all articles are referred, R)**

- (R) Tebbens, S.F. and *Burroughs, S.M.*, Dune Retreat and Shoreline Change on the Outer Banks of North Carolina, submitted to *Journal of Coastal Research*, August 22, 2005, in review.

#### **Non-refereed Publications (abstracts) Presented at Professional Meetings (last 5 years)**

(First author presented paper unless otherwise noted)

#### **Calendar year 2005**

##### *Fall AGU meeting, San Francisco, California, December 2005*

Burroughs, S.M., and S.F. Tebbens, Dune Retreat and Shoreline Change on the Outer Banks of North Carolina.

Tebbens, S.F., A. Murray, and A.D. Ashton, 2005, Quantifying Coastal Change Patterns using LIDAR.

Barton, C.C., J. Smigelski, and S.F. Tebbens, Scaling Analysis of Tide Gauge Data from the East Coast of the United States.

Smigelski, J., S.F. Tebbens, and C.C. Barton, Scaling Analysis of Water Level Records from the North American Great Lakes.

##### *European Geophysical Society Meeting, Vienna, Austria April 2005*

- Tebbens, S.F., and Burroughs, S.M., 2005, Forest fire burn areas in Western Canada modeled as self-similar criticality.
- Barton, C.C., S.F. Tebbens, and S. M. Burroughs, Forecasting shoreline position: a nonlinear approach.

### **Calendar year 2004**

#### *AGU Ocean Sciences meeting, Portland, Oregon, January 2004*

- Van Gaalen, J.F.*, S.F. Tebbens, C.C. Barton, A.B. Murray, and D.F. Naar, 2004, Direction and magnitude of longshore sediment transport from Maine to Florida using deep-water waves and literature compilations, *Eos Trans. AGU*, 84 (52), Ocean Sci. Meet. Suppl., Abstract OS52B-07

#### *Fall AGU meeting, San Francisco, California, December 2004*

- Barton, C C, S.F. Tebbens, *S.M. Burroughs*, J.S. Dismukes, and R.A. Morton, 2004, Forecasting Shoreline Position, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract NG22A-08 (INVITED)
- Burroughs, S.M.*, and S.F. Tebbens, 2004, Forest Fire Burn Areas Modeled as Self-Similar Criticality, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract NG33A-0886
- Tebbens, S.F., and *J.F. Van Gaalen*, 2004, Longshore sediment transport from Maine to Florida: Comparison of literature compilation to model results based on WIS hindcast deep-water data, *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract NG33A-0886

### **Calendar year 2003**

#### *Fall AGU meeting, San Francisco, California, December 2003*

- Tebbens, S.F., A.B. Murray, *S.M. Burroughs*, and A. Ashton, Nonlinear dynamics of alongshore shoreline position change: observations and modeling *Eos Trans. AGU*, 84 (46), Fall Meet. Suppl., Abstract NG31A-0607
- Burroughs, S.M.*, and S.F. Tebbens, Power law scaling and recurrence intervals of tsunamis *Eos Trans. AGU*, 84 (46), Fall Meet. Suppl., Abstract NG31A-0606
- Barton, C.C., S.F. Tebbens, *S.M. Burroughs*, R.A. Morton, J.S. Dismukes, An approach for forecasting shoreline stability based on fractal persistence (INVITED), *Eos Trans. AGU*, 84 (46), Fall Meet. Suppl., Abstract NG12A-06

#### *European Geophysical Society Meeting, Nice, France, April 2003*

- Tebbens, S., and *S. Burroughs*, Temporal truncation as an explanation for the change in *b*-value preceding large earthquakes
- Burroughs, S.*, and S. Tebbens, Power law scaling of tsunami run-up heights and probabilistic forecasting
- Barton, C.C., S.F. Tebbens, and *J. Gomez-Moreno*, Persistence and statistical distribution of chloride concentration in precipitation and stream outflow in a small watershed at Hubbard Brook, New Hampshire, USA (presented by Tebbens)

### **Calendar year 2002**

*Fall AGU meeting, San Francisco, California, December 2002*

*Burroughs, S.M.* and S.F. Tebbens, Self-Similar Criticality: A model for forest fire burn areas

Tebbens, S.F., and *S.M. Burroughs*, An explanation for the change in *b*-value preceding large earthquakes

