Sarah F Tebbens, Ph.D.
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EDUCATION

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

PROFESIONAL EMPLOYMENT

2020 – present	Full Professor (with tenure), Department of Physics, Wright State University
2018	Visiting Professor, Deep Springs College (term 6, May-June)
2007 – 2020	Associate Professor (with tenure), Department of Physics, Wright State Univ.
2004 – 2006	Associate Professor, Department of Physics, Wright State University
2003 – 2004	Associate Professor (with tenure), College of Marine Sci., Univ. of S. 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

RECENT NOTABLE SERVICE

2021-2022	Past-President, AGU Nonlinear Geophysics Section (elected)
2019-2020	President, AGU Nonlinear Geophysics Section (elected)
2017-2018	President-elect, AGU Nonlinear Geophysics Focus group (elected)
2019	Session organizer and convener, 3 sessions, Fall AGU meeting
2018-2019	Guest Associate Editor, J. of Earth and Space Sci. (impact factor 3.22)

RECENT TRAINING

2025	Yoga Teacher Training – 200 hours; Ignite Yoga, Centerville, Ohio
2024	Fraud Reporting Training (required for all faculty), Wright State Univ.
2024	Mental Health First Aid Training, Wright State Univ. (valid for 3 years)
2020	Diversity, Equity and Inclusion training at Amer. Geophys. Union; 16 hours

FUNDED PROJECTS

P.I. or co-P.I. on over one million dollars in research and education grants (1996-2025)

PROFESSIONAL INTERESTS

Nonlinear analysis and modeling of geophysical processes including coastal change, submarine volcanism, seismology, and environmental hazards. Finite element modelling of fractal antennas.

PROFESSIONAL AFFILIATIONS

American Geophysical Union; American Association for the Advancement of Science;
Sigma Xi; The Society of Woman Geographers

HONORS and AWARDS

2011	Selected by the pre-med students in the WSU Honors Community residence hall as faculty of the year.
2002	USF award for excellence in teaching and mentorship at the doctoral level
2001	White House fellowship, chosen 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	Vassar College Alumni Fellowship for Graduate School
1987	Erminnie A. Smith Memorial Prize for excellence in the study of Geology, Vassar College

I. RESEARCH

PUBLICATIONS (students denoted by *italics*)

Refereed Articles

(21) Tebbens, S.F., Landslide Scaling: A Review, 2019, Journal of Earth and Space Science, 7(1), 12 pages. doi: 10.1029/2019EA000662.

(20) *Geise, G.R.,* C.C. Barton, and S.F. Tebbens, 2017, Power-Scaling of Floe Areas in the Arctic East Siberian Sea, *Pure and Applied Geophysics,* 174(1), 387-396. doi:10.1007/s00024-016-1364-2.

(19) *van Gaalen, J.*, S.F. Tebbens, and C.C. Barton, 2016, Longshore Sediment Transport Directions and Rates from Northern Maine to Tampa Bay, Florida: Literature Compilation and Interpretation. *Journal of Coastal Research*. doi:10.2112/JCOASTRES-D-15-00002.1

(18) Lazarus, E., A. Ashton, A.B. Murray, S. Tebbens, *S. Burroughs***,** 2011, Cumulative Versus Transient Shoreline Change: Dependencies on Temporal and Spatial Scale, *Journal of Geophysical Research – Earth Surface*, 116(F2), 10 pages. doi:10.1029/2010JF001835

(17) *Burroughs, S.M.,* and S.F. Tebbens, 2008, Dune Retreat and Shoreline Change on the Outer Banks of North Carolina, *Journal of Coastal Research*, 24(2B), 104-112. doi: 10.2112/05.

(16) *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. doi:10.2112/03-0015.1

(15) 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. doi:10.1016/j.physd.2005.08.013

(14) *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. doi:10.1007/s00024-004-2603-5

(13) *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.

(12) Tebbens, S.F., and *S.M. Burroughs*, 2003, Self-Similar Criticality, *Fractals*, 11 (3), 221-231.

(11) 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.

(10) 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.

(9) *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.

(8) *Burroughs, S.M.* and S.F. Tebbens, 2001, Upper-truncated power law distributions, *Fractals,* 9, 209-222.

(7) *Burroughs, S.M.* and S.F. Tebbens, 2001, Upper-Truncated Power Laws in Natural Systems, *Pure and Applied Geophysics,* 158, 741-757.

(6) 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.

(5) Kruse, S.E., S.F. Tebbens, D.F. Naar, and *Q. Lou*, 2000, Comparisons of gravity anomalies at pseudofaults, fracture zones, and nontransform discontinuities from fast to slow spreading areas, *J. Geophys. Res.,* 105, 28,399-28,410.

(4) 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.

(3) 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.

(2) Tebbens, S.F. and S.C. Cande, 1997, Southeast Pacific Tectonic Evolution from Early Oligocene to Present, *J. Geophys. Res*., 102(B6), 12,061-12,084. doi:10.1029/96JB02582

(1) Tebbens, S.F., S.C. Cande, L. Kovacs, and J.C. Parra, 1997, The Chile Ridge: A Tectonic Framework, *J. Geophys. Res*., 102(B6), 12,035-12,059. doi:10.1029/96JB02581

Publications submitted

Tebbens, S.F., and *T. Guha*, submitted to NEXT Research (Elsevier), Fatal Human Crushes: Global Compilation and Analysis. Submitted May 16, 2025. In review.

Coffey, T.J., Barton, C.C., and Tebbens, S.F., submitted to PAGEOPH, Power Scaling of Ice Floe Sizes in the Western Weddell Sea, Southern Ocean with a Summary of Previous Ice Floe Scaling Studies. Submitted December 21, 2023. In revision.

Preprint is available on Research Square: https://doi.org/10.21203/rs.3.rs-3784463/v1

Publications in preparation

Tebbens, S.F., Barton, C.C., *Ewing, J., and Peterman, D.J.,* in prep.*,* Fractal Wire Monopole Antennas: Design and Performance for a 12 cm tall antenna.

Dissertation

Tectonic Evolution of the Southeast Pacific from Early Oligocene to Present. Columbia University. Advisor: S. Cande (now at Scripps Institution of Oceanography)

Technical Reports

Donahue, B.T.; Hine, A.C.; Tebbens, S.F.; Locker, S.D.; Twichell, D.C.; and Hafen, M., 1999, Mouth of Tampa Bay side-scan sonar mosaic map, Open-File Report - U. S. Geological Survey, Report: OF 99-0445, 1 disc.

Recent public seminar

Physics Seminar, Wright State University, "Global Compilation and Analysis of Human Crush Fatalities" (August 30, 2024).

