

# CURRICULUM VITAE

## John L. Schroeder

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## GENERAL INFORMATION

### EDUCATION

**Ph.D. Civil Engineering**, Texas Tech University, December 1999

**M.S. Atmospheric Sciences**, Texas Tech University, August 1997

**B.S. Civil Engineering**, University of Missouri - Rolla, December 1994

### PROFESSIONAL CHRONOLOGY

Director, National Wind Institute (formerly Wind Science and Engineering Research Center), Texas Tech University (2010-present)

Professor, Atmospheric Science Group, Department of Geosciences, Texas Tech University (2012-present)

Associate Professor, Atmospheric Science Group, Department of Geosciences, Texas Tech University (2006-2012)

Assistant Professor, Atmospheric Science Group, Department of Geosciences, Texas Tech University (2001-2006)

Research Associate, Department of Geosciences, Texas Tech University (2001)

Director of Operations, G Systems Inc., Plano, TX (2000-2001)

Project Manager, G Systems Inc., Plano, TX (1999-2000)

### HONORS AND NOMINATIONS

Recognized Faculty – College of Engineering Honors Convocation, February 2002

Visiting Researcher – Lawrence Livermore Laboratory, JOINT URBAN Experiment, July 2003

Protégé – Texas Academy of Medicine, Engineering and Science, January 2005

West Texas Mesonet – National Weather Association's Larry R. Johnson Special Award, October 2008

International Association for Wind Engineering (IAWE) Junior Award, August 2012

Top Professor at Affordable Large Public Colleges (AC Online), May 2013

Texas Tech University Integrated Scholar Award, January 2014

### PROFESSIONAL AFFILIATIONS

American Meteorological Society

American Association for Wind Engineering

American Wind Energy Association

## **LEADERSHIP RESPONSIBILITIES**

Director, National Wind Institute, formerly the Wind Science and Engineering Research Center

### **Selected Highlights (2010-Present)**

*Leading the Charge* – led the TTU wind enterprise in building strategic relationships both on and off campus, rallying large interdisciplinary teams, growing a significant industry-based research component, evolving research foci to meet emerging opportunities, and removing internal barriers to interdisciplinary research.

*Reinvigoration* – prior to the formation of the National Wind Institute, transformed the Wind Science and Engineering Research Center through staff reorganization, proactive cost cutting measures, rapid growth in research productivity, increased collegiality, a focus on excellence, investment into strategic facilities, and an opportunistic attitude.

*Establishing an Interdisciplinary Institute* – helped lead an effort, along with a small group of faculty, the TTU President, Vice President for Research, Provost and Deans to establish an interdisciplinary institute focused on wind research and education. The integration combined two existing organizations (Wind Science and Engineering Research Center and the Texas Wind Energy Institute) into a single campus entity and provided a simplified, efficient approach to “all things wind” at TTU.

*Managing Important Relationships* – facilitated a relationship with Sandia National Laboratories and the US Department of Energy that led to the development of the Scaled Wind Farm Technology Facility at TTU, worked with a number of industry partners to establish a variety of research projects at TTU, supported the establishment of a thriving public/private partnership between Group NIRE and TTU to facilitate the expansion of the research enterprise.

*Developing a National Testing Facility* – worked with the Vice President for Research and a variety of other campus entities, along with Sandia National Laboratories, Vestas, Group NIRE and the Lubbock Reese Redevelopment Authority, to develop the Scaled Wind Farm Technology Facility at TTU.

*Government Relations* – represented TTU’s wind enterprise to a number of U.S. and Texas State elected officials through providing tours, meetings and input on wind-related issues, assisted with red book preparation, supported the Texas Department of Insurance to meet wind-water damage obligations under state law.

*Encouraging Achievement* – supervised a staff of more than 20 individuals, mentored staff members to reach new levels of achievement through enhanced accountability and expectations, rallied a diverse collection of faculty from various colleges to grow research endeavors, worked with various upper administrators to accomplish institutional goals, coordinated a diverse collection of campus entities to accomplish major projects, worked with the TTU System Office of Research, Commercialization & Federal Relations to grow a culture promoting commercialization activities.

*Effective Fiscal Management* – provided comprehensive fiscal management for the institute, managed large auditable federal projects, balanced financial constraints with strategic opportunities to provide growth of the research enterprise, grew internal financial flexibility through organic growth, increased overhead generation by 389% in four years.

*Reaching Outward* – served as a board member for the American Association for Wind Engineering and the National Institute for Renewable Energy, worked with team members and campus entities to brand the National Wind Institute after its formation, worked with staff to manage media relations and performed numerous tours and interviews on behalf of the TTU wind enterprise.

*Building the Future* – provided strategic planning with input from faculty affiliates and external partners to merge expertise and capabilities with available resources, facility upgrades, and relationship building into a grand vision for the wind enterprise at TTU.

*Building Interdisciplinary Education* – continued to build upon the NSF IGERT created Ph.D. program in Wind Science and Engineering by rallying a diverse faculty base and providing a novel student funding mechanism through the use of power sales from wind turbines associated with the research enterprise, supported the continued expansion of the interdisciplinary B.S. in Wind Energy and evolution of the program towards enhanced remote delivery, industry partnerships, and focused professional development opportunities.

# TEACHING ACTIVITY

## COURSE DEVELOPMENT

### Undergraduate

NA

### Graduate

#### *Meteorological Data Acquisition and Instrumentation Systems*

This course covers the exploration, design, integration and application of meteorological data acquisition and instrumentation systems.

#### *Meteorologic Research Methods*

The course provides a comprehensive survey of the meteorological research process including current analysis and presentation methods. Interpretation and dissemination of analysis results from various datasets are a major component of this course.

#### *Meteorologic Field Experiments*

This course provides an overview of designing, planning, and completing atmospheric field experiments.

#### *Tropical Cyclones*

This course provides for an overview of the tropical cyclone structure and hazards.

#### *Wind Science*

This course provides for an overview of applied boundary layer topics related to wind science, engineering and energy.

## COURSE OFFERINGS

Graduate Courses	
<i>Meteorological Data Acquisition and Instrumentation Systems</i>	Spring 2003, Spring 2005, Spring 2007, Fall 2009, Spring 2012, Spring 2014
<i>Meteorological Research Methods</i>	Spring 2002, Spring 2004, Spring 2006
<i>Meteorology Field Experiments</i>	Summer 2004, Summer 2005, Summer 2006, Summer 2007, Summer 2008, Summer 2011
<i>Tropical Cyclones</i>	Fall 2006, Fall 2008
<i>Wind Science</i>	Spring 2010, Spring 2013
<i>Independent Study in Atmospheric Science</i>	Fall 2003, Spring 2004, Fall 2004, Spring 2005, Fall 2005
Undergraduate Courses	
<i>Introduction to Atmospheric Science</i>	Fall 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2003, Spring 2004, Spring 2005, Spring 2006, Spring 2008, Spring 2009, Spring 2011
<i>Independent Study in Atmospheric Science</i>	Fall 2002, Fall 2005, Spring 2009, Fall 2009, Fall 2010

## STUDENT DEVELOPMENT/MENTORING

### ***M.S. or Ph.D. Thesis Committees, Chair***

#### ***(thesis titles/topics are provided):***

Kirsten (Gast) Orwig (MS Atmospheric Science - Graduated Summer 2003)

*A Comparison of Extreme Wind Events as Sampled in the 2002 Thunderstorm Outflow Experiment*

Maribel Martinez (MS Atmospheric Science - Graduated Fall 2003)

*Lightning Signatures in Convective Storms on the High-Plains*

Matt Grzych (MS Atmospheric Science - Graduated Spring 2004)

*Analysis of Rear-Flank Downdrafts Observed during Project ANSWERS*

Jeff Beck (MS Atmospheric Science - Graduated Fall 2004)

*High-Resolution Dual-Doppler Analysis of the 29 May 2001 Kress, TX, Cyclic Supercell*

Ibrahim Sonmez (Ph.D. Geosciences - Graduated Summer 2005)

*Determination of the Proper Site Spacing Density over Texas*

Brian Hirth (MS Atmospheric Science - Graduated Summer 2005)  
*Analysis of Rear-Flank Downdrafts and their Evolution during Project WIRL*

Sylvie Lorsolo (Ph.D. Geosciences - Graduated Fall 2006)  
*Hurricane Boundary Layer Rolls and Wind Streaks*

Steve Latimer (MS Atmospheric Science - Graduated Spring 2006)  
*Comparison of Wind Profiler Observations and Numerical Weather Prediction Forecasted Winds During Severe Weather Outbreaks*

Becca (Paulsen) Edwards (Ph.D. Wind Science and Engineering, IGERT Fellow - Graduated Spring 2009)  
*Characterization of Hurricane Gust Factors Using Observed and Analytical Data*

Kirsten Orwig-Gast (Ph.D. Wind Science and Engineering, IGERT Fellow - Graduated Spring 2010)  
*Examining Strong Winds From a Time-Varying Perspective*

Ian Giammanco (Ph.D. Wind Science and Engineering, IGERT Fellow - Graduated Summer 2010)  
*Observations of Tropical Cyclone Low-Level Wind Maxima*

Scott Gunter (MS Atmospheric Science - Graduated Fall 2010)  
*A Dual-Doppler Synthesis Rainband Shear Features*

Brian Hirth (Ph.D. Geosciences - Graduated Spring 2011)  
*Examination of the Coastal Transition Zone in Hurricane Frances (2004)*

Sarah Dillingham (MS Atmospheric Science - in progress)  
*Characterizing the High-Precipitation Supercell to Bow Echo Transition of the Valparaiso, Nebraska Thunderstorm (2008)*

Scott Gunter (Ph.D. Geosciences - in progress)  
*Examining the Engineering-Relevant Characteristics of Extreme Thunderstorm Outflows*

Richard Krupar (Ph.D. Wind Science and Engineering - in progress)  
*Improving Hurricane Wind Speed Estimates at Landfall*

James Duncan (Ph.D. Wind Science and Engineering - in progress)  
*Building the Foundation for Smart Wind Farms through Real-Time Observations of Complex Flows*