Berman, G.A., D.F. Naar, A.C. Hine, S.F. Tebbens, *B.T. Donahue*, G.R. Brooks, and R. Wilson, Geologic structure and hydrodynamics of Egmont Channel: an anomalous inlet at the mouth of Tampa Bay, Florida

## **Calendar year 2001**

*Fall AGU meeting, San Francisco, California, December 2001*

*Burroughs, S.M.* and S.F. Tebbens, Upper-truncated power laws and limits to scale invariance in natural systems

Tebbens, S.F., *S.M. Burroughs*, and E.E. Nelson, Wavelet analysis of shoreline change on the Outer Banks of North Carolina (INVITED)

Tebbens, S.F. and *S.M. Burroughs*, Self-similar criticality: A link between cumulative power law distributions and fractal geometry

*Spring AGU meeting, Boston, Massachusetts, May-June 2001*

*Burroughs, S.M.* and S.F. Tebbens, Apparent temporal change in *b*-value explained by upper-truncation of the Gutenberg-Richter power law

Tebbens, S.F., *S.M. Burroughs*, and *E.E. Nelson*, Horizontal shoreline change at Cape Hatteras National Seashore is a self-affine time series: mean change is meaningless

*European Geophysical Society Meeting, Nice, France, March 2001*

*Burroughs, S.M.*, S.F. Tebbens, C.C. Barton, and D.F. Naar, Hotspot seamount formation as an example of self-organized criticality

Tebbens, S.F. and *S.M. Burroughs*, A model of self-similar criticality (presented by Burroughs)

## **RESEARCH GRANTS**

### **Recently Submitted Grants (demonstration of effort)**

2005 Principal Investigator, "Collaborative Proposal: Initial investigations of change along Gulf Coast barrier coastlines," National Science Foundation EAR, 10/1/2005 – 9/30/2007, \$28,083. (WSU portion). Co-PI: A.B. Murray (Duke University). (Murray served as proposal coordinator.)

### **Unfunded Grants Submitted from WSU (demonstration of inter-departmental collaboration and effort)**

2005 Principal Investigator, "IGERT: Stressors of Humans and Ecosystems: Linking Computational Toxicology and Biological Effects," National Science Foundation IGERT, 2/15/06 – 2/14/11. Co-PIs: G.A. Burton (lead PI), B.D. Foy, M.L. Raymer, and M.G. Wheatly.

## Funded Grants

2004 Principal Investigator, "Collaborative Research: Coasts in Motion: Quantifying the patterns of coastal change using LIDAR," National Science Foundation EAR, 4/1/2005 – 3/31/2008, \$293,191 (WSU portion). Co-PIs: S. Burroughs (University of Tampa) and A.B. Murray (Duke University). (I served as proposal coordinator.)

2003 Principal Investigator, "Quantification and probabilistic forecasting of coastal change using weekly to multi-year high-resolution LIDAR surveys," NASA Solid Earth and Natural Hazards (SENH) program, 8/1/03 – 7/31/05, \$240,000.

2002 Co-Principal Investigator. "Completion of multibeam mapping in Madison-Swanson MPA," National Oceanic and Atmospheric Administration, 7/8/02-9/30/03, \$99,000  
Co-PI: D.F. Naar.

Principal Investigator. "U.S. Geological Survey (Northborough, MA office), "Non-linear Dynamical Analysis of Hydrological and Chemical Data," 10/28/02 – 1/9/03, \$6,407.

Principal Investigator. University of South Florida, Research Council, International Travel Grant, \$1,300.

2000 Principal Investigator. "Understanding Earthquakes using an Upper-truncated Power Law," University of South Florida, Research Council and Division of Sponsored Research, Research and Creative Scholarship Grant Program, 1/1/01 – 12/31/01, \$7,500.

1999 Principal Investigator. "POWRE: A LIDAR study of Hatteras and Ocracoke Islands," National Science Foundation, 5/1/99 - 12/30/01, \$75,000.

1998 Co-Principal Investigator. "Geosciences and Society - A multimedia approach by teachers and scientists," National Science Foundation, Awards to Facilitate Geoscience Education, 7/1/98 - 6/30/99, \$49,718. Co-PIs: T. Greely (PI), P. Betzer, R.H. Byrne, A. Hine, P.H. Muller, F. Muller-Karger, J.J. Torres, and R.H. Weisberg.

Principal Investigator. International Travel Award, University of South Florida, 5/1998, \$1,500.