Papers Presented at Professional Meetings (Students in *italics*)

Barton, C.C., *Coffey, T.J.,* and Tebbens, S.F., 2022, Scaling and Other Properties of Individual Fractures and Networks of Fractures in Crystalline Bedrock Underlying the Mirror Lake Watershed, Woodstock, NH, NG25C-0411, presented at 2022 Fall Meeting AGU, Dec. 12-16.

Tebbens, S.F., *Coffey, T.J*., and Barton, C.C., 2021, Power Scaling of Ice Floe Sizes in the western Weddell Sea, Antarctic Ocean, NG35A-0423, presented at 2021 Fall Meeting AGU, Dec. 13-17.

Tebbens, S.F., and *Guha, T.,* 2020, Human Stampede and Crush Fatalities: Size Scaling and Prediction, NG002-0030, presented at 2020 Fall Meeting AGU, virtual, Dec. 1-17.

Tebbens, S.F., and *Guha, T.,* 2019, Scaling and Forecasting of Human Stampede and Crush Fatalities, NG13B-0746, presented at 2019 Fall Meeting AGU, San Francisco, CA, Dec.9-13.

Tebbens, S.F., 2019, Scaling and Modeling of Landslides: A Review, NG13B-0745, presented at 2019 Fall Meeting AGU, San Francisco, CA, Dec. 9-13.

Tebbens, S.F., Barton, C.C., *Ewing, J.J., and Peterman, D.J.,* 2018, Fractal Wire Monopole Antennas: Design and Performance, NG41B-0941, presented at 2018 Fall Meeting AGU, Washington, DC, Dec. 10-14.

Barton, C.C., Cathles, L.M., *Vasko, E., Geise, G.R.,* and Tebbens, S.F., 2018, Shoreline Roughness and Glacial Isostatic Shifts in Shoreline Position along the Atlantic Coast of the United States, NG41B-0956, presented at 2018 Fall Meeting AGU, Washington, DC, Dec. 10-14.

Tebbens, S.F., Barton, C.C., *Peterman, D.J., Ewing, J.J., Abbott, C.S.,* and Rizki, M.M., 2017, 2-D Fractal Wire Antenna Design and Performance, NG52A-09, presented at 2017 Fall Meeting AGU, New Orleans, Louisiana, Dec. 11-15.

Barton, C.C., Tebbens, S.F., *Ewing, J.J., Peterman, D.J.,* Rizki, M.M., 2017, 2-D Fractal Carpet Antenna Design and Performance, NG52A-10, presented at 2017 Fall Meeting AGU, New Orleans, Louisiana, Dec. 11-15.

Tebbens, S.F., Barton, C.C., and *Baker, S.,* 2016, Power Scaling of the Size Distribution of Economic Loss and Fatalities due to Hurricanes, Earthquakes, Tornadoes, and Floods in the USA, NG21A-1813, presented at 2016 Fall Meeting, AGU, San Francisco, Calif., Dec. 12-16.

Tebbens, S.F., Barton, C.C., and *Baker, S.,* 2016, Power Scaling of the Size Distribution of Economic Loss and Fatalities due to Hurricanes, Earthquakes, Tornadoes, and Floods in the USA, NG21A-1813.

Barton, C.C., *Geise, G.R.,* and Tebbens, S.F., 2016, Power Scaling and Seasonal Evolution of Floe Areas in the Arctic East Siberian Sea, NG12A-1l.

Barton, C.C., and Tebbens, S.F., 2014, Probabilistic Forecasting of Life and Economic Losses due to Natural Disasters, Abstract, NG41A-3749.

Tebbens, SF, 2014, Physics Summary Sheets for IPLS Students, Conference on Introductory Physics for the Life Sciences (IPLS) sponsored by the American Association of Physics Teachers (AAPT), March 14-16, 2014, Arlington, VA.

Lyda, AW, Barton, CC, and Tebbens, SF, 2012, Power Scaling and Probabilistic Forecasting of Tsunami water height and life loss in Japan, Paper No. 18-8, 2012 GSA North-Central Section – 46th Annual Meeting 23-24 April.

Tebbens, SF, *Myers, RM*, Barton, CC, Burroughs, SM, and Murray, AB, 2012, Annual Shoreline Dynamics along the Outer Banks, North Carolina, Abstract NG23B-1558, 2012 Fall Meeting, AGU, San Francisco, Calif., Dec. 3-7.

Barton, CC, Rigling, B, Hunter, N, and Tebbens, SF, 2012, Shoreline Position Dynamics: Measurement and Analysis, Abstract NG22A-02, 2012 Fall Meeting, AGU, San Francisco, Calif., Dec. 3-7.

Tebbens, S.F., *J.R. Smigelski*, and C. C. Barton, 2011, Quantifying Water Level Change Through Time in the North American Great Lakes, Abstract NG51C-1662, 2011 Fall Meeting, AGU, San Francisco, CA, Dec. 5-9.

Barton, C.C., *A.W. Lyda*, and S.F. Tebbens, 2011, Probabilistic Forecasting of Water Heights and Life Loss in Japan for the 3/11/2011 Great Tsunami, Abstract NG51C-1663, 2011 Fall Meeting, AGU, San Francisco, CA, Dec. 5-9.

Murray, A.B., E. Lazarus, A.D. Ashton, S. F. Tebbens, and *S.M. Burroughs*, 2011, Scaling Properties of Shoreline Change: Process Implications, Abstract NG34A-03 , 2011 Fall Meeting, AGU, San Francisco, CA, Dec. 5-9.

C. C. Barton, and S. F. Tebbens, Forecasting Shoreline Position: A Method Based on Nonlinear Shoreline Dynamics, Eos Trans. AGU, 91, 2010 Fall Meet. Suppl., Abstract NG33A-05.

Tebbens, S.F., *R.M. Myers*, C.C. Barton, S.M. Burroughs, and A.B. Murray, 2010, Annual shoreline Dynamics of the Outer Banks, North Carolina, Eos Trans. AGU, 91, 2010 Fall Meet. Supple, Abstract NG43G-1450

J. R. Smigelski, S. F. Tebbens, and C. C. Barton, Creating Synthetic Water Level Time Series from the Scaling Exponents of Water Level Records from Atlantic, Gulf of Mexico, and Pacific Coastal Stations and the North American Great Lakes, Eos Trans. AGU, 91, 2010 Fall Meet. Suppl., Abstract NG43A-1409.

Murray, A.B., E. Lazarus, A.D. Ashton, S. F. Tebbens, and *S.M. Burroughs*, Don't Upscale the Coastline: Scales of Cumulative Change Emerge, Eos Trans. AGU, 91, 2010 Fall Meet. Suppl., Abstract EP43F-01.