***M.S. Thesis Committees, Member:***

Erin Shaw – Atmospheric Science Student – *Graduated Spring 2002*

Caleb Midgley – Atmospheric Science Student – *Graduated Summer 2003*

Shawn Liebl – Atmospheric Science Student – *Graduated Summer 2004*

Ian Giammanco – Atmospheric Science Student – *Graduated Summer 2005*

Rob Slavens – Atmospheric Science Student – *Did not finish program*

Jaret Rogers – Atmospheric Science Student – *Graduated Spring 2007*

Rachel Rogers – Atmospheric Science Student – *Graduated Summer 2008*

Pat Skinner – Atmospheric Science Student – *Graduated Summer 2009*

Joel Dressen – Atmospheric Science Student – *Graduated Spring 2010*

Paddy Fowler – Atmospheric Science Student – *Graduated Fall 2012*

Danielle Turner – Atmospheric Science Student – *Graduated Summer 2010*

Ryan Metzger – Atmospheric Science Student – *Graduated Fall 2011*

Erin Kashawlic – Atmospheric Science Student – *Graduated Summer 2012*

Camaron Plourde – Atmospheric Science Student – *Graduated Summer 2013*

Joseph Ryan Hill – Atmospheric Science Student – *In progress*

Matthew Lauridsen – Atmospheric Science Student – *In progress*

***Ph.D. Dissertation Committees, Member:***

Gary Skwira – Geosciences Student – *Graduated Spring 2003*

Rob Howard – Geosciences Student – *Graduated Spring 2004*

Anna Gardner – Civil Engineering Student – *Graduated Spring 2004*

Mark Conder – Geosciences Student – *Graduated Spring 2005*

Brian Zachery – Wind Science and Engineering Student – *Graduated Summer 2009*

Jeff Beck – Geosciences Student – *Graduated Fall 2009*

Frank Lombardo – Wind Science and Engineering Student – *Graduated Fall 2009*

Pat Skinner – Wind Science and Engineering Student – *Graduated Spring 2014*

Joseph Dannemiller – Wind Science and Engineering Student – *In progress*

# SCHOLARLY ACTIVITY

## *Refereed Publications*

Schroeder, J. L., D. A. Smith, and R. E. Peterson, 1998: "Variation of Turbulence Intensities, and Integral Scales during the Passage of a Hurricane," *Journal of Wind Engineering and Industrial Aerodynamics*, **77 & 78**, 65-72.

Letchford, C. W., A. G. Gardner, J. R. Howard, and J. L. Schroeder, 2001: "A Comparison of Wind Prediction Models for Transitional Flow Regimes Using Full-Scale Hurricane Data," *Journal of Wind Engineering and Industrial Aerodynamics*, **89**, 925-945.

Schroeder, J. L., and D. A. Smith, 2003: "Hurricane Bonnie Wind Flow Characteristics," *Journal of Wind Engineering and Industrial Aerodynamics*, **91**, 767-789.

Midgley, C. J., and J. L. Schroeder, 2004: "Structural Characteristics of a Particularly Intense Convectively Driven High Wind Event," *National Weather Digest*, **28**, 33-42.

Skwira, G. D., J. L. Schroeder, and R. E. Peterson, 2005: "Surface Observations of Landfalling Hurricanes," *Monthly Weather Review*, **133**, 454-466.

Schroeder, J. L., W. S. Burgett, K. B. Haynie, I. Sonmez, G. D. Skwira, A. L. Doggett, and J. W. Lipe, 2005: "The West Texas Mesonet: A Technical Overview," *Journal of Atmospheric and Oceanic Technology*, **22**, 211-222.

Paulsen, B. M., and J. L. Schroeder, 2005: "An Examination of Tropical and Extratropical Gust Factors and the Underlying Wind Speed Histograms," *Journal of Applied Meteorology*, **44**, 270-280.

Biggerstaff, M. I., L. J. Wicker, J. Guynes, C. Ziegler, J. M. Straka, E. N. Rasmussen, A. Doggett, L. D. Carey, J. L. Schroeder and C. Weiss, 2005: "The Shared Mobile Atmospheric Research and Teaching (SMART) Radar: A Collaboration to Enhance Research and Teaching," *Bulletin of the American Meteorological Society*, **86**, 1263-1274.

Ewing, B. T., J. B. Kruse, and J. L. Schroeder, 2006: "Time Series Analysis of Wind Speed with Time-Varying Volatility," *Environmetrics*, **17**, 119-127.

Beck, J., J. L. Schroeder, and J. Wurman, 2006: "High-Resolution Dual-Doppler Radar Observations of a Non-Tornadic Supercell," *Monthly Weather Review*, **134**, 3125-3148.

Ewing, B. T., J. B. Kruse, J. L. Schroeder and D. A. Smith, 2007: "Time Series Analysis of Wind Speed Using VAR and the Generalized Impulse Response," *Journal of Wind Engineering and Industrial Aerodynamics*, **95**, 209-219.

Orwig, K. D., and J. L. Schroeder, 2007: "Near-Surface Wind Characteristics of Extreme Thunderstorm Outflows," *Journal of Wind Engineering and Industrial Aerodynamics*, **95**, 565-584.

Hirth, B. D., J. L. Schroeder, and C. Weiss, 2008: "Surface Analysis of the Rear-Flank Downdraft in Two Tornadic Supercells," *Monthly Weather Review*, **136**, 2344-2363.

Schroeder, J. L., and C. Weiss, 2008: "Integrating Research and Education through Measurement and Analysis," *Bulletin of the American Meteorological Society*, **89**, 793-798.

Lorsolo, S., J. L. Schroeder, P. Dodge, and F. Marks, 2008: "An Observational Study of Hurricane Boundary Layer Small-Scale Features," *Monthly Weather Review*, **136**, 2871-2893.

Holmes, J. D., H. M. Hangan, J. L. Schroeder, C. W. Letchford, and K. D. Orwig, 2008: "A Forensic Study of the Lubbock-Reese Downdraft of 2002," *Wind and Structures*, **11**, 137-152.

Weiss, C. C., and J. L. Schroeder, 2008: "StickNet: A New Portable Rapidly Deployable Surface Observations System," *Bulletin of the American Meteorological Society*, **89**, 1502-1503.

Schroeder, J. L., B. P. Edwards, and I. M. Giammanco, 2009: "Observed Tropical Cyclone Wind Flow Characteristics," *Wind and Structures*, **12**, 349-382.

Skinner, P. S., C. C. Weiss, J. L. Schroeder, L. J. Wicker, and M. I. Biggerstaff, 2011: "Observations of the Surface Boundary Structure within the 23 May, 2007 Perryton, Texas Supercell," *Monthly Weather Review*, **139**, 3730-3749.

Giammanco, I. M., J. L. Schroeder, and M. D. Powell, 2012: "Observed Characteristics of Tropical Cyclone Vertical Wind Profiles," *Wind and Structures*, **15**, 65-86.

Hirth, B. D., J. L. Schroeder, C. C. Weiss, D. A. Smith, and M. I. Biggerstaff, 2012: "Examination of Internal Boundary Layer Mean Structure at the Coastal Interface During the Landfall of Hurricane Frances (2004)," *Weather and Forecasting*, **27**, 1349-1372.

Hirth, B. D., J. L. Schroeder, S. Gunter, and J. Guynes, 2012: "Measuring a Utility Scale Turbine Wake Using the TTUKa Mobile Research Radars," *Journal of Atmospheric and Oceanic Technology*, **29**, 765-771.

Giammanco, I. M., J. L. Schroeder, and M. D. Powell, 2012: "Observed Characteristics of Tropical Cyclone Vertical Wind Profiles and Low-level Wind Maxima," *Weather and Forecasting*, **28**, 77-99.

Hirth, B. D., and J. L. Schroeder, 2013: "Documenting Wind Speed and Power Deficits behind a Utility-Scale Wind Turbine," *Journal of Applied Meteorology and Climatology*, **52**, 39-46.

Zachry, B. C., J. L. Schroeder, A. B. Kennedy, J. J. Westerink, C. W. Letchford, and M. E. Hope, 2013: "A Case Study of Nearshore Drag Coefficient Behavior during Hurricane Ike (2008)," *Journal of Applied Meteorology and Climatology*, **52**, 2139-2146.

Rainwater, K., P. Nash, L. Song, and J. Schroeder, 2013: "The Seminole Project: Renewable Energy for Municipal Water Desalination," *Journal of Contemporary Water Research and Education*, 151: 50-60, accepted.

Edwards, B. P., and J. L. Schroeder, 2013: "Characterization of Hurricane Gust Factors Using Observed and Simulated Data," *Wind and Structures*, submitted.

Hirth, B. D., J. L. Schroeder, S. W. Gunter, and J. Guynes, 2013: "Coupling Doppler Radar-derived Wind Maps with Operational Turbine Data to Document Wind Farm Complex Flows," *Journal of Wind Energy*, in press.

Giammanco, I. M., J. A. Balderrama, J. L. Schroeder, F. J. Masters, and P. J. Vickery, 2013: "Influences on Near-Surface Gust Factors in Landfalling Gulf Coast Hurricanes: 2004-2008," *Journal of Applied Meteorology and Climatology*, final preparation.

Lombardo, F., D. Smith, J. L. Schroeder and K. Mehta, 2013: "Thunderstorm Characteristics of Importance to Wind Engineering," *Journal of Wind Engineering and Industrial Aerodynamics*, in press.

Ancell, B., E. Kashawlic, and J. L. Schroeder, 2013: "Evaluation of Wind Forecasts and Observation Impacts from Variational and Ensemble Data Assimilation during the WFIP Project," *Monthly Weather Review*, submitted.

Gunter, S. W., and J. L. Schroeder, 2013: "High-Resolution Full-Scale Measurements of Thunderstorm Outflow Winds," *Journal of Wind Engineering and Industrial Aerodynamics*, submitted.

### ***Non-refereed Publications***

Schroeder, J. L., 2003: "Chasing the Wind," *Weatherwise*, **56**, 23-25.

Hirth, B. D., J. L. Schroeder and S. W. Gunter, 2011: "Observing Wind Turbine Wakes using Research Radar," *The Wind Engineer*, 5-6.

### ***Other Publications and Reports***

Marshall, R. D., and J. L. Schroeder, 1997: "Hurricane Marilyn in the Caribbean - Measured Wind Speeds and Design Wind Speeds Compared," NISTIR 5987, National Institute of Standards and Technology, 43 pp.

Smith, D. A., J. L. Schroeder and J. R. Howard, 2001: "Final Report of Activities: 1998-1999 Wind Engineering Mobile Instrumented Tower Experiment (WEMITE)," Florida International University, 79 pp.

Schroeder, J. L., A. L. Doggett, D. A. Smith, J. R. Howard and R. M. Paulsen, 2002: "Summary of 2001 WEMITE Deployments," National Institute of Standards and Technology, 30 pp.

Schroeder, J. L., G. D. Skwira, and R. M. Paulsen, 2003: "Summary of 2002 WEMITE Deployments," National Institute of Standards and Technology, 46 pp.