1997 Co-Principal Investigator. "Enhancing K-12 education via satellite-televized interactive technologies," Department of the Navy, National Ocean Partnership Program, 4/1/97-3/31/99, \$472,482. Co-PIs: P.G. Coble, A.J. Barrett, T. Greely, and M. Hewitt.

Principal Investigator. "Kinematic evolution of a new type of microplate", Oak Ridge Associated Universities (ORAU), Junior Faculty Enhancement Award, 5/1/97 - 4/31/98, \$10,000.

Principal Investigator. "Publication of two papers in the peer-reviewed Journal of Geophysical Research", University of South Florida Faculty Enhancement Award, April 1997, \$1,000.

Co-Principal Investigator. "Project Oceanography," Florida State Budget, Department of Education Line Item. Participated in an effort to attract funding of Marine Science educational outreach programs by the Florida Department of Education (DOE). Invited Rep. Fisher to visit a live Project Oceanography broadcast, \$150,000.

Principal Investigator. "A Nearshore Oceanographic Survey for a Graduate Class in Marine Geophysical Methods," Florida Institute of Oceanography, 3/97, Award: 1 day ship time aboard *R/V Bellows*.

1996 Co-Principal Investigator. "The Oceanography Camp for Girls and Teachers," National Science Foundation, EHR - Young Scholars Program, Co-PIs: P. Coble (PI), J.B. Rose, T.M. Greely, and C. Kelley, 9/15/96 - 1/31/98, \$143,610.

Principal Investigator. "Scaling and Forecasting of Indonesian Tsunamis", University of South Florida, Research Council and Division of Sponsored Research, Research and Creative Scholarship Grant Program, 3/1/96 - 3/1/97, \$7,486.

1994 Principal Investigator. "Scaling Law for Tsunamis: Forecasting future tsunami magnitude vs. frequency from the past record," U.S. Geological Survey, 10/1/94 - 10/1/97, \$26,000.

Principal Investigator. "Advancing plate tectonics: A new class of microplate," University of South Florida, President's Council Faculty Award Program, 5/1/94 - 4/30/95, \$4,717.

Principal Investigator. "Petroleum Assessment of the Eugene Island Area," Lamont-Doherty Earth Observatory (subcontract of a Department of Energy program), 6/1/94 - 7/31/95, \$27,232.

Principal Investigator. "Present Results at Oxford University (England) and at International Meeting on Fractals in Italy", University of South Florida, Research Council, International Travel Grant, May 1994, \$1,000.

**INVITED SPEAKER (past 5 years)** (not including professional meetings such as AGU)

2005 Honors Seminars of Metropolitan Dayton, Inc., Dayton, OH  
Wright State University, Department of Geological Sciences, Dayton, OH

2004 Wright State University Honors Program, Honors Dialogue, Dayton, OH  
Wright State University, Department of Physics, Dayton, OH

2002 Duke University, Nicholas School of the Environment & Earth Sciences, Durham, NC  
Duke University, Center for Nonlinear and Complex Systems, Durham, NC  
Cornell University, Department of Geological Sciences, Ithaca, NY.

2001 National Academy of Sciences Colloquia on Self-Organized Complexity in the Physical, Biological, and Social Sciences, Irvine, CA.  
Cornell University, Department of Geological Sciences, Ithaca, NY.

2000 NSF Workshop on Forecasting Coastal Change During the Current Millennium,  
Rice University, Houston, TX  
Lamont-Doherty Earth Observatory, Columbia University, NY.  
Cornell University, Department of Geological Sciences, Ithaca, NY.  
University of South Florida, Dept. of Physics, Tampa, FL.  
University of South Florida, Dept. of Geology, Tampa, FL.

### **III. SERVICE**

#### **REVIEWER**

##### **Grant Agencies:**

American Chemical Society, Department of Energy, National Aeronautic and Space Administration, National Science Foundation, Oregon Sea Grant, U.S. Department of State (Science Center programs).

##### **Journals:**

*Earth and Planetary Science Letters, Journal of Geophysical Research, Journal of South American Earth Sciences, Marine Geophysical Research, Geophysical Research Letters, and Geology.*

##### **Books:**

*Geophysical Theory* (Menke and Abbot, Columbia Univ. Press, NY, 1990, 458 pp.)  
*IDL Programming Techniques* (Fanning, Fanning Software Consulting, CO, September 1999 printing, 336 pp.)  
*Investigating Water as a Resource, American Geological Institute curriculum module* (AGI, It's About Time Publishers, 2000.)