C. C. Barton, S. F. Tebbens, *J. R. Smigelski*, W. A. Birkemeier, Shoreline Dynamics: Measurement, Analysis, and Forecasting, Eos Trans. AGU, 90(52), 2009 Fall Meet. Suppl., Abstract NG43B-1209.

J. R. Smigelski, C. C. Barton, S. F. Tebbens, A Method to Accurately Generate Synthetic Self-affine Time Series for $-1 < \beta < 3$, Eos Trans. AGU, 90(52), 2009 Fall Meet. Suppl., Abstract NG33B-1083.

S. F. Tebbens, *J. R. Smigelski,* C. C. Barton, Bode Analysis and Modeling of Water Level Change in the Great Lakes, Eos Trans. AGU, 90(52), 2009 Fall Meet. Suppl., Abstract NG33B-1082.

Simpson, K. E., Barton, C.C., *J.R. Smigelski,* and Tebbens, S.F., 2008, Non-Linear Time Series Analysis of Dissolved Oxygen in Five Diverse Aquatic Environments: EOS Trans., AGU, 89(53), 2008 Fall Meeting, Suppl. NG23A-1122

Smigelski, J.R., Tebbens, S.F., and Barton, C.C., 2008, Analysis of Water Level Dynamics in the Great Lakes of North America: EOS Trans., AGU, 89(53), 2008 Fall Meeting Suppl., NG23A-1126

Tebbens, S.F., Myers, R., Barton, C.C., Murray, A., Ashton, A., *Burroughs, S.,* and *Smigelski, J.R.,* Shoreline change and beach dynamics between June 2006 and June 2007 of the Outer Banks, North Carolina: EOS Trans., AGU, 89(53), 2008 Fall Meeting Suppl., NG33B-05

Barton, C.C., *Smigelski, J.R.,* and Tebbens, S.F., Scaling Analysis of Tide Gauge Data from the Atlantic, Gulf of Mexico, and Pacific Coasts of the United States: EOS Trans., AGU, 89(53), 2008 Fall Meeting Suppl., NG23A-1124

Tebbens, S.F., S.M. Burroughs, A.B. Murray, and *J. Smigelski,* Coasts in Motion: Preliminary Results of a Summer 2006 LIDAR survey of the Outer Banks, North Carolina (presented by Burroughs): EOS Trans., AGU, 2006 Fall Meeting, Suppl.

Burroughs, S.M., and S.F. Tebbens, 2006, Self-Similar Criticality: A Link Between Fractal Geometry and Geophysical Observations: EOS Trans., AGU, 2006 Fall Meeting, Suppl.

Tebbens, S.F., and *S.M. Burroughs,* 2006, Dune retreat and shoreline change on the outer banks of North Carolina. 20 Years of Nonlinear Geophysics, Rhodes, Greece, June 2006.

Barton, C.C., S. F. Tebbens, *S.M. Burroughs,* A.B. Murray, and A.D. Ashton, 2006, Analyzing, modeling, and forecasting shoreline dynamics. 20 Years of Nonlinear Geophysics, Rhodes, Greece, June 2006.

Smigelski, J., S. F. Tebbens, and C.C. Barton, 2006, Scaling analysis of water level records from the North American Great Lakes. 20 Years of Nonlinear Geophysics, Rhodes, Greece, June 2006.

Smigelski, J., C.C. Barton, and S. F. Tebbens, 2006, Scaling analysis of tide gauge data from the Atlantic, Gulf of Mexico, and Pacific Coasts of the Unites States. 20 Years of Nonlinear Geophysics, Rhodes, Greece, June 2006.

Tebbens, S.F., and *Burroughs, S.M.,* 2005, Forest fire burn areas in Western Canada modeled as self-similar criticality. European Geophysical Society Meeting, Vienna, Austria April 2005.

Barton, C.C., S.F. Tebbens, and *S. M. Burroughs*, Forecasting shoreline position: a nonlinear approach. European Geophysical Society Meeting, Vienna, Austria April 2005.

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 (*AGU Ocean Sciences meeting, Portland, Oregon, January 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), 2004 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), 2004 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), 2004 Fall Meet. Suppl., Abstract NG33A-0886

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), 2003 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), 2003 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), 2003 Fall Meet. Suppl., Abstract NG12A-06.

Tebbens, S., and *S. Burroughs*, Temporal truncation as an explanation for the change in *b*-value preceding large earthquakes, European Geophysical Society Meeting, Nice, France, April 2003.

Burroughs, S., and S. Tebbens, Power law scaling of tsunami run-up heights and probabilistic forecasting. European Geophysical Society Meeting, Nice, France, April 2003

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). European Geophysical Society Meeting, Nice, France, April 2003.

Burroughs, S.M. and S.F. Tebbens, Self-Similar Criticality: A model for forest fire burn areas. Fall AGU meeting, San Francisco, California, December 2002.

Tebbens, S.F., and *S.M. Burroughs*, An explanation for the change in *b*-value preceding large earthquakes, Fall AGU meeting, San Francisco, California, December 2002.

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

Burroughs, S.M. and S.F. Tebbens, Upper-truncated power laws and limits to scale invariance in natural systems. Fall AGU meeting, San Francisco, California, December 2001.

Tebbens, S.F., *S.M. Burroughs*, and E.E. Nelson, Wavelet analysis of shoreline change on the Outer Banks of North Carolina (INVITED). Fall AGU meeting, San Francisco, California, December 2001.

Tebbens, S.F. and *S.M. Burroughs*, Self-similar criticality: A link between cumulative power law distributions and fractal geometry. Fall AGU meeting, San Francisco, California, December 2001.

Burroughs, S.M. and S.F. Tebbens, Apparent temporal change in *b*-value explained by upper-truncation of the Gutenberg-Richter power law. Spring AGU meeting, Boston, Massachusetts, May-June 2001.

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

Burroughs, S.M., S.F. Tebbens, C.C. Barton, and D.F. Naar, Hotspot seamount formation as an example of self-organized criticality. European Geophysical Society Meeting, Nice, France, March 2001.

Tebbens, S.F. and *S.M. Burroughs*, A model of self-similar criticality (presented by Burroughs). European Geophysical Society Meeting, Nice, France, March 2001.

Tebbens, S.F., Quantifying shoreline change on the Outer Banks of North Carolina (INVITED). NSF Workshop on Forecasting Coastal Change during the Current Millennium, Rice University, November 2000.

Burroughs, S.M., S.F. Tebbens, C.C. Barton, and D.F. Naar, Hotspot seamount formation as an example of self-organized criticality. Fall AGU meeting, San Francisco, California, December 2000.

Tebbens, S.F. and *S.M. Burroughs*, A cellular-automata model with a fractal distribution of trigger cells (INVITED). Fall AGU meeting, San Francisco, California, December 2000.