Gast K. D., and J. L. Schroeder, 2003: "A Comparison of Extreme Wind Events as Sampled in the 2002 Thunderstorm Outflow Experiment," National Institute of Standards and Technology, 47 pp.

Schroeder, J. L., 2003: "Hurricane Isabel at Landfall: A Significant Field Effort" American Association of Wind Engineering November Newsletter, 9-10.

Schroeder, J. L., and R. M. Edwards, 2004: "Summary of 2003 WEMITE Deployments," National Institute of Standards and Technology, 29 pp.

Schroeder, J. L., and R. M. Edwards, 2005: "Summary of 2004 WEMITE Deployments," National Institute of Standards and Technology, 40 pp.

Giammanco, I. M. and J. L. Schroeder, 2006: "Hurricanes at Landfall Project 2005," National Institute of Standards and Technology, 26 pp.

Giammanco, I. M., J. L. Schroeder, and B. D. Hirth, 2006: "Hurricane Katrina Deployment Summary, Texas Tech University Hurricane Research Team," <http://www.atmo.ttu.edu/TTUHRT/WEMITE/KatrinaSummary.pdf>, 19 pp.

Giammanco, I. M., J. L. Schroeder, and B. D. Hirth, 2006: "Hurricane Rita Deployment Summary, Texas Tech University Hurricane Research Team," <http://www.atmo.ttu.edu/TTUHRT/RitaSummary.pdf>, 17 pp.

Giammanco, I. M., J. L. Schroeder, and B. D. Hirth, 2007: "Hurricane Ivan Deployment Summary, Texas Tech University Hurricane Research Team," <http://www.atmo.ttu.edu/TTUHRT/IvanSummary.pdf>, 15 pp.

Schroeder, J. L. and S. W. Gunter, 2011: "Hurricane Irene Deployment Summary, Texas Tech University Hurricane Research Team," [http://www.atmo.ttu.edu/TTUHRT/TTU\\_Irene\\_Deployment\\_Summary.pdf](http://www.atmo.ttu.edu/TTUHRT/TTU_Irene_Deployment_Summary.pdf), 5 pp.

### ***Conference Preprints/Proceedings***

Schroeder, J. L., D. A. Smith, and R. E. Peterson, 1997: "Turbulence Intensities, Gust Factors and Integral Scales Generated within the Boundary Layer of a Hurricane," *Preprints, 22nd AMS Conference on Hurricanes and Tropical Meteorology*, Ft. Collins, Colorado, 80-81.

Schroeder, J. L., D. A. Smith, and R. E. Peterson, 1997: "Variation of Turbulence Intensities, Gust Factors, and Integral Scales during the Passage of a Hurricane," *Preprints, Eighth National Conference on Wind Engineering*, Baltimore, Maryland, 114-114A.

Schroeder, J. L., D. A. Smith, and R. E. Peterson, 1997: "Variation of Micro-Meteorological Wind Characteristics during the Passage of a Hurricane," *Preprints, 12th Symposium on Boundary Layers and Turbulence*, Vancouver, Canada, 334-335.

Conder, M. R., R. E. Peterson, J. L. Schroeder, and D. A. Smith, 1999: "Comparison of Hurricane Wind Data during Hurricane Bonnie: The Texas Tech Wind Engineering Mobile Instrumented Tower Experiment (WEMITE) and the

NWS Wilmington ASOS," *Proceedings, 13th Symposium on Boundary Layers and Turbulence*, Dallas, Texas, 484-487.

Schroeder, J. L., and D. A. Smith, 1999: "Hurricane Bonnie Wind Flow Characteristics as Determined from WEMITE," *Wind Engineering into the 21st Century: Proceedings, Tenth International Conference on Wind Engineering*, A. Larsen, G. L. Larose and F. M. Livesey, Eds., Copenhagen, Denmark, 329-335.

Howard, J. R., J. L. Schroeder, and A. L. Doggett, 2000: "The Texas Tech University Wind Engineering Mobile Instrumented Tower Experiment (WEMITE): Deployment Operations during the 1999 Atlantic Hurricane Season," *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Fort Lauderdale, Florida, 335-336.

Schroeder, J. L., J. R. Howard, and D. A. Smith, 2000: "Boundary Layer Characteristics in Hurricanes Bonnie (1998), Dennis (1999), and Floyd (1999) as Determined from the Texas Tech University Wind Engineering Mobile Instrumented Tower Experiment (WEMITE)," *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Fort Lauderdale, Florida, 337-338.

Conder, M. R., A. L. Doggett, R. E. Peterson, and J. L. Schroeder, 2000: "Texas Tech Mobile Boundary Layer Observation Systems: Past Successes, Current Plans and Future Goals," *Proceedings, Fourth Symposium on Integrated Observing Systems*, Long Beach, California, 10-13.

Gardner, A. G., C. W. Letchford, and J. L. Schroeder, 2000: "A Comparison of Wind Prediction Models for Transitional Regimes," *Proceedings, 14th Symposium on Boundary Layers and Turbulence*, Aspen, Colorado, 167-170.

Schroeder, J. L., and J. R. Howard, 2001: "Hurricane Wind Flow Characteristics as Determined from Data Collected during the Wind Engineering Mobile Instrumented Tower Experiment (WEMITE)," *Proceedings, First Americas Conference on Wind Engineering*, Clemson, South Carolina.

Doggett, A. L., M. R. Conder, T. E. Gill, C. Chang, R. E. Peterson and J. L. Schroeder, 2002: "Observations of Localized Outflow in an Urban Area," *Preprints, Fourth Symposium on Urban Environments*, Norfolk, Virginia.

Howard, J. R., and J. L. Schroeder, 2002: "A Coastal Internal Boundary Layer within a Tropical Cyclone," *Preprints, 25th Conference on Hurricanes and Tropical Meteorology*, San Diego, California, 11-12.

Howard, J. R., J. L. Schroeder, G. D. Skwira, A. L. Doggett, and A. Sims, 2002: "TTU WEMITE: A Summary of Data Collected from Landfalling Tropical Cyclones During 2000-2001," *Preprints, 25th Conference on Hurricanes and Tropical Meteorology*, San Diego, California, 671-672.

Schroeder, J. L., M. R. Conder, and J. R. Howard, 2002: "Additional Insights into Hurricane Gust Factors," *Preprints, 25th Conference on Hurricanes and Tropical Meteorology*, San Diego, California, 39-40.

Schroeder, J. L., R. M. Paulsen, and J. R. Howard, 2003: "A Summary of Hurricane Gust Factors from Five Years of Field Data," *Preprints, 57th Interdepartmental Hurricane Conference*, Miami, Florida.

Paulsen, R. M., J. L. Schroeder, M. R. Conder, and J. R. Howard, 2003: "Further Examination of Hurricane Gust Factors," *Proceedings, 11th International Conference on Wind Engineering*, Lubbock, Texas, 2005-2012.

Skwira, G. D., R. E. Peterson, D. A. Smith, C. Chang, A. L. Doggett, and J. L. Schroeder, 2003: "Surface Observations of Landfalling Hurricane Rainbands along the United States Atlantic Coastline," *Proceedings, 11th International Conference on Wind Engineering*, Lubbock, Texas, 2013-2020.

Conder, M. C., R. E. Peterson, J. L. Schroeder, and D. A. Smith, 2003: "An Analysis of Wind Characteristics during the ERODE Experiment, April-May 2002," *Proceedings, 11th International Conference on Wind Engineering*, Lubbock, Texas, 2029-2036.



- Howard, J. R., P. Dodge, A. L. Doggett, J. Finney, K. Gurley, M. Levitan, T. Reinhold, J. L. Schroeder, and G. Stone, 2003: "The Landfall of Hurricane Lili in Louisiana: A Summary of Cooperative Data Collection Efforts," *Proceedings, 11th International Conference on Wind Engineering*, Lubbock, Texas, 2577-2584.
- Gast, K. D., and J. L. Schroeder, 2003: "Supercell Rear-Flank Downdraft as Sampled in the 2002 Thunderstorm Outflow Experiment," *Proceedings, 11th International Conference on Wind Engineering*, Lubbock, Texas, 2233-2240.
- Paulsen, B. M., and J. L. Schroeder, 2004: "A Summary of Wind Speed Measurements as Collected by Texas Tech During the Landfall of Hurricane Isabel," *Preprints, 26th Conference on Hurricanes and Tropical Meteorology*, Miami, Florida, 487-488.
- Lorsolo, S., and J. L. Schroeder, 2004: "Hurricane Boundary Layer Rolls Observed During the Landfall of Hurricane Isabel," *Preprints, 26th Conference on Hurricanes and Tropical Meteorology*, Miami, Florida, 609-610.
- Howard, J. R., A. L. Doggett, R. E. Peterson, P. G. Black, J. L. Schroeder, D. A. Smith, and J. P. Duniyak, 2004: "Transition in Onshore Boundary Layer Winds During the Landfall of Hurricane Lili (2002)," *Preprints, 26th Conference on Hurricanes and Tropical Meteorology*, Miami, Florida, 526-527.
- Letchford, C. W., D. James, and J. L. Schroeder, 2004: "The Effect of Thunderstorm Winds on Low-Rise buildings," *Preprints, ASCE Structures Congress*, New York, New York.
- Conder, M. R., S. Cobb, G. D. Skwira, and J. L. Schroeder, 2004: "An Observational Study of the Interaction between a Supercell and a Mesoscale Boundary," *Preprints, 22nd Conference on Severe Local Storms*, Hyannis, Massachusetts.
- Gast, K. D., and J. L. Schroeder, 2004: "Extreme Wind Events Observed in the 2002 Thunderstorm Outflow Experiment," *Preprints, 22nd Conference on Severe Local Storms*, Hyannis, Massachusetts.
- Beck, J., J. L. Schroeder, J. Wurman, and C. Alexander, 2004: "High-Resolution Dual-Doppler Radar Observations of a Non-Tornadic Supercell," *Preprints, 22nd Conference on Severe Local Storms*, Hyannis, Massachusetts.
- Grzych, M. L., B. D. Lee, C. A. Finley, and J. L. Schroeder, 2004: "Thermodynamic Characterization of Supercell Rear Flank Downdrafts in Project ANSWERS 20," *Preprints, 22nd Conference on Severe Local Storms*, Hyannis, Massachusetts.
- Martinez, M., and J. L. Schroeder, 2004: "Lightning Signatures in Convective Storms on the High Plains," *Preprints, 22nd Conference on Severe Local Storms*, Hyannis, Massachusetts.
- Schroeder, J. L., 2005: "Observing Hurricane Boundary Layer Phenomena using Mobile Research Radars," *Preprints, 59th Interdepartmental Hurricane Conference*, Jacksonville, Florida.
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Zachry, B. C., A. B. Kennedy, J. L. Schroeder, J. J. Westerink and C. W. Letchford, 2012: "A Case Study of Nearshore Drag Coefficient Behavior during Hurricane Ike (2008)," *30<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, Florida.