#### **PROFESSIONAL SERVICE (last 5 years)**

2005 Secretary, Nonlinear Geophysics Focus Group, American Geophysical Union  
2005 Session co-convenor, European Geophysical Society XXX General Assembly, Austria  
2004 Session co-convenor, AGU Fall meeting  
2003 Session co-convenor, European Geophysical Society XXVIII General Assembly, France  
2002-03 Program committee, American Geophysical Union (AGU) Fall meeting, representative for Nonlinear Geophysics  
2002-03 Session convenor, AGU Fall meeting  
2001 Head Judge, Outstanding student paper awards, Nonlinear Geophysics Group, AGU Fall Meeting  
2001 Session co-convenor, European Geophysical Society XXVI General Assembly, France  
2000 Session co-convenor, European Geophysical Society XXV General Assembly, France  
2000 Panelist, POWRE proposals, National Science Foundation  
1997-02 Technical Advisory Panel Member, National Ocean Science Bowl (NOSB), Consortium for Oceanographic Research and Education (CORE)

#### **UNIVERSITY SERVICE at WSU**

##### **College of Science and Math (CoSM)**

11/2004 – present CoSM Research Advisory Committee, member  
1/2005 - present Women’s Studies Advisory Council, member

### **Department of Physics**

9/2005 – present Graduate Studies Committee, member

### **PAST UNIVERSITY SERVICE (at University of South Florida)**

#### **Office of the President**

2001 Search Committee, Vice-President for Research, member

#### **College of Arts and Sciences (CAS)**

1997-00 CAS 2010 Quality Committee, member

1996-98 Dean’s Advisory Council, member

#### **Department/College<sup>†</sup> of Marine Science**

2003 Evaluation Oversight Committee, member

2000 Transition to a College of Marine Science Committee, member

1998-01 Search Committee, Two Biological Oceanography Faculty positions, member

1997-98 Search Committee, Geochemical Oceanography Faculty position, member

1997-99 Faculty Recruiting Committee, member

1996-99 Chair, Curriculum Committee, member

1996 Search Committee, Coordinator of Research Programs/Services, member

1995-03 Budget Committee, member

1995-03 Fellowship Committee, member

1995-03 Student Recruitment Committee, member

1994-95 Curriculum Committee, member

### **COMMUNITY SERVICE (last 5 years)**

2004-06 Girlscout Brownie Troop 991 leader

2005 Girlscout Outstanding Service Award, Bellbrook Service Unit, Bellbrook, OH

2002-03 Volunteer, Coastal Cleanup organized by Marine Science Activities Council (MSAC),  
Tierra Verde FL

1994-03 Speak about marine science research to community groups such as Vassar Club of  
Tampa Bay, Yale Club of Tampa Bay, and local public and private schools

1994-03 Respond to high school and college students requests to learn more about how to become  
a marine scientist and other career-related questions. Work with students who need  
to interview a professional for school projects.

## **IV. PROFESSIONAL DEVELOPMENT**

### **SHORT COURSES AND WORKSHOPS ATTENDED**

2005 The Science Glass Ceiling Book Group, Wright State University

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<sup>†</sup> The USF Department of Marine Science became the College of Marine Science 7/1/2000.  
*Sarah F. Tebbens, Ph.D.*

2000 National Science Foundation Workshop, "Forecasting Coastal Change during the Current Millennium", 2 day workshop and 1 day field trip, Rice University, Houston, TX.

1999 Intermediate Programming & Analysis with IDL, 4 day course, Research Systems, Boulder, CO.

Improving Teaching and Learning Through Web-Enhanced or Web-Delivered Courses: an Intensive Workshop on WebCT, one week course, USF, Tampa, FL.

1995 Fourth National Science Foundation Ocean Science Program, RIDGE Theoretical Institute, Faulting and Magmatism at Mid-Ocean Ridges, Lake Tahoe, CA.

1994 National Science Foundation Ocean Science Program, RIDGE Design Workshop for Experimental Approaches to Ridge Segment Structure and Dynamics (RISSES), Wakefield, MA.

1993 Geological Society of America, two day short course on Fractals and their use in the Earth Sciences, Boston, MA.

Geological Society of America, National Association of Geology Teachers and National Science Foundation sponsored workshop on Preparing Successful Grant Proposals to Fund Curriculum Innovation in the Geosciences, Boston, MA.