Tebbens, S.F. and *E. Nelson*, Wavelet analysis of shoreline change at Cape Hatteras National Seashore, 1997-1998. Fall AGU meeting, San Francisco, California, December 2000.

Tebbens, S.F. and *E. Nelson*, Volumetric Coastal Change of Cape Hatteras National Seashore, 1997-98. European Geophysical Society Meeting, Nice, France, March 2000.

Tebbens, S.F. and S*.M. Burroughs*, Identifying Power Laws in Upper-Truncated Cumulative Number-Size Distributions with Applications to Earthquakes and Tsunamis. European Geophysical Society Meeting, Nice, France, March 2000.

Burroughs, S.M., S.F. Tebbens, D.F. Naar, and C.C. Barton, Do Seamount Heights in the Pacific Basin Follow an Upper-truncated Power Law Distribution? Spring AGU meeting, Boston, Massachusetts, May-June 2000.

Burroughs, S.M. and S.F. Tebbens, Identifying Power Laws in Upper-Truncated Cumulative Number-Size distributions With Applications to Earthquakes and Tsunamis. Fall AGU meeting, San Francisco, California, December 1999.

Donahue, B.T., A.C. Hine, S.F. Tebbens, S. Locker, and D. Twichell, Modern Morphodynamics and Holocene Evolution of an Inner Shelf / Estuarine Transition Zone on the West Florida Shelf. Fall AGU meeting, San Francisco, California, December 1999.

Tebbens, S.F. and *E. Nelson*, Cape Hatteras National Topographic Change Quantified Using LIDAR data, 1996-1998. Fall AGU meeting, San Francisco, California, December 1999.

Burroughs, S.M., S.F. Tebbens, D.F. Naar, and C.C. Barton, Do Seamount Heights in the Pacific Basin Follow an Upper-Truncated Power Law Distribution? Spring AGU meeting, Washington, D.C., May 1999.

Tebbens, S.F., E. Bodenschatz, N. Gemelke, J. Carr, and R. Ragnarsson, Wax Tectonics: Parallels with and insights into earth processes. Spring AGU meeting, Washington, D.C., May 1999.

Nelson, E. and S. Tebbens, Cape Hatteras National Seashore Nearshore Topographic Change Quantified Using LIDAR data, 1996-1998. Florida Conference on Ocean History, St. Petersburg, FL, November 1999.

Bird, R.T., S.F. Tebbens, M.C. Kleinrock, and D.F. Naar, Episodic triple junction migration by rift propagation and microplates. Fall AGU meeting, San Francisco, California, December 1998.

Coble, P.G., T.G. Greely, S.F. Tebbens, and M. Hewitt, Project Oceanography: Live interactive television series by scientists for middle school students. Fall AGU meeting, San Francisco, California, December 1998.

Kruse, S., S.F. Tebbens, D.F. Naar, *Q. Lou*, and R. Bird, Pseudofault gravity anomalies resemble those of slow fracture zones or non-transform discontinuities. Fall AGU meeting, San Francisco, California, December 1998.

Tebbens, S.F., P. Coble, T. Greely, and M. Hewitt, Project Oceanography: a free, nationally available, live, and interactive weekly middle school marine science program. Fall AGU meeting, San Francisco, California, December 1998.

Bird, R.T., S.F. Tebbens, M.C. Kleinrock, and D.F. Naar, The concept of triple junction stability in question: Episodic triple junction migration by rift propagation and microplates. Workshop on the Assembly and Breakup of Rodinia, Perth, Australia, September 1998.

Tebbens, S.F. and C. Barton, A fractal scaling law for tsunami runup. European Geophysical Society Meeting, Nice, France, April 1998.

Tebbens, S.F. and S.C. Cande, Southeast Pacific tectonic evolution since 33 m: stepwise midocean triple junction migration. European Geophysical Society Meeting, Nice, France, April 1998.

Hafen, M.R., *B.T. Donahue*, M.A. Weltmer, A.C. Hine, D.F. Naar, S.F. Tebbens, P.A. Howd, S.D. Locker, and D.J. Mallinson, Bedfrom Detection, Characteristics, and Movement of the West Florida Shelf. Spring AGU meeting, Boston, Massachusetts, May 1998.

Donahue, B., A.C. Hine, S.D. Locker, and S. Tebbens, Estuarine/Inner Shelf Seabed Transition in a Mixed Carbonate Siliciclastic Depositional Regime. American Association of Petroleum Geologists Annual Meeting, Salt Lake City, Utah, May 1998.

Coble, P.G., T. Greely, M. Hewitt, S. Tebbens, A. Bryant, N. Schmidt, P. Sutton, and H. Penta, Ocean Sciences in Pre-College Education: Case Study of an Integrated Approach. NSTA Global Summit on Science and Education, December 1996.

Coble, P.G., T. Greely, and S. Tebbens, Project Oceanography: A Distance Learning Program for the Enhancement of the Middle School Science Curriculum. NSTA Global Summit on Science and Education, December 1996.

Greely, T., A. Bryant, M. Hewitt, P.G. Coble, S. Tebbens, N. Schmidt, P. Sutton, and H. Penta, The Oceanography Camp for Teachers. NSTA Global Summit on Science and Education, December 1996.

Naar, D.F. and S.F. Tebbens, Mathematician Paleoplate Revisited suggests two-stage birth of East Pacific Rise. European Geophysical Society Meeting, The Hague, Netherlands, May 1996.

Tebbens, S.F., Scaling and Forecasting of Tsunamis: Examples from Japan and Worldwide. International Union of Geodesy and Geophysics, Boulder, CO, July 1995.

Tebbens, S.F., Tectonic Evolution of the Southeast Pacific from Late Oligocene to Present. International Union of Geodesy and Geophysics, Boulder, CO, July 1995.

Tebbens, S.F., Does Tsunami Runup Obey a Scaling Law? SEPM Congress on Sedimentary Geology, St. Petersburg Beach, FL, August 1995.

Tebbens, S.F., D.F. Naar, and S. Kruse, The Friday Microplate: Birth of the Northern Chile Ridge Spreading Center, Abandonment of a Transform Fault, and Triple Junction Migration. Fall AGU meeting, San Francisco, California, December 1995.

Barton, C.C., S.P. Nishenko, S.F. Tebbens, and W.A. Loeb, Fractal Scaling and Forecasting of the size and frequency for Florida Hurricanes, 1886-1991 and of U.S. Hurricane Financial Loss, 1900-1989. Workshop on Natural Hazards Reduction, Santa Fe Institute, Santa Fe, New Mexico, Jan. 1994.