Giammanco, I. M., J. A. Balderrama, J. L. Schroeder, F. J. Masters, and P. J. Vickery, 2012: "Observed Near-Surface Wind Flow Characteristics of Gulf Coast Hurricanes: 2004-2008," *30<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, Florida.

Knupp, K. R., P. Ray, S. K. Kimball, and J. L. Schroeder, 2012: "Mesoscale Analysis of a Concentrated Heavy Rain Event Using an Adaptable Mesonet during the Landfall of Tropical Storm Ida," *30<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, Florida.

Edwards, B. P., and J. L. Schroeder, 2012: "Effect of Averaging Duration on Differences Observed between Gust Factors from Tropical and Extratropical Winds," *ATC-SEI Advanced in Hurricane Engineering Conference*, Miami, Florida.

Schroeder, J. L., 2012: "Innovative Technologies to Investigate Fine-Scale Wind Flow," *15th Australian Wind Engineering Society Workshop*, Sydney, Australia, 8pp.

Schroeder, J. L., 2012: "Wind Characterization and Assessment," *National Wind Resource Center Symposium on the Underperformance of Wind Farms*, Lubbock, Texas.

Freedman, J. M., J. Wilczak, S. Calvert, J. Zack, K. Orwig, J. Schroeder, B. Ancell, K. Brewster, S. Basu, and V. Banunarayanan, 2012: "The Wind Forecasting Improvement Project (WFIP): Description and Results from the Southern Study Area," *International Workshop on Large-Scale Integration of Wind Power into Power Systems*, Lisbon, Portugal.

Gunter, W. S., and J. L. Schroeder, 2012: "High-Resolution Full-Scale Observations of Thunderstorm Outflow Winds," *3<sup>rd</sup> Annual AAWE Workshop*, Hyannis, Massachusetts.

Krupar III, R., and J. L. Schroeder, 2012: "An Analysis of the Kinematic Variability within the Hurricane Boundary Layer using the Coastal WSR-88D Radar Network," *3<sup>rd</sup> Annual AAWE Workshop*, Hyannis, Massachusetts.

Hirth, B. D., and J. L. Schroeder, 2012: "Measurements of Utility-Scale Turbine Wakes using the Texas Tech University Ka-band Mobile Research Radars," *3<sup>rd</sup> Annual AAWE Workshop*, Hyannis, Massachusetts.

Skinner, P. S., C. C. Weiss, W. S. Gunter, and J. L. Schroeder, 2012: "Near-Surface Turbulence Characteristics of Thunderstorm Outflow in Texas Tech University Ka-Band Mobile Doppler Radar Observations," *3<sup>rd</sup> Annual AAWE Workshop*, Hyannis, Massachusetts.

Skinner, P. S., C. C. Weiss, W. S. Gunter, and J. L. Schroeder, 2012: "Near-Surface Thunderstorm Outflow Characteristics Observed by the TTUKa Mobile Doppler Radars," *26th Conference on Severe Local Storms*, Nashville, Tennessee.

Gunter, W. S. and J. L. Schroeder, 2012: "High-Resolution Full-Scale Observations of Thunderstorm Outflow Winds," *26th Conference on Severe Local Storms*, Nashville, Tennessee.

Guillermo A., L. Castillo, A. Ruiz-Columbie, J. Schroeder, and S. Basu, 2012: "On the Similarities of the Engineering and Atmospheric Boundary Layers," *20<sup>th</sup> Symposium on Boundary Layers and Turbulence Conference*, Boston, Massachusetts.

Freedman J., S. Benjamin, J. Wilczak, M. Marquis, C. Clark, J. Cline, J. Zack, J. Manobianco, I. Flores, J. Schroeder, B. Ancell, K. Brewster, S. Basu, K. Orwig, V. Banunarayanan, 2012: "The Wind Forecasting Improvement Project: Description and Results from the Southern Study Region," *11th International Workshop on Large-Scale Integration of Wind Power into Power Systems*, Lisbon, Portugal.

Freedman J., P. Beaucage, J. Zack, J. Manobianco, I. Flores, J. Schroeder, B. Ancell, K. Brewster, S. Basu, K. Orwig, V. Banunarayanan, J. Wilczak, J. Cline, M. Marquis, and L. Berg, 2013: "The Wind Forecasting Improvement Project

(WFIP): Results from the Southern Study Area,” *4<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy*, Austin, Texas.

Hirth, B. D., and J. L. Schroeder, 2013: “Documenting Complex Flows in Wind Farms using the TTUKa Mobile Research Radars,” *4<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy*, Austin, Texas.

Hirth, B. D., and J. L. Schroeder, 2013: “Measurements of the Complex Flow through a Wind Farm using Mobile Doppler Radars,” *European Wind Energy Association Annual Conference*, Vienna, Austria.

Giammanco, I. M., and J. L. Schroeder, 2013: “Observations of Tropical Cyclone Winds in Marine Exposure,” *12<sup>th</sup> Americas Conference on Wind Engineering*, Seattle, Washington.

Krupar III, R. J., and J. L. Schroeder, 2013: “Velocity Azimuth Display Derived Wind Profiles from the Hurricane Boundary Layer,” *12<sup>th</sup> Americas Conference on Wind Engineering*, Seattle, Washington.

Gunter, W. S., and J. L. Schroeder, 2013: “High-Resolution Full-Scale Observations of Thunderstorm Outflow Winds,” *12<sup>th</sup> Americas Conference on Wind Engineering*, Seattle, Washington.

Hirth, B. D., and J. L. Schroeder, 2013: “Using the TTUKa Mobile Doppler Radars to Measure Complex Flows in Wind Farms,” *12<sup>th</sup> Americas Conference on Wind Engineering*, Seattle, Washington.

Hirth, B. D., and J. L. Schroeder, 2013: “Measuring Complex Flows in Wind Farms using Advanced Doppler Radars,” *2013 WindPower Conference and Exhibition*, Chicago, Illinois.

Zuo, D., J. Xiao, J. L. Schroeder, C. E. Carcangiu, and J. Morse, 2013: “Correlating Low-Level Atmospheric Measurements with Wind Turbine Performance,” *2013 WindPower Conference and Exhibition*, Chicago, Illinois.

Marathe, N., A. Swift, B. Hirth, and J. L. Schroeder, 2013: “The Effect of Yawed Flow on Wind Turbine Power Production and Wake Deflection,” *2013 North American Wind Energy Academy Meeting*, Boulder, Colorado.

Hirth, B. D., and J. L. Schroeder, 2013: “Coupling Advanced Doppler Radar Wind Maps with Operational Turbine Data to Describe Wind Farm Complex Flows,” *American Wind Energy Association Wind Resource and Project Energy Assessment Seminar*, Las Vegas, Nevada.

J. L. Schroeder, 2013: “Measuring Complex Flows in Wind Farms using Advanced Doppler Radars,” *Sandia National Laboratories Reliability Workshop*, Albuquerque, New Mexico.

Krupar III, R. J., and J. L. Schroeder, 2014: “Operational Implications for NEXRAD WSR-88D Wind Speed Reduction Factors,” *30th Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, Florida, submitted.

### **Commercialization Activity**

Provisional Patent (filed 07/27/2012), System and Method for Evaluating Wind Flow Fields Using Remote Sensing Devices, Application Number: US61/676,394 - Schroeder, J. L., B. D. Hirth, and J. G. Guynes

Provisional Patent (filed 08/14/2012), Apparatus and Method for Using Radar to Evaluate Wind Flow Fields for Wind Energy, Application Number: 61/683,022 - Schroeder, J. L., J. G. Guynes, and B. D. Hirth

## **GRANTS AND RESEARCH CONTRACTS**

### ***Funded (public sources)***

#### **National Science Foundation (NSF)**

*IGERT: Multidisciplinary Program in Wind Science and Engineering*

2003-2011

Primary PI: Kishor Mehta with four co-PI's

Total Award of \$2,063,815 (15%)

*CAREER: Linking Education and Research through Measurement and Analysis*

2002-2007

Sole PI: John Schroeder

Total Award of \$580,169 (100%)

*Documenting the Engineering-Relevant Aspects of Extreme Thunderstorm Winds*

2010-2014

Sole PI: John Schroeder

Total Award of \$279,967 (100%)

*CBET: Building the Foundation for Smart Wind Farms through First-Order Controls Opportunities based on Real-Time Observations of Complex Flows*

2013-2016

Primary PI: Brian Hirth with co-PI John Schroeder

Total Award of \$384,000 (34%)

#### **Texas Tech University, Research Development Fund**

*Innovative Technologies to Investigate Fine-Scale Atmospheric Motions and their Impacts*

June 2006-August 2009

Primary PI: John Schroeder with four co-PI's

Total Award of \$1,000,000 (20%)

#### **National Institute of Standards and Technology (NIST)**

*Windstorm Mitigation Initiative*

October 2001-September 2005

Primary PI: Kishor Mehta with 14 co-PI's

Total Award of \$7,273,352 (7%)

#### **U.S. Department of Defense (DOD)**

*Modeling Airborne Transport of Hazards Using Advanced Atmospheric Monitoring Systems and Numerical Techniques*

September 2002-December 2003

Primary PI: Tom Gill with five co-PI's

Total Award of \$160,333 (20%)

#### **U.S. Department of Energy (DOE)**

*Full-Scale Testing, Characterization, System Optimization & Demonstration of Grid Connected Wind Turbines & Wind Powered Water Desalination Project*

September 2008-September 2013

Primary PI: Andy Swift/John Schroeder with multiple co-PI's

Total Award of \$5,871,000 (8%)

*Weather Forecast Improvement Project*

January 2011-February 2013

Primary PI: John Schroeder and Brian Ancell, various co-PI's at OU, MESO, NCSU, and AWS Truepower (lead)

Total TTU Award of \$481,637 (60%)

*Cost of Energy Reduction for Offshore Wind Turbines with Tension Leg Platform Floating System through Advanced Control Strategies for Energy Yield Improvement, Load Mitigation and Stabilization*

September 2011-September 2016

Primary PI: John Schroeder and Delong Zuo, various co-PI's at MIT, NREL and Alstom Power Inc. (lead)