Barton, C.C., S.P. Nishenko, S.F. Tebbens, and W.A. Loeb, Fractal Scaling and forecasting of the size and frequency for Florida Hurricanes, 1886-1991 and of U.S. Hurricane Property and Life Loss, 1900-1989. Gordon Research Conference on Fractals, San Miniato, Italy, May 1994.

Tebbens, S.F., C. Barton, and S. Nishenko, Fractal Scaling of the Size and Number of Tsunamis. Gordon Research Conference on Fractals, San Miniato, Italy, May 1994.

Tebbens, S.F. and C.C. Barton, Scaling and Forecasting of Tsunamis. Fall AGU meeting, San Francisco, California, December 1994.

Tebbens, S.F., Segmentation of the Chile Ridge: Spreading Rates and Offset Lengths for the Past 10 Ma. Fall AGU meeting, San Francisco, California, December 1993.

Cande, S.C., C.A. Raymond, W.F. Haxby, W.B.F. Ryan, S. Tebbens, S. O'Hara, D. Mueller, B. O'Brien, and M. Wilkinson, Preliminary Results of a Hydrosweep Swath Bathymetry, Magnetics and Gravity Survey of a Pacific-Antarctic Ridge FZ, Part I: Plate Kinematics. Fall AGU meeting, San Francisco, California, December 1992.

Haxby, W.F., C.A. Raymond, S.C. Cande, W.B.F. Ryan, S. Tebbens, S. O'Hara, D. Mueller, B. O'Brien, and M. Wilkinson, Preliminary Results of a Hydrosweep, Gravity and Magnetics Survey of a Pacific-Antarctic Ridge Fracture Zone: Part II, Crustal Structure. Fall AGU meeting, San Francisco, California, December 1992.

Ryan, W.B.F., C.A. Raymond, S.C. Cande, W.F. Haxby, S. Tebbens, S. O'Hara, D. Mueller, B. O'Brien, and M. Wilkinson, Documentation of Ridge-Axis Jumps on the Pacific-Antarctic Spreading Center. Fall AGU meeting, San Francisco, California, December 1992.

Tebbens, S.F., S.C. Cande, and L. Kovacs, Fracture Zones and Wandering Offsets of the Chile Ridge. Fall AGU meeting, San Francisco, California, December 1992

Tebbens, S.F., S.C. Cande, and L. Kovacs, Evolution of the Pacific-Antarctic-Nazca Triple Junction from Oligocene to Present. Fall AGU meeting, San Francisco, California, December 1992.

Kovacs, L., S.C. Cande, J.L. Labrecque, J.C. Parra, H. Vergara, S. Tebbens, and J. Jarvis, An Aeromagnetic Survey of the Chile Ridge, Part I: A Tectonic Overview. Fall AGU meeting, San Francisco, California, December 1990.

Cande, S.C., L. Kovacs, J.L. Labrecque, J.C. Parra, H. Vergara, S. Tebbens, and J. Jarvis, An Aeromagnetic Survey of the Chile Ridge, Part II: A Detailed Neogene Spreading History of the Chile Ridge. Fall AGU meeting, San Francisco, California, December 1990.

Cande, S.C., S.D. Lewis, N. Bangs, S.F. Tebbens, and G.K. Westbrook, The Chile Ridge/Chile Trench Collision Zone: A Rift Valley Disappears Beneath a Continental Margin. Fall AGU meeting, San Francisco, California, December 1990.

Tebbens, S.F., S.C. Cande, L. Kovacs, and J.L. Labrecque, Neogene Antarctic-Nazca Plate Motions, *EOS Trans. AGU*, *71,* 1641. Fall AGU meeting, San Francisco, California, December 1990.

Tebbens, S.F., G.K. Westbrook, S.C. Cande, S.D. Lewis, and N. Bangs, Preliminary Interpretation of Combined GLORIA and SeaBeam Imagery in the Vicinity of the Chile Margin Triple Junction. American Association of Petroleum Geologists, San Francisco, California, 1990.

Bangs, N., S.C. Cande, S.D. Lewis, and S.F. Tebbens, Seismic Evidence for Tectonic Erosion at the Chile Margin-Chile Ridge collision zone, *EOS Trans. AGU, 70*, 1314, 1989.

Cande, S.C., S.D. Lewis, S.F. Tebbens, and N. Bangs, Subduction Erosion along the Southern Chile Trench. Fall AGU meeting, San Francisco, California, December 1989.

Tebbens, S.F., G.K. Westbrook, S.C. Cande, N. Bangs, and S.D. Lewis, Preliminary Interpretation of Combined GLORIA and SeaBeam Imagery in the Vicinity of the Chile Margin Triple Junction. Fall AGU meeting, San Francisco, California, December 1989.

Cande, S.C., S.D. Lewis, N. Bangs, K. Kane, S. Tebbens, and A. Garcia, Morphotectonic Imagery of the Chile Margin Triple Junction from a SEABEAM Bathymetric Survey. Fall AGU meeting, San Francisco, California, December 1988.

Cande, S.C., S.D. Lewis, N. Bangs, S.F. Tebbens, and R. Forman, Interaction of the Chile Ridge and Chile Trench: Preliminary Results from a SEABEAM and MCS Survey. Fall AGU meeting, San Francisco, California, December 1988.

Houghton, R.W., S.F. Tebbens, and C. Colin, Eddy Heat Flux in the Gulf of Guinea. Fall AGU meeting, San Francisco, California, December 1986.

FUNDED GRANTS

AFRL/RYM - Air Force Research Laboratory, *Analysis of radiation efficiency of new type of antenna based on fractal antenna design with application to laboratory and space plasmas*, 3/1/17 - present, co-PIs: Barton, C.C., and Tebbens, S.F., $50,000.

Air Force Research Laboratory, *Application in Computational and Experimental Electromagnetics* (ACE-EM)," 3/1/2017 - 05/1/2018. PI: Deibel. Co-Investigators: Sharma, Barton, Tebbens, and Clark. $135,000.

Wright State University Teaching Innovation Grants. Project Title: Overhauling the algebra-based Introductory Physics Course with new teaching pedagogies and added biological content to enhance retention of at-risk students and better prepare pre-med students for MCAT^{2015}. Submitted March 2014. $7100.

Through verbal negotiations, arranged for 6 months of funding in 2012 from The Graduate School at WSU for PhD candidate Smigelski to complete his dissertation.

Principal Investigator, "Complexity Research," Ball Aerospace, 6/2009-9/2009. $5,600. (grant 667743).

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.)

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.

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, 2002 International Travel Grant, $1,300.

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.

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

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.

Co-Principal Investigator. "Enhancing K-12 education via satellite-televised interactive technologies," Dept. 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. Based on visit, prior impression of marine science program, and subsequent talks with Betzer and Coble, Rep. Fisher requested FL DOE funds for educational outreach which were included in the FL budget, $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.*

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.

Principal Investigator. "Scaling Law for Tsunamis: Forecasting future tsunami magnitude vs. frequency from the past record," U.S. Geol. 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 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.

FIELD EXPERIENCE

1997 *RV* Bellows, sailing to/from St. Petersburg, FL, one day, Geophysical survey near Tampa Bay

1992 *RV* Ewing, cruise EW9201, sailing to/from Lyttelton, New Zealand, Jan 15 – Feb 28, High Resolution Plate Kinematic Flowline of the Pacific-Antarctic Ridge

1990 P-3 Orion (US Navy), January (various flight dates), flying to/from Osorno, Chile, Airborne Magnetics Survey of the Pacific Nazca Plates

1989 *RRS* Charles Darwin, cruise 40/89, Valparaiso, Chile to Punta Arenas, Chile, Marine GLORIA Survey of the Chile Ridge and margin

1988 *RV* Conrad, cruise RC2901, Valparaiso, Chile to Punta Arenas, Chile, Jan 7 – Feb 10, Multi-channel Seismic and SeaBeam Survey of the Chile Ridge and margin

1987 Indiana University Geologic Field Camp (included field studies in the Badlands, a extended study in Cardwell, Montana, and Glacier National Park)

II. TEACHING AND EDUCATIONAL OUTREACH

TEACHING

Undergraduate Course taught at Deep Springs College (Summer 2018, term 6)

- Fractals and Chaos in Natural Systems (seminar)

Undergraduate Courses taught at Wright State University

- EES 4430 Analysis and Prediction of Complex Systems (Fall 2025)
- PHY 1110 Principles of Physics I (lecture and recitations; taught >10 times)
- PHY 1120 Principles of Physics II (lecture and recitations; taught >10 times)
- PHY 1060 and PHY 1060L Astronomy and Astronomy Lab (taught > 5 times)
- PHY 1050 Physics of How Things Work (Fall 2018)
- PHY 4700-02 Fractals and Chaos (Spring 2016)
- HON 400 Essential Environment (Writing Intensive; Winter 2008)
- PHY 111 Principles of Physics I (lecture and recitations; 2004, 2005)
- PHY 112 Principles of Physics II (lecture and recitations; 2005, 2006)
- PHY 113 Principles of Physics III (lecture and recitations; 2005, 2006)

Graduate Courses taught at Wright State University

- PHY 8000 Physics Seminar (Spring 2019, Fall 2024, Spring 2025)
- PHY 4730/6730 Mathematical Physics (interactive lecture; taught >6 times)
- ES 7160/ES 7100/ES 701/ES 716/ES 813 Complexity in Environmental Systems, co-taught >8 times
- GL 699/PHY 799/EES4430/EES 6430 Analyses and Prediction of Complex Natural and Human Systems, co-taught >5 times
- PHY 7990-12 Minor Problems (Spring 2016)
- ES 707 Lab Rotation II (Fall 2004)
- ES 799 Independent Topics & Research
- ES 813 Dissertation Research

Graduate Courses taught at University of South Florida

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

Undergraduate Courses taught at University of South Florida

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

Courses taught by Distance Learning at University of South Florida (televised live to distant locations):

- MSC OCG 6080 Plate Tectonics
- GLY GLY 3400 Structural Geology, Undergraduate course
- MSC OCE 6934/4940 Natural Hazards, Graduate and Undergraduate level
- MSC OCE 2001 Basic Oceanography, co-taught with Marine Science faculty

Guest Instructor

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

Teacher Training and Enhancement

2014 COSMIC Exploration in Teaching and Learning, presented by COSMIC – College of Science and Mathematics Instructional Collaborative in cooperation with the WSU Center for Teaching and Learning.

GRADUATE STUDENT ADVISING

M.S. Major Advisor

Ewing, J.J., M.S., 2018, Physics, Wright State University, Advisor, 2016-2018
Thesis: Electromagnetic Properties of Fractal Antennas
Position after graduation: PhD candidate at Michigan Technological University

Daniel Gain, M.S., Physics, Wright State University, Advisor, 2016-2018.
Graduated with non-thesis option

Rachel Myers Taylor, M.S., 2013, ES, Wright State University, Co-Major Advisor, 2009-2013
Thesis: "Change in Shoreline Position for two Consecutive years using LIDAR along the Outer Banks, North Carolina"

Joseph vanGaalen, M.S., 2004, University of South Florida, 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"
Positions after graduation: Research Assistant at the U.S. Geological Survey Center for Coastal & Regional Marine Studies, St. Petersburg, FL. As of 2016, Director of Academic Assessment at Florida South Western State College.

Douglas Wilder, M.S., 2003, University of South Florida, Committee Member, 1998-2001, Co-Major Advisor, 2001-2003
Thesis: "Pacific-Nazca/Farallon evolution from chron 10 to chron 4"
Position after graduation: Research Assistant at the University of Alaska, Fairbanks.

Eric Nelson, M.S., 2001, University of South Florida, Advisor, 1998-2001
Thesis: "The role of subaerial geomorphology in coastal morphodynamics, Outer Banks, NC."
Position after 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, University of South Florida, 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."
Position after graduation: Marine Technician and Assistant Instructor at the USF College of Marine Science. Donahue worked with Prof. Naar and was responsible for maintaining the Kongsberg Simrad EM 3000 shallow-water multi-beam sonar system. He is currently (as of 2024) a research assistant at USF.

Ph.D. Major Advisor

Jeffrey Smigelski, Ph.D., 2013, ES, Wright State University, Advisor, 2006- 2013
Dissertation: "Water Level Dynamics of the North American Great Lakes: Nonlinear Scaling and Fractional Bode Analysis of a Self-Affine Time Series."
Positions after graduation: Selected for an NRC post-doc through WPAFB, but funding did not materialize. Post-doctoral scientist at the Wright State Research Institute (2013-2014). Research Engineer and Data Scientist at the Wright State Research Institute (2014-2015) specializing in data analysis and computer algorithms.

Jorge Gomez, Ph.D. Candidate, University of South Florida, 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 goals.

Stephen Burroughs, Ph.D., 2001, University of South Florida, Advisor, 1997-2001
Dissertation: "New methodologies for scaling laws to quantify geologic phenomenon."
Positions after graduation: Associate Professor, Full Professor, and Chair of the Department of Chemistry and Physics, University of Tampa. Dr. Burroughs taught courses in Physics, Marine Geology, and Oceanography. Dr. Burroughs received one of five 2002 USF Outstanding Dissertation Awards. Retired.

M.S. Committee service

Tristan Coffey, Earth and Environmental Science, M.S. 2021, Wright State University, Committee member, 2020-2022.
Thesis: "Power Scaling of Ice Floe Sizes in the Weddell Sea, Antarctica"

Fatemeh (Fafa) Ghezelsofla, Earth and Environmental Science, Fafa transferred to University of Maryland to pursue a PhD program in December 2023, Committee member, 2022-2023.