Total TTU Award of \$474,955 (50%)

*Sandia National Laboratories – Scaled Wind Farm Technology Facility*

December 2011-February 2014

Sole PI: John Schroeder

Awards Total \$690,821 (100%)

*Sandia National Laboratories – Wind Farm Complex Flow Measurements using Advanced Doppler Radar Technologies*

January 2014-September 2014

Primary PI: John Schroeder and Brian Hirth

Awards Total \$198,000 (50%)

**Norman Hackerman Advanced Research Program (NHARP)/Texas Higher Education Coordinating Board**

*Improving Hurricane Wind Speed Estimates at Landfall*

August 2010-May 2013

Sole PI: John Schroeder

Total Award of \$102,142 (100%)

**State Energy Conservation Office**

*SECO Renewable Technology Grant*

August 2010-July 2011

Primary PI: Ken Rainwater and John Schroeder

Total Award of \$160,000 (50%)

***Funded (private sources)***

**Anonymous Corporate**

*TTUKa Complex Flows Project*

October 2013-December 2013

Primary PI: Brian Hirth and John Schroeder

Total Award of \$22,173 (33%)

**Anonymous Corporate**

*TTUKa Complex Flows Project*

October 2013-December 2013

Primary PI: Brian Hirth and John Schroeder

Total Award of \$116,964 (50%)

**Alstom Power, Inc.**

*Correlating Low-Level Atmospheric Wind Measurements with Wind Turbine Performance*

April 2012-May 2013

Primary PI: Delong Zuo and John Schroeder

Total Award of \$95,000 (50%)

**AWS Convergence Technology**

*National Mesonet Pilot Project*

May 2010-September 2013

Sole PI: John Schroeder

Total Award of \$232,161 (100%)

**Applied Research Associates**

*Chevron Hurricane Winds*

November 2010-May 2011  
Sole PI: John Schroeder  
Total Award of \$55,000 (100%)

**ARCADIS Corporation**

*Hurricane Wind Speeds*  
May 2009-December 2009  
Sole PI: John Schroeder  
Total Award of \$11,187 (100%)

**Oncore Corporation**

*Thunderstorm Outflow Transmission Line Failure*  
July 2008-December 2008  
Primary PI: Doug Smith and John Schroeder  
Total Award of \$40,000 (50%)

**Golden Spread Electric Cooperative**

*West Texas Mesonet – File Development*  
January 2008-December 2008  
Sole PI: John Schroeder  
Total Award of \$3,966 (100%)

**State Farm Insurance**

*Documentation of Hurricane Wind Fields*  
September 2006-December 2015  
Sole PI: John Schroeder  
Awards Total \$294,000 (100%)

**Risk Management Solutions, Incorporated**

*Documentation of Hurricane Wind Fields*  
September 2006-May 2014  
Sole PI: John Schroeder  
Total Award of \$100,000 (100%)

**Applied Insurance Research, Incorporated**

*Documentation of Hurricane Wind Fields*  
July 2006-March 2007  
Sole PI: John Schroeder  
Total Award of \$37,500 (100%)

**Insurance Friends of the National Hurricane Center**

*Validation and Evaluation of Wind Speed Data Collected During the 1998 Edition of the WEMITE November 2000 to June 2001*  
Primary PI: John Schroeder and Doug Smith  
Total Award of \$20,000 (50%)

***Pending or Declined***

2001 ARP – Pre-proposal (\$300,000) – *Capturing Full-Scale Wind-Induced Pressures on a Mobile Building in Hurricanes and Thunderstorms* - submitted with co-PI Douglas Smith (TTU)

2001 ATP – Pre-proposal (\$25,000) – *Utilization of Remote and Direct Measurements of the Atmosphere for Convective Initiation* - submitted with co-PI Richard Peterson (TTU)

2001 TTU Excellence Funds – Proposal (\$262,669) – *Promoting Excellence and Expansion of the Interdisciplinary Research Efforts at TTU*



2001 Pantex BWXT – Proposal (\$45,027) – *Evaluation of BWXT Pantex Lighting Detection Warning System and Potential Incorporation of Static Potential Monitoring System*

2002 TLTC – Proposal (\$9,643) – *Incorporation of Hands-On Computer Based Modules into a New Meteorological Instrumentation Course*

2002 NOAA HPCC Program – Proposal (\$92,000) – *"Black Box" Recorders for Extreme Wind Events* - submitted by Dr. Mark Powell (HRD) with multiple collaborators from various institutions

2003 NSF – Proposal (\$706,485) – *Collaborative Research: Hurricane Wind and Microphysical Structure from Dual Polarization, Multiple Doppler Observations* - submitted with multiple co-PI's from multiple institutions

2003 ARP – Pre-proposal (\$60,000) – *Boundary Layer Structure Within Extreme Thunderstorm Events*

2005 ONR – Pre-proposal (\$106,345) – *Investigation of Linear Features in the Hurricane Boundary Layer*

2005 ARP – Pre-proposal (\$41,900) – *Investigation of Coherent Features in the Hurricane Boundary Layer*

2007 NSF – Proposal (\$300,000) – *Technician Support: Advancing Observations of Earth-Atmosphere* - submitted with co-PI Chris Weiss (TTU)

2007 TTU VPR – Proposal (\$34,420) – *Hurricanes at Landfall: Filling the Information Gap*

2007 NSF – Proposal (\$3,200,000) – *IGERT: Multidisciplinary Program in Wind Science and Engineering* submitted with multiple co-PI's (TTU)

2007 ARP – Proposal (\$119,716) – *Reducing the Wind Speed Uncertainty at Landfall*

2007 NOAA – Proposal (\$3,512,262) – *An Adaptive Coastal Observation Network for Landfalling Hurricanes* - submitted with multiple co-PI's (multiple institutions)

2008 NOAA – Proposal (\$28,117) – *Providing Real-Time Communications for Hurricanes at Landfall*

2008 NSF – Proposal (\$499,522) – *Documenting the Engineering-Relevant Aspects of Extreme Thunderstorm Winds*

2008 TTU VPR – Proposal (\$35,000) – *Observations of the Hurricane Boundary Layer*

2009 Sea Grant – Pre-Proposal (\$200,000) – *Digital Hurricane Consortium* - submitted with multiple co-PI's (multiple institutions)

2009 ONR – Proposal (\$262,949) – *Improving Hurricane Wind, Surge and Wave Intensity* - submitted through Applied Technology Council with multiple co-PI's (multiple institutions)

2009 NSF – Proposal (\$818,585) – *MRI-R2 Consortium: Development of an Integrated Observing System for Landfalling Hurricanes and their Impacts on Natural and Built Environments* - submitted with multiple co-PI's (multiple institutions)

2010 NIST – Proposal (\$15,000,000) – *Center for Integrated Earth System Research*

2010 Economic Development Administration (EDA) of the U.S. Department of Commerce – Proposal (\$1,000,000) – *I6 Challenge: Green Renewable Energy and Technology Challenge* - submitted with a co-PI (TTU)

2010 Confidential Private Industry Partner – Proposal (\$8,798,236) – *Expansion of the West Texas Mesonet*

2010 Confidential Private Industry Partner – Pre-proposal (\$81,460) – *Wind Energizer*

2010 NSF – *FESD Preliminary Proposal, Type 1 – Evolution of the Hurricane Boundary Layer at the Sea-Land Interface and its Impact on Coastal Communities* - submitted with multiple co-PI's (multiple institutions)

2011 Alstom Power Inc. – Proposal (\$164,421) – *Power Curve Performance Testing* - submitted with co-PI (TTU)

2011 DOE – Proposal (\$474,955) – *Documenting the Coastal Wind Regime and Assessing its Impact on Offshore Wind Turbine Performance and Reliability* - submitted with multiple co-PI's (multiple institutions)

2011 NSF – STEM Proposal (\$597,492) – *The Wind Energy Scholar Program at Texas Tech University: Training, Mentoring and Guiding the Wind Energy Workforce of the 21<sup>st</sup> Century* - submitted with multiple co-PI's (TTU)

2011 WeatherPredict Consulting Inc. – Proposal (\$200,000) – *Documenting the Wind and Wave Fields of the Coastal Transition Zone*

2011 NSF – STEM Proposal (\$198,235) – *Southwestern University Data Acquisition and Learning Laboratory* - submitted with multiple co-PI's (multiple institutions)

2012 NSF – Proposal (\$274,464) – *Achieving Economic Effectiveness and High Capacity Factor in Wind Farms to Meet the 2030 Grant Challenge* - submitted with multiple co-PI's (TTU)

2012 NSF – Proposal (\$1,480,000) – *SEP: Toward an Innovative NWP System for a Sustainable Wind Energy Future* - submitted with Song-Lak Kang (TTU) and multiple co-PI's from other institutions

2012 NSF – Proposal (\$3,500,000) – *IGERT: A Project-Oriented Approach for Graduate Education: Making The Silicon Valley of Wind Energy in West Texas* - submitted with multiple co-PI's (TTU)

2012 TTU Commercial Development Grant – Proposal (\$50,000) – *Development of a Computer Controlled Leveling System and Data Base Server System for the Ka-Band Mobile Radar Project to Investigate Complex Flows in Wind Farms* - submitted with multiple co-PI's (TTU)

2012 NSF – Proposal (\$634,301) – *The Wind Energy Scholar Program (WESP): Education, Mentoring, and Guiding the Wind Energy Workforce of the 21st Century* - submitted with multiple co-PI's (TTU)

2013 NASA – Proposal (TTU award of \$76,587) – *Characterization of Atmospheric Boundary Layer Vertical Wind Profiles* - submitted with multiple co-PI's (multiple institutions)

2013 NSF – Proposal (TTU award of \$311,523) – *Hazards SEES Type 2: Studying the Impact of Winds, Surge, Damage, and Perceptions of Risk, Before, During and After Hurricanes, on Individual Responses and Community Sustainability* - submitted with multiple co-PI's (multiple institutions)

2013 NSF – Proposal (\$15,910) – *Planning Grant: I/UCRC for Windstorm Hazard Mitigation* - submitted with multiple co-PI's (multiple institutions)