Richard Vanderburgh, M.S. 2020, IASM Program, Committee member, 2020.
Thesis: "One-Dimensional Kinetic Particle-In-Cell Simulations of Various Plasma Distributions"

Vasko, Erik S., M.S., 2018, Earth and Environmental Sciences, Wright State University, Committee member, 2016-2018
Thesis: "Power Scaling of the Mainland Shoreline of the Contiguous United States"

Kalel Alsaeed, M.S., 2017, Physics (medical concentration), Wright State University, Committee member, 2017
Thesis: "Determination of the Shape of a Flattening Filter Free (FFF) Radiation Beam When Modified by a Physical Wedge"

Remona Heenkenda, Physics (medical concentration), Wright State University, Committee member, 2017

Hind Adawi, M.S., 2016, Physics, Wright State University, Committee member, 2016
Thesis: "Surface effect of ferromagnetic nanoparticles on transition between single and multi-domain structure or between single domain structure and superparamagnetic phase"

Scott Baker, M.S., 2016, EES, Wright State University, Committee Member, 2013-2016
Thesis: "Power Distribution and Probabilistic Forecasting of Economic Loss and Fatalities due to Hurricanes, Earthquakes, Tornadoes, and Floods in the United States"
Position after graduation: Meteorologist, National Weather Service.

Patrick Craig, M.S., 2013, EES, Wright State University, Committee member, 2010-2013
Thesis: "*Quantitative Analysis of the Polarity Reversal Pattern of the Earth's Magnetic Field and Self-Reversing Dynamo Models"*

Greg Berman, M.S., 2002, EES, Wright State University, Committee member, 1998-2002
Thesis: "Morphologic Characterization and Evolution of Egmont Deep and its Influence on the Ebb-Tidal Delta of Tampa Bay, Florida"
Position after graduation: Research Assistant, U.S. Geological Survey Center for Coastal & Regional Marine Studies, St. Petersburg, FL.

Patricia Pratt, M.S., 1997, University of South Florida, Committee member, 1995-1997
Thesis: "Spectral Classification of Bottom Type in an Underwater Coastal Environment for Remote Sensing Applications"

Yoav Rappaport, M.S., 1996, University of South Florida, Committee member, 1994-1996
Thesis: "Seamount Shape and Size Distribution Near Easter Island"
Position after graduation: Working for the City of Tampa applying GIS skills to town planning such as storm water management.

Ph.D. Committee service

Daniel Tyree, Ph.D., 2025, Physics, Wright State University, Committee Member, 2023-2025
Thesis: Biosensing Applications of THz Rotational Spectroscopy: Sensing and Analysis of Exogenous and Endogenous Compounds in Exhaled Breath

Tristan Coffey, Earth and Environmental Science, Wright State University, Committee member, 2021-present
Thesis: 3-D Monte Carlo Simulation of Bedrock Geology and Discrete Network Networks in Crystalline Bedrock Beneath the Mirror Lake Watershed, Hubbard Brook Experimental Forest, Woodstock, NH

Lindsay Starr, Ph.D., 2022, ES, Wright State University, Committee Member, 2019-2022
Defence April 29, 2022
Dissertation: "Mercury concentrations and mercury methylation along the freshwater to marine continuum"

David Peterman, Ph.D., 2020, ES, Wright State University, Committee Member, 2017-2020
Defence April 17, 2020
Dissertation: "The hydrostatics and hydrodynamics of prominent heteromorphy ammonoid morphotypes and the functional morphology of ammonitic septa."
Initial Position: Post-doc, University of Utah
Current Position: Post-doc, Dr. Margaret Byron's lab, Pennsylvania State University

Alison Agather, Ph.D., 2018, ES, Wright State University, Committee Member, 2015-2018
Dissertation: "Geochemical and Microbiological Controls on Mercury Methylation in Natural Waters"
Position after graduation: Sea Grant Knauss Marine Policy Fellowship, Washington, DC.

Katlin Bowman, Ph.D., 2014, ES, Wright State University, Committee member, 2012-2014
Dissertation: "*Mercury Distributions and Cycling in the North Atlantic and Easter Tropical Pacific Oceans*"
Position after graduation: Post doc, Dept. of Ocean Sciences, University of California, Santa Cruz

Zhengrong Jerry Lui, Ph.D., 1996, University of South Florida, Committee member, 1994-1996
Dissertation: "The Origin and Evolution of the Easter Seamount Chain"
Positions after graduation: 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 then accepted a position as 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. 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 televised live to Pinellas County Florida middle school students
- Marine Geophysics, Fall 1996, six 1/2-hour interactive programs broadcast via satellite nationwide to middle school students
- Environmental Hazards, Spring 1998, three 1/2 hour interactive programs on tornadoes, lightning, and tsunamis broadcast via satellite nationwide to middle school students
- Careers in Marine Science and Technology, Spring 1998, interviewed as part of one 1/2 hour program, broadcast via satellite nationwide to middle school students
- Detecting coastal change with Lasers, Spring 2001, 1/2 hour interactive program, broadcast via satellite nationwide to middle school students

The broadcasts since 1998 were aired on local television stations. My programs continue to be replayed on local cable television stations on a regular basis.

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 8th and 9th 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 (for details see page 1)

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"

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, Earth and Space Science, Journal of Coastal Research, *Journal of Geophysical Research: Earth Surface, Journal of Geophysical Research – Solid Earth, Journal of South American Earth Sciences, Marine Geophysical Research, Nonlinear Processes in Geophysics, Pure and Applied Geophysics (PAGEOPH), 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

2022-	Executive committee, Nonlinear Geophysics Section, AGU
2025	External Reviewer for a Faculty Promotion to Full Professor, Western University, London, Ontario
2020-22	Chair, Turcotte Committee, Nonlinear Geophysics Section, AGU; solicit, review and select awardee of AGU Turcotte Award
2020	NSF Panelist, CZCN proposals, February 11-14, National Science Foundation, DC
2019-21	President, AGU Nonlinear Geophysics Section (elected)
2018-19	Guest Associate Editor, Journal of Earth and Space Science (impact factor 3.22)
2016-18	President-elect, AGU Nonlinear Geophysics Focus group (elected)
2016-18	Session co-convenor, AGU Fall meeting
2016-18	Judge, Outstanding Student Paper Awards, Nonlinear Geophysics Focus Group, AGU
2012-14	Session co-convenor, AGU Fall meeting
2011	Panelist, NSF Geomorphology and Land Use Dynamics (GLD) program
2011	Judge, Outstanding Student Paper Awards, Nonlinear Geophysics Focus Group, AGU
2010-11	Session co-convenor, AGU Fall meeting
2008-14	Advisory Board, Nonlinear Geophysics Focus Group, American Geophysical Union
2006	Session co-convenor, AGU Fall meeting
2005-08	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 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	NSF Panelist, POWRE proposals, National Science Foundation, DC
1997-02	Technical Advisory Panel Member, National Ocean Science Bowl (NOSB), Consortium for Oceanographic Research and Education (CORE)
1998	Head judge, Outstanding student paper awards, Tectonophysics Section, AGU Fall Meeting
1998	Tectonophysics section representative for education and outreach, AGU Fall Meeting
1995	Judge, Outstanding student paper awards, Tectonophysics Section, AGU Fall Meeting