## SERVICE ACTIVITY

### COMMITTEE PARTICIPATION

Chair – WiSE/IGERT Facilities/Equipment Allocation Committee (2001-2008)  
Participant – Department of Geosciences Strategic Planning Committee (2002)  
Participant – Department of Geosciences Facilities Committee (2002)  
Co-Chair – Organizing Committee, International Conference on Wind Engineering (2003)  
Participant – Search Committee, FY2003 ATMO Search for Severe Storms Meteorologist (2003)  
Participant – Search Committee, FY2004 ATMO Search for Boundary Layer Meteorologist (2004)  
Participant – Department of Geosciences, Ph.D. and ATMO M.S. Program Assessment Committees (2005)  
Participant – Department of Geosciences, Strategic Planning Committee (2006)  
Participant – WiSE Advisory Council (2006)  
Chair – Search Committee, FY2007 ATMO Search for Microphysicist (2007)  
Participant – Department of Geosciences, Chair Discernment Committee (2007)  
Chair – Three-Year Review Committee – Dr. Chris Weiss (2007)  
Participant – Three-Year Review Committee – Dr. Sukanta Basu (2008)  
Participant – TTU/NWS/USGS Co-location Committee (2008)  
Participant – Organizing Committee – Digital Hurricane Symposium (2008-present)  
Participant – Search Committee, FY2009 ATMO Search for NWP Faculty (2009)  
Participant – Department of Geosciences, Six-Year Review Committee (2009)  
Chair – Search Committee, FY2010 ATMO Search for Boundary Layer Meteorology (2010)  
Participant – Search Committee, FY2010 ATMO Search for Microphysicist (2010)  
Participant – Search Committee, FY2010 Don Kay Clay Cash Chair of Engineering/NWRC Director (2010-2011)  
Member – AAWE Board of Directors (2010-present)  
Member – WiSE Ph.D. Curriculum Committee (2010-present)  
Participant – Search Committee, NWRC faculty hires (2011-2013)  
Participant – Search Committee, RTD Senior Administrator hire (2012)  
Participant – Search Committee, Pevehouse Chair in Geosciences (2012-2013)  
Member – NIRE Institutional Board (2012-present)  
Participant – Department of Geosciences, Six-Year Review Committee (2013)  
Participant – Search Committee, CA&S Dean (2013-2014)  
Participant – Department of Geosciences, Three-Year Review Committee (2014)

### SELECTED ACTIVITIES

Faculty Advisor – West Texas Student Chapter of the American Meteorological Society, 2001-2008  
Associate Director of WiSE, 2006-2010  
Tours of WEMITE – Recruiting students from Lubbock ISD and New Deal ISD, 2001  
NCSSMST Email Mentor – 2001  
Reviewer (abstracts) – International Conference on Wind Engineering, 2003  
Session Chair – International Conference on Wind Engineering, 2003  
Mentor – 7<sup>th</sup> grade science project, Jake Kindler, Arbor Creek Middle School, Carrollton, TX, 2002  
Guest Speaker – Lunch sponsored by the Office of Research Services, “Obtaining NSF Career Grants,” 2002  
E-mentor – 9<sup>th</sup> grade project, Allie Robertson, Lexington High School, Lexington, MA, 2003  
Tour of WEMITE and Debris Impact Facility – Frenship ISD 4H Club, 14 April 2003  
Guest Speaker – TTU ORS sponsored lunch on obtaining NSF Career Grants, May 2003  
Visiting Researcher – Lawrence Livermore Laboratory, JOINT URBAN Experiment, July 2003  
Volunteer – National Weather Service Quick Response Tornado Damage Assessment Team, 2003-present  
Wrote Preliminary Study on the Possible Addition of an Undergraduate ATMO Degree at TTU, 2003  
Reviewer (8-abstracts) – 10<sup>th</sup> Americas Conference on Wind Engineering, 2005  
Session Chair – 10<sup>th</sup> Americas Conference on Wind Engineering, 2005  
Guest Speaker – Luncheon meeting for the Lubbock Optimist Club, 9 August 2005  
Speaker – Ethics Seminar: “What Scientists can Learn from the Ethical Standards of Engineers,” February 2007  
Tour of Reese Facilities – Dr. Ted Yamada, 22 March 2007  
Guest Speaker – Mohawk Elementary School, Richardson, Texas, 17 December 2007  
Participant – NWS/TTU co-location meeting with VPR, August 2007  
Participant – NWS/TTU/USGS co-location meeting with Chancellor’s Office, April 2008

Tour Leader – US Senator John Cornyn visited the WiSE Research Center, October 2008  
 Contributor – Drafted West Texas Mesonet exceptional item request for the state of Texas, 2008  
 Presentations (3) – Digital Hurricane Symposium, Baton Rouge, LA, January 2009  
 Session Chair – 11<sup>th</sup> Americas Conference on Wind Engineering, 2009  
 Tour Leader – Staffers, US Senator Kay Bailey Hutchison visited the WiSE Research Center, August 2009  
 Tour Leader – Midwest Research Institute visited WiSE Research Center, 30 October 2009  
 Tour Leader – Texas Tech University Deans visited WiSE Research Center, 3 November 2009  
 Participant – VORTEX 2 Field Campaigns (2009-2010)  
 Presentation – Wind Science and Engineering Seminar, 15 September 2010  
 Tour Leader – US Representative John Carter visited WiSE Research Center, 16 October 2010  
 Presentation/Tour Leader – WeatherPredict visited WiSE Research Center, 25-26 October 2010  
 Presentation/Tour Leader – DOE visited WiSE Research Center, 27-28 October 2010  
 Tour Leader – Ole’ Miss National Center for Physical Acoustics visited WiSE Research Center, 25-26 October 2010  
 Presentation/Tour Leader – FM Global visited WiSE Research Center, 3 November 2010  
 Presentation – Alstom visited WiSE Research Center, 11 November 2010  
 Presentation – GE visited WiSE Research Center, 6 December 2010  
 Tour Leader – State Farm visited WiSE Research Center, 7 December 2010  
 Presentation – Two confidential industry partners visited Texas Tech University, 13 January 2011  
 Presentation/Tour Leader – Confidential industry visitor, 27 January 2011  
 Presentation – Second Wind visited Texas Tech University, 28 January 2011  
 Presentation – Alstom/TTU R&D Initiative Press Conference, 12 January 2011  
 Contributor – Conference call with staffers for US Senator Wicker regarding wind/water issues, 11 March 2011  
 Tour Leader – Dr. Luciano Castillo from RPI visited WiSE Research Center, 18 April 2011  
 Tour Leader – Weatherflow visited the WiSE Research Center, 4 April 2011  
 Tour Leader – Mark Powell from the NOAA Hurricane Research Division, 6 April 2011  
 Guest Speaker – Lubbock Christian School, Lubbock, Texas, 28 April 2011  
 Tour Leader – Confidential industry visitor tour of the WiSE Research Center, 3 May 2011  
 Tour Leader – Confidential industry visitor tour of the WiSE Research Center, 10 May 2011  
 Tour Leader – Vestas visited the WiSE Research Center, 18 July 2011  
 Faculty Mentor – Department mentor for Brian Ancell, 2011-present  
 Faculty Mentor – Department mentor for Song-Lak Kang, 2011-present  
 Tour Leader – Northrup Grumman visited the WiSE Research Center, 28 September 2011  
 Presentation – Keynote - International Conference, American Society for Engineering Management, 20 October 2011  
 Presentation – NWRC Board Meeting, 28 October 2011  
 Tour Leader – Dr. James Bresseur from Penn State University visited WiSE Research Center, 20 September 2011  
 Tour Leader – NIRE economic development group visited the WiSE Research Center, 28 September 2011  
 Tour Leader – Dr. Rebecca Barthelmie from Indiana University visited WiSE Research Center, 30 January 2012  
 Tour Leader – Mr. Eric Haefli from State Farm Insurance visited WiSE Research Center, 1 February 2012  
 Presentation – Invited - James Cook University, Townsville, Australia, 21 February 2012  
 Presentation – Keynote - 15th Australian Wind Engineering Society Workshop, 24 February 2012  
 Tour Leader – Dr. Achille Messac from Syracuse University visited WiSE Research Center, 27 February 2012  
 Presentation – Invited – NWRC Symposium on Wind Farm Underperformance, 28 March 2012  
 Tour Leader – DOE Representatives visited the WiSE Research Center, 28 March 2012  
 Tour Leader – Various researchers visited WiSE Research Center following the NWRC Symposium, 30 March 2012  
 Presentation – University of Florida on Wind Research, Gainesville, Florida, 20 April 2012  
 Presentation – GE Energy on Complex Flows, 16 May 2012  
 Tour Leader – Ball Aerospace visited the WiSE Research Center, 1 May 2012  
 Presentation – Invited – ImpactWeather: 23<sup>rd</sup> Annual Hurricane Sem. for Bus. And Ind., Houston, Texas, 23 May 2012  
 Presentation – Invited – DOE: Radar Measurements of Modulated Wind Fields, Washington, DC, 23 August 2012  
 Presentation – Invited – Univ. of Birmingham Wind Energy Structures Workshop, Birmingham, UK, 12 October 2012  
 Presentation – WiSE Wednesday Seminar Series: The Plans for Reese Center, 31 October 2012  
 Presentation – Rep. Lamar Smith visited TTU WiSE Research Center, 2 November 2012  
 Presentation – David Rokeach visited TTU, WiSE Research Center, 6 November 2012  
 Presentation – TTU Institutional Development Foundation Dinner, 8 November 2012  
 Presentation – Intel visited WiSE, 30 November 2012  
 Presentation – Proprietary Partner on Proprietary Wind Research, Chicago, Illinois, 4 December 2012

Presentation – Suzlon on WiSE Research Center, Chicago, Illinois, 11 December 2012  
Presentation – Alstom Power Meeting on Proprietary Wind Research, Richmond, Virginia, 17 December 2012  
Presentation – Sandia/Savanna River Meeting on Research Collaboration, 12 February 2013  
Presentation – Dong Energy on TTUKa Radar Measurements of Complex Flows, Copenhagen, DK, 30 April 2013  
Presentation – DTU on TTUKa Radar Measurements of Complex Flows, Copenhagen, Denmark, 1 May 2013  
Speaker – Launch for Reauthorization of National Wind Storm Impact Reduction Act, 2 May 2013  
Presentation – Sandia National Labs Director Dr. Andrew Orrell, 29 May 2013  
Session Chair – 12<sup>th</sup> Americas Conference on Wind Engineering, Seattle, Washington, 17 June 2013  
Presentation – DOE on TTUKa Radar Measurements of Complex Flows, 9 July 2013  
Presentation – Invited – Institution of Civil Engineers on Thunderstorm Wind Flows, London, UK, 25 September 2013  
Tour Leader – French Attache Christian Turquat visited NWI, 2 October, 2013  
Board Member – National Institute of Renewable Energy, 2013  
Presentation – Google[x] Corporation on NWI, September 27, 2013  
Presentation – Envision Corporation on NWI, October 2, 2013  
Presentation – Siemens Corporation on NWI, November 14, 2013  
Presentation – Anonymous Corporate Partner, Greenville, SC, December 3, 2013  
Presentation and Tour Leader – DLR visited NWI, December 10, 2013

## **JOURNAL REVIEWS**

Journal of Wind Engineering and Industrial Aerodynamics (2)  
Journal of the American Society of Civil Engineers (1)  
Journal of Atmospheric and Oceanic Technology (2)  
Weather and Forecasting (1)  
Bulletin of the American Meteorological Society (3)  
Journal of Applied Meteorology and Climatology (2)

## **NATIONAL SCIENCE FOUNDATION REVIEWS**

2006 Wind Engineering Panel  
2011 MRI  
2013 CAREER Panel

## **CONSULTING PROJECTS**

**McDonald-Mehta Engineers**, Lubbock, Texas  
January 2005 - “Hurricane Ivan Wind Field Evaluation/Data Acquisition”  
November 2005 - “Hurricane Dennis Wind Field Evaluation/Data Acquisition”

**LNSS and Associates**, Lubbock, Texas

November 2002 - “Investigation of the May 30, 2001 Thunderstorm”  
February 2003 - “Investigation of the Wind Speeds Generated by Hurricane Bonnie at the Carteret Community College Student Union Facility”  
November 2005 - “Hurricane Katrina Wind Summary for the Mississippi Coastal Region”  
June 2006 - “Hurricane Katrina Wind Assessment at the Webster Residence” (Testified)  
July 2006 - “Hurricane Rita Wind Assessment at the Stovall Residence” (Deposition)  
July 2006 - “Hurricane Rita Wind Assessment at the Guidry Residence”  
August 2006 - “Hurricane Rita Wind Assessment at the Derrick Residence”  
December 2006 - “Hurricane Rita Wind Assessment at the Shobe Residence”  
July 2008 - “The Meteorological Events of Hurricane Rita”  
October 2008 - “Preliminary Hurricane Ike Wind Assessment for the Bolivar Peninsula” (Multiple SOAH, Deposition)

## **CONFERENCES/PROFESSIONAL MEETINGS ATTENDED (since 2001)**

First Americas Conference on Wind Engineering, Clemson, SC – June 3-6, 2001  
American Meteorological Society Annual Meeting, Orlando, FL – January 14-18, 2002  
25<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, San Diego, CA – April 29-May 3, 2002  
AMS/AGU Head’s and Chair’s Meeting, Boulder, CO – October 10-11, 2002  
American Meteorological Society Annual Meeting, Long Beach, CA – February 9-13, 2003

57<sup>th</sup> Annual Interdepartmental Hurricane Conference, Miami, FL – March 10-13, 2003  
 Mid-Atlantic Reg. Conf. on Inland Effects of Trop. Weather Systems, Raleigh, NC – May 11-13, 2003  
 11<sup>th</sup> International Conference on Wind Engineering, Lubbock, TX – June 2-5, 2003  
 Shared Mobile Atmospheric and Teaching (SMART) Radar Meeting, Norman, OK – July 17-18, 2003  
 SMART Radar Training and Deployment Meeting, Norman, OK – August 8-10, 2003  
 26<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Miami, FL – May 3-7, 2004  
 Invited Speaker - Lake Charles NWS Regional Hurricane Conference, Orange, TX – May 19, 2004  
 Building of the Modernized Cooperative Observing Network, Norman, OK – July 13, 2004  
 Northward Expansion of the West Texas Mesonet, NWS Amarillo, TX – July 21, 2004  
 SMART Radar Annual Meeting, Norman, OK – August 5, 2004  
 IBHS Workshop: Hurricanes Charley, Frances, Ivan and Jeanne, Orlando, FL – December 6, 2004  
 AAWE Workshop: Hurricanes Charley, Frances, Ivan and Jeanne, Orlando, FL – December 7, 2004  
 Texas Academy of Medicine, Science and Engineering, Dallas, TX – January 6-7, 2005  
 59<sup>th</sup> Interdepartmental Hurricane Conference, Jacksonville, FL – March 7-11, 2005  
 10<sup>th</sup> Americas Conference on Wind Engineering, Baton Rouge, LA – May 31 – June 4, 2005  
 UCAR Annual Members' Meeting, Boulder, CO – October 3-5, 2005  
 AMS National Meeting, Atlanta, GA – January 28-February 3, 2006  
 27<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Monterey, CA – April 24-28, 2006  
 UCAR Annual Members' Meeting, Boulder, CO – October 10-11, 2006  
 AMS/AGU Head's and Chair's Meeting, Boulder, CO – October 12-13, 2006  
 AMS Severe Local Storms Conference, St. Louis, MO – November 6-10, 2006  
 HRD Collaboration Meeting, Miami, FL – December 10-12, 2006  
 AMS National Meeting, San Antonio, TX – January 14-18, 2007  
 Aquifer Group Meeting, West Texas Mesonet Expansion, Austin, TX – February 28, 2007  
 WeatherBug Meeting, West Texas Mesonet Expansion, Lubbock, TX – April 1, 2007  
 UCAR Annual Members' Meeting, Boulder, CO – October 8-10, 2007  
 Texas Floodplain Management Association Conference, Lubbock, TX – October 24, 2007  
 LSU Meeting – Hurricane Tower Collaboration, Baton Rouge, LA – November 2, 2007  
 State Farm Presentation and Meeting – Hurricane Research, Bloomington, IL – November 27, 2007  
 AMS National Meeting, New Orleans, LA – January 19-24, 2008  
 Shared Mobile Atmospheric and Teaching (SMART) Radar Meeting, College Station, TX – February, 2008  
 Texas State-Wide Mesonet Meeting, Austin, TX – April 2008  
 Applied Insurance Research Invited Presentation and Meeting, Boston, MA – April 2008  
 Planning meetings with STEM Wind – October 10 and November 14, 2008  
 Meeting with Jianming Yin of Tokio Marine Technologies – October 15, 2008  
 Digital Hurricane Symposium, Baton Rouge, LA – January 5-6, 2009  
 AMS National Meeting, Phoenix, AZ – January 10-15, 2009  
 63<sup>rd</sup> Interdepartmental Hurricane Conference, Tampa, FL – March 2-5, 2009  
 Digital Hurricane Consortium, National Hurricane Center, Baton Rouge, LA – March 9, 2009  
 Texas Homeland Security Conference, Austin, TX – March 23-26, 2009  
 11<sup>th</sup> Americas Conference on Wind Engineering, San Juan, PR – June 22-26, 2009  
 UCAR Annual Members' Meeting, Boulder, CO – October 12-14, 2009  
 Digital Hurricane Consortium Meeting, Norman, OK – June 28-29, 2010  
 HRD Collaboration Meeting, Miami, FL – July 8-9, 2010  
 DOE Integrated Wind Water Desalination Planning Meeting, Seminole, TX – July 13, 2010  
 WTM Planning Meeting, NWS, San Angelo, TX – July 28, 2010  
 Innovate Texas Meeting with Lockheed Martin, Austin, TX – July 29, 2010  
 2<sup>nd</sup> Annual AWEE Workshop, Marco Island, FL – August 18-20, 2010  
 UCAR Annual Members' Meeting, Boulder, CO – October 5-6, 2010  
 AMS Heads' and Chairs' Meeting, Boulder, CO – October 7-8, 2010  
 Wind Alliance Annual Conference, Albuquerque, NM – November 3-4, 2010  
 NSF CMMI Awardee Conference, Atlanta, GA – January 4-7, 2011  
 TTU/Alstom ECO86 Research Meeting and Press Event, Lubbock, TX – January 12, 2011  
 GE Research Meeting, Schenectady, NY – January 24-25, 2011  
 State Farm Research Meeting, Bloomington, IL – February 17-18, 2011  
 NREL/Alstom ECO100 Meeting and Press Event, Denver, CO – April 26, 2011

RMS Research Meeting, London, England – June 26-30, 2011  
 13<sup>th</sup> International Conference on Wind Engineering, Amsterdam, Netherlands – July 10-15, 2011  
 UCAR Annual Members' Meeting, Boulder, CO – October 4-5, 2011  
 Sandia/Vestas/National Instruments Data Acquisition and Control Meeting, Albuquerque, NM - December 1, 2012  
 DOE Complex Flows Workshop, Boulder, CO – January 16-18, 2012  
 AMS National Meeting, New Orleans, LA – January 21-27, 2012  
 15th Australian Wind Engineering Society Workshop, Sydney, Australia – February 23-24, 2012  
 FEMA Conference Call on Wind/Water Issues – March 19, 2012  
 Wind Farm Underperformance Symposium, NWRC, Lubbock, TX – March 29-30, 2012  
 30<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, Ponte Verde, FL – April 15-20, 2012  
 GE Energy Research Meeting, Greenville, SC – May 16, 2012  
 Sandia National Laboratories, Wind Turbine Blade Workshop, Albuquerque, NM – May 30-31, 2012  
 AWEA WindPower 2012, Atlanta, GA – June 3-6, 2012  
 NSF Workshop on Quick Response Grants, Arlington, VA – June 12-13, 2012  
 NIST Windstorm and Coastal Inundation Impact Reduction, Reston, VA – June 13-14, 2012  
 NSF CMMI Awardees Conference, Boston, MA – July 9-13, 2012  
 DOE Headquarters, Meeting to Discuss Application of Radar to Wind Energy, Washington, DC – August 23, 2012  
 AWEA Wind Resource Workshop, Pittsburgh, PA – September 13-14, 2012  
 Joint Action Group for COASTAL Act Post Storm Analysis Conference Calls – 2013-2013  
 University of Birmingham Wind Energy Structures Workshop, Birmingham, UK – October 12, 2012  
 AWEA Fall Symposium, Chandler, AZ – November 13-25, 2012  
 NWRC, Texas Fluid Dynamics Meeting, Dallas, TX – December 10, 2012  
 AMS National Meeting, Austin, TX – January 6-9, 2013  
 EWEA 2013 Annual Event, Vienna, Austria – February 4-7, 2013  
 TTU DC Political Dinner, Washington DC – March 18-19, 2013  
 Tom Bogdan, UCAR President, Lubbock, TX – April 15, 2013  
 AWEA WINDPOWER, Chicago, IL – May 6-8, 2013  
 Pantex Wind Farm Meeting, Lubbock, TX – May 14, 2013  
 Commercialization Exploration with a Confidential Partner, Conference Call – May 20, 2013  
 12<sup>th</sup> ACWE, Seattle, WA – June 17-20, 2013  
 Sandia National Laboratories Reliability Workshop, Albuquerque – August 14, 2013

## **SELECTED INTERVIEWS AND DOCUMENTARIES**

National Public Radio interviewed John Schroeder in Wilmington, NC, regarding the mobile tower. August 28, 1998.