UNIVERSITY SERVICE at WSU

University

2023-2024	University Promotion and Tenure Committee (elected), member
2021-2022	University Promotion and Tenure Committee (elected), member
2016	Dean of College of Science and Math (COSM) Search Committee
2015 - 2020	Faculty Senate IT Committee

College of Science and Math (CoSM)

2025	Conduct course assessments for PHY 1060 and PHY 1110. This involves selecting the criteria, selecting/writing exam questions to assess the criteria, coordinating with all faculty who are teaching a section of the course to include said exam questions in their evaluations, request and collect the results of the exam questions, compile results and submit all materials.
2025	Complete comprehensive course compilation (TAG) to document that state-mandated learning objectives are being met by PHY 1110 - Introductory Physics. Successfully implemented.
2024 – present	CoSM Steering committee, member (2025: Chair-elect)
2021 – 2022	CoSM ad hoc Interdisciplinary Committee, member
2022 – 2023	CoSM Graduate Studies Committee, member
2020 – present	CoSM Academic Computing and Technology Committee, member
2016 – 2019	Considine Scholars Committee (did not serve while on sabbatical)
2007 – 2009	CoSM Tenure and Promotion Committee
2007 – 2008	Honors Institute Advisory Board
2006 – 2008	CoSM Dean's Advisor Council, member (elected)
2005 – 2009	Women's Studies Advisory Council, member

2004 – 2008 CoSM Research Advisory Committee, member

Department of Physics

F2024 – present Faculty Development Committee, member

2022 – present Graduate Studies Committee, Chair
Review all Physics MS applicants. Check applicant's qualifications. Create report that includes applicant's past degrees, GPAs, and whether their transcripts support that the student has proficiency in 12 prerequisite courses. Confirm English language proficiency for international students from non-English speaking countries. Make recommendation on acceptance.

2018 – S2024 Faculty Development Committee, Chair
2022: Wrote supporting letter for Hunt nomination for University Professorship (successful); 2021: Convened meetings to discuss and advance Traxler and Sharma tenure and promotion packages and wrote FDC letters of support (successful). 2024: Revised and submitted (to Dean) Physics dept by-laws.

2016 – 2017 Physics Faculty Search Committee, member (search cancelled)

2016 – 2017 Faculty Development Committee, Chair

2014 – 2022 Graduate Studies Committee, member

2013 – 2014 Physics Faculty Search Committee, member

2012 – 2013 Physics Faculty Search Committee, Chair

2011 – 2012 Lecturer Position Search Committee, member

2010 – 2013 Undergraduate Studies Committee, member

2009 – present Budget Committee, member

2009 – 2010 Co-Chair, Faculty Search Committee

2008 – 2009 Chair, Physics Chair 5th year review committee

2008 – 2009 Search Committee member, Research Scholar position

2007 – present Faculty Development Committee

2006 – 2007 Physics Search Committee, Chair

2006 – 2008 Environmental Sciences PhD Program Interdisciplinary Review Committee

2005 – 2009 Graduate Studies Committee, member

UNIVERSITY SERVICE at University of South Florida

Office of the President

2000 Search Committee, Vice-President for Research

College of Arts and Sciences (CAS)

1997 – 2000 CAS 2010 Quality Committee

1996 – 1998 Dean's Advisory Council

Department/College† of Marine Science

2003 Evaluation Oversight Committee

2000 Transition to a College of Marine Science Committee

1998 – 2001 Search Committee, Two Biological Oceanography Faculty positions

† The USF Department of Marine Science became the College of Marine Science 7/1/2000.

1997 – 1998	Search Committee, Geochemical Oceanography Faculty position
1997 – 1999	Faculty Recruiting Committee
1996 – 1999	Chair, Curriculum Committee
1996	Search Committee, Coordinator of Research Programs/Services
1995 – 2003	Budget Committee
1995 – 2003	Fellowship Committee
1995 – 2003	Student Recruitment Committee
1994 – 1995	Curriculum Committee
1994 – 2003	Invite and host outside leading scientists in geophysics and nonlinear dynamics as guest lecturers in courses I teach and as speakers at weekly college seminar series

COMMUNITY SERVICE

2010 – 2024	Volunteer, Ohio River Road Runners Club, race volunteer
2012 – 2024	Volunteer, Ohio River Road Runners Club, web editor
2006 – 2007	Bellbrook Girlscout Service Unit Manager (three-way, shared position)
2005	Girlscout Outstanding Service Award, Bellbrook Service Unit, OH
2004 – 2016	Girlscout Troop 30991 leader
2002 – 2003	Volunteer, Coastal Cleanup organized by Marine Science Activities Council (MSAC), Tierra Verde, FL
1994 – 2003	Speak about marine science research to community groups such as Vassar Club of Tampa Bay, Yale Club of Tampa Bay, and local schools
1994 – 2003	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.
1999	Pinellas County Millennium Celebration, Environmental Committee
1998 – 1999	St. Petersburg Cultural Plan Arts Education Taskforce
1999 – 1998	Attend occasional business luncheons to learn new business developments in local area and promote marine science to local businessmen
1996 – 1998	Community Advisory Board Member, Junior League of St. Petersburg
1994 – 1999	Volunteer, Superstars (corporate sponsored event to benefit Marine Science Students)

Extra-curricular Interests

Knitting	Consistent knitter since the early 1980's (e.g., hats, mittens, sweaters, blankets); Occasionally host knitting and crafting gatherings in my home
Yoga	Intermittent practitioner for over a decade; completed 200 hour yoga teacher training in Spring 2025
Hiking	Regularly hike locally and occasionally hike internationally. Have summitted all 48 "4,000 footers" in NH.
Running	Completed 24 marathons/ultramarathons, including one 50-miler; currently run shorter distances on trails (3-7 miles).
Cycling	Completed GOBA (The Great Ohio Bike Adventure), a week-long bike/camping trip in multiple years including 2024, as well as frequent local cycling rides.
EMT	Former certified EMT