ABC Radio Network interviewed John Schroeder at Kingsville, TX, while deploying WEMITE in Hurricane Bret. August 22, 1999.

ABC World News Tonight interviewed John Schroeder regarding WEMITE and needed research for boundary layer winds. August 26, 1999.

Michael Hoff Productions filming a special, "Disaster Detectives," for the Discovery Channel, taped deployment of the WEMITE tower and interviewed John Schroeder and others. Aired May 25 and 28, 2000.

*University Daily* (TTU) interviewed John Schroeder regarding snowstorm. Printed November 2, 2001.

Derrick Ginter of 89.1 FM KOHM Radio (Lubbock) interviewed John Schroeder regarding Tropical Storm Isidore. Aired September 27, 2002.

KAMC, Channel 28 (Lubbock) interviewed John Schroeder regarding Tropical Storm Isidore and the WEMITE and Smart-Radar deployments. Aired September 27, 2002.

Matt Hines of KAMC, Channel 28 (Lubbock) interviewed John Schroeder and others regarding Hurricane Lili and TTU's efforts to gather data from landfalling hurricanes. Aired in three parts on November 6-8, 2002.

Erin Kennedy of KAMC, Channel 28 (Lubbock) interviewed John Schroeder regarding Hurricane Claudette and TTU's efforts to gather data from landfalling hurricanes. Aired July 14, 2003.

Laura Matthews of FOX34 (Lubbock) interviewed John Schroeder regarding Hurricane Claudette and TTU's efforts to gather data from landfalling hurricanes. Aired July 15, 2003.

Ray Westbrook of the *Lubbock Avalanche Journal* interviewed John Schroeder and Richard Peterson regarding TTU's efforts to gather data from landfalling hurricanes; story titled 'Strength and Turbulence.' Printed July 15, 2003.

Carey Phillips of CBS7 (Odessa) phone interviewed John Schroeder regarding Hurricane Claudette and TTU's efforts to gather data from landfalling hurricanes. Aired July 15, 2003.

Bill Hanna of the *Fort Worth Star-Telegram* phone interviewed John Schroeder and posted a story titled 'Texans studying hurricane with 5 Doppler Radars' concerning Hurricane Isabel on September 18, 2003.

WBAP Radio (Dallas) phone interviewed John Schroeder concerning Hurricane Isabel's landfall on September 17, 2003.

Laura Matthews of FOX34 (Lubbock) interviewed John Schroeder regarding Hurricane Isabel and TTU's efforts to gather data from landfalling hurricanes. Aired September 23, 2003.

David Karp of the *St. Petersburg Times* interviewed John Schroeder regarding the occurrence of mesovortices within Hurricane Charley. Printed August 19, 2004.

Kerri Panchuk of KAMC (Lubbock) interviewed John Schroeder regarding TTU's deployment efforts in Hurricane Frances. Aired August 31, 2004.

Katherine Amerson of the *University Daily* (TTU) interviewed John Schroeder regarding TTU's deployment efforts in Hurricane Frances. Printed September 2, 2004.

Pat Beel of the *Palm Beach Post* (Florida) phone interviewed John Schroeder regarding the controversial magnitude of the wind speeds which occurred within Hurricane Frances; the interview occurred on November 1, 2004.

Kelly Gooch of the *University Daily* (TTU) interviewed John Schroeder regarding tornado safety for students; the interview occurred on January 14, 2005.

Kelsey Beaudin of the *University Daily* (TTU) interviewed John Schroeder regarding the occurrence of wind in West Texas and the US. Interviewed April 12, 2005.

Julian Butler for Granada TV (UK) interviewed John Schroeder regarding hurricanes and their sometimes devastating effects. Interviewed June 23, 2005.

KCBD, Channel 11 (Lubbock) interviewed John Schroeder regarding Hurricane Dennis and the WEMITE deployments. Aired July 8, 2005.

Roy Bragg of the *San Antonio Express News* interviewed John Schroeder regarding the hurricanes at landfall field efforts at Texas Tech University. Interview August 1, 2005.

Michael Castellon from *Vistas* (TTU) interviewed John Schroeder regarding the hurricanes at landfall efforts at Texas Tech University. Interviewed August 19, 2005.

Ron Reid from KHOM interviewed John Schroeder regarding Hurricane Katrina; the interview occurred on September 2, 2005 and the sound bite was distributed to NPR, ABC, etc.

Carlos Bergfield from the *Daily Toreador* (TTU) interviewed John Schroeder regarding Hurricane Katrina. Interviewed September 2, 2005.



Rick Wais of Texas State Network interviewed John Schroeder regarding Hurricane Katrina. Interviewed September 6, 2005.

Richard Korman of *ENR Magazine* interviewed John Schroeder regarding Hurricane Katrina. Interviewed September 6, 2005.

Jyri Raivio of *Helsingin Sanomat* (national newspaper in Finland) interviewed John Schroeder regarding Hurricanes Rita and Katrina. Interviewed September 25, 2005.

Rob Marciano of CNN interviewed John Schroeder and others regarding WEMITE and StickNet project on 9 May 2006.

Various interviews with the History Channel concerning spring thunderstorm projects and class on 17-18 May 2006.

Discovery Channel interviewed John Schroeder regarding the StickNet platform development for the TV show "Storm Chasers." Aired on May 23, 2007

National Public Radio interviewed John Schroeder regarding mobile weather monitoring equipment. Aired on November 27, 2007.

Amy Montalvo of KAMC (Lubbock) interviewed John Schroeder concerning Hurricane Dolly Deployment. Aired July 25 and 28 2008.

Matt Cobb of the *Daily Toreador* (TTU) interviewed John Schroeder concerning Hurricane Gustav Operations. Printed on August 28, 2008.

Brittany Peiper of KCBD (Lubbock) interviewed John Schroeder in multiple interviews concerning Hurricane Gustav. Aired multiple days in August 2008.

Leslie Cranford for *Texas Tech Today* interviewed John Schroeder concerning the hurricane field operations. Interviewed September 17, 2008.

Multiple interviews with KCBD (Lubbock) concerning Texas Tech University's participation in Project VORTEX 2. May and June 2009.

Holly Kitten from the Texas Tech Year Book interviewed John Schroeder concerning thunderstorm and hurricane field research efforts and the ties to education. Interviewed October 11, 2009.

Photo Shoot for StickNet and TTUKa radars with Gary Vaughn from the Chancellor's Office, Texas Tech University on November 2, 2009.

John Robison of KCDB (Lubbock) interviewed John Schroeder concerning Severe Weather Awareness Day. Interviewed February 27, 2010.

Susan McCabe for *AGCO Farm Equipment Magazine* interviewed John Schroeder regarding severe storm research. Interviewed October 14, 2010.

Jen Henderson for *Metro Family Magazine* interviewed John Schroeder regarding severe storms safety. Interviewed January 28, 2011.

Yann Ranaivo for *Amarillo Globe-News* reporter interviewed John Schroeder regarding high wind in West Texas. Interviewed April 16, 2011.

Kassidy Ketron of the *Daily Toreador* (TTU) interviewed John Schroeder regarding hurricane season. Interviewed June 7, 2011.

Adam Young of the *Lubbock Avalanche-Journal* interviewed John Schroeder regarding Hurricane Irene. Interviewed August 27, 2011.

Multiple interviews with Brittany Price of *Fox 34* (Lubbock) showcasing WiSE. Interviews occurred July 17, 2012.

Stacia Smith of the *Lubbock Avalanche-Journal* interviewed John Schroeder regarding Hurricane Isaac. Interviewed August 26, 2012.

Ellysa Gonzalez of the *Lubbock Avalanche-Journal* interviewed John Schroeder regarding Hurricane Isaac. Interviewed August 27, 2012.

Ray Patterson of *KCBD* (Lubbock) interviewed John Schroeder regarding Hurricane Isaac. Interviewed August 28, 2012.

Michaela MacDonald of *KLBK* (Lubbock) interviewed John Schroeder regarding Hurricane Sandy. Interviewed October 30, 2012.

Mark Lamster of the *Dallas Morning News* interviewed John Schroeder regarding the Moore Oklahoma Tornado. Interviewed May 22, 2013.

Christian Henson of *KAMC* (Lubbock) interviewed John Schroeder regarding the SWiFT facility. Interviewed July 8, 2013.

Multiple interviews with Brittany Price of *Fox 34* (Lubbock) showcasing SWiFT facility. Interviewed July 9, 2013.

Blake Ursch of the *Lubbock Avalanche-Journal* interviewed John Schroeder regarding the SWiFT facility. Interviewed July 9, 2013.

## **FACILITY DEVELOPMENT / MANAGEMENT**

WEMITE I/II – ruggedized mobile-instrumented towers deployed in hurricanes; developed in 1997-1999; directed and maintained from 1997-2006; decommissioned in 2006.

Portable Mesonet Towers – directed deployments and maintained from 2003-2006; decommissioned in 2006.

Measurement and Analysis Laboratory – graduate laboratory interfacing field instrumentation with classroom activities; developed in 2002-2003; directed and maintained since 2002.

Shared Mobile Atmospheric and Teaching (SMART) Radars – two 5-cm Doppler mobile radars owned jointly by four institutions; managed Texas Tech's interest; 2003-2009.

West Texas Mesonet – a mesoscale meteorological network of 75 surface observation systems, one sounding system an atmospheric profiler and six SODAR systems; directed and maintained since 2003.

Mobile Mesonets – five vehicle rack-mounted instrument platforms; directed and maintained since 2003; decommissioned in 2010.

TTUKa Radars – two mobile high-frequency, high-sensitivity research radars; developed in 2006-2008; directed and maintained 2008-present, major upgrades in 2012-2013.

StickNet – mobile array of 24 near-surface observation platforms; developed in 2004-2005; directed and maintained since 2005.

The 200 m Instrumented Tower at Reese Technology Center – managed major upgrade in 2010; directed and maintained since 2010.

Sandia National Laboratories/Texas Tech University/Vestas Scaled Wind Farm Technology (SWiFT) Facility - worked to develop a state-of-the-art facility to study turbine-to-turbine interaction at Reese Technology Center since 2011. Facility was commissioned July 2013.