

# CURRICULUM VITAE

## John L. Schroeder

Director, Wind Science and Engineering Research Center  
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## GENERAL INFORMATION

### EDUCATION

- Ph.D. Civil Engineering**, Texas Tech University, December 1999  
Dissertation Topic: Hurricane Bonnie Wind Flow Characteristics
- M.S. Atmospheric Sciences**, Texas Tech University, August 1997  
Thesis Topic: Hurricane Boundary Layer Winds
- B.S. Civil Engineering**, University of Missouri - Rolla, December 1994  
Undergraduate Research Topic: Large Missile Impact Test

### PROFESSIONAL CHRONOLOGY

Director, Wind Science and Engineering Research Center, Texas Tech University (2010-present)  
Associate Professor, Atmospheric Science Group, Department of Geosciences, Texas Tech University (2006-present)  
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)  
Research Associate (part-time), Wind Engineering Research Center, Texas Tech University (1999-2000)  
Research Associate, Wind Engineering Research Center and Manager, Wind Engineering Research Field Laboratory, Texas Tech University (1997-1999)  
Research Assistant, Wind Engineering Research Center, Texas Tech University (1995-1997)  
Teaching Assistant, University of Missouri-Rolla (1992-1994)

### 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  
Nominated – Edith and Peter O'Donnell Award, April 2008  
West Texas Mesonet – National Weather Association's Larry R. Johnson Special Award, October 2008  
Nominated - DOE/EERE Advisory Committee (ERAC), June 2010

### PROFESSIONAL AFFILIATIONS

American Meteorological Society  
American Association for Wind Engineering  
American Wind Energy Association

# TEACHING ACTIVITY

## COURSE DEVELOPEMENT

### 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 for an overview of designing, planning, and completing atmospheric field experiments.

#### *Tropical Cyclones*

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

#### *Wind Science*

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

## COURSE OFFERINGS

<b>Graduate Courses</b>	
<i>Meteorological Data Acquisition and Instrumentation Systems</i>	Spring 2003, Spring 2005, Spring 2007, Fall 2009, Spring 2012
<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
<i>Independent Study in Atmospheric Science</i>	Fall 2003, Spring 2004, Fall 2004, Spring 2005, Fall 2005
<b>Undergraduate Courses</b>	
<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

#### *Atmospheric Science Laboratory*

Supervised 105 laboratory sections, and served as laboratory coordinator for seven semesters.

## **STUDENT DEVELOPMENT/MENTORING**

### ***Summary of Advisees***

High School Students – two

Undergraduate Research Aides – seven

Undergraduate Interns, Wind Science and Engineering Internship Program – three

MS Atmospheric Science – seven graduates - one currently in progress

Ph.D. Geosciences – three graduates - one currently in progress

Ph.D. Wind Science and Engineering – three graduates - one currently in progress

### ***I have been Chair of the Following M.S. or Ph.D. Thesis Committees (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 Lørsolo (Ph.D. Geosciences, Graduated December 2006)

*Hurricane Boundary Layer Rolls and Wind Streaks*

Steve Latimer (MS Atmospheric Science, Graduated May 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 May 2009)

*Characterization of Hurricane Gust Factors Using Observed and Analytical Data*

Kirsten Orwig-Gast (Ph.D. Wind Science and Engineering, IGERT Fellow, Graduated May 2010)

*Examining Strong Winds from a Time-Varying Perspective*

Ian Giammanco (Ph.D. Wind Science and Engineering, IGERT Fellow, Graduated August 2010)

*Observations of Tropical Cyclone Low-level Wind Maxima*

Scott Gunter (MS Atmospheric Science, Graduated December 2010)

*A Dual-Doppler Synthesis Rainband Shear Features*

Brian Hirth (Ph.D. Geosciences, Graduated May 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*

### ***I Served on the Following M.S. Thesis Committees:***

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

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 –  
Danielle Turner – Atmospheric Science Student – *Graduated Summer 2010*  
Ryan Metzger – Atmospheric Science Student – *Graduated Fall 2011*  
Erin Kashawlic – Atmospheric Science Student –  
Joseph Ryan Hill – Atmospheric Science Student –

***I Served on the Following Ph.D. Dissertation Committees:***

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  
Simon Wayne – Wind Science and Engineering Student  
Joseph Dannemiller – Wind Science and Engineering Student  
Andrew Widmer – Wind Science and Engineering Student

# SCHOLARLY ACTIVITY

## *Refereed Publications*

*(lead authors who were graduate<sup>G</sup> and/or undergraduate<sup>U</sup> students are noted)*

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.

<sup>G</sup>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.

<sup>G</sup>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.

<sup>U</sup>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.

<sup>G</sup>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.

<sup>G</sup>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.

<sup>G</sup>Hirth, B., 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.

<sup>G</sup>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. L. 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.

<sup>G</sup>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.

<sup>G</sup>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.

<sup>G</sup>Lombardo, F., D. Smith, J. L. Schroeder and K. Mehta, 2011: "Thunderstorm Characteristics of Importance in Wind Engineering Part I: Temporal Scales and Turbulence," *Journal of Wind Engineering and Industrial Aerodynamics*, submitted.

<sup>G</sup>Lombardo, F., D. Smith, J. L. Schroeder and K. Mehta, 2011: "Thunderstorm Characteristics of Importance to Wind Engineering Part II: Profiles, Gust Factors and Other Observations," *Journal of Wind Engineering and Industrial Aerodynamics*, submitted.

<sup>G</sup>Giammanco, I. M., J. L. Schroeder, and M. D. Powell, 2011: "Observed Characteristics of Tropical Cyclone Vertical Wind Profiles and Low-level Wind Maxima," *Weather and Forecasting*, submitted.

<sup>G</sup>Hirth, B. M., 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*, submitted.

<sup>G</sup>Edwards, B. P., and J. L. Schroeder, 2012: "Characterization of Hurricane Gust Factors Using Observed and Simulated Data," *Wind and Structures*, final editing.

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

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

<sup>G</sup>Hirth, B., J. L. Schroeder and S. 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.

<sup>G</sup>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.

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

<sup>G</sup>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.

<sup>G</sup>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.

<sup>G</sup>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. 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, Twenty-Second 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, Twelfth Symposium on Boundary Layers and Turbulence*, Vancouver, Canada, 334-335.

<sup>G</sup>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, Thirteenth 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.

<sup>G</sup>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, Twenty-Fourth 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, Twenty-Fourth Conference on Hurricanes and Tropical Meteorology*, Fort Lauderdale, Florida, 337-338.

<sup>G</sup>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.

<sup>G</sup>Gardner, A. G., C. W. Letchford, and J. L. Schroeder, 2000: "A Comparison of Wind Prediction Models for Transitional Regimes," *Proceedings, Fourteenth 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.

<sup>G</sup>Howard, J. R., and J. L. Schroeder, 2002: "A Coastal Internal Boundary Layer within a Tropical Cyclone," *Preprints, Twenty-Fifth Conference on Hurricanes and Tropical Meteorology*, San Diego, California, 11-12.

<sup>G</sup>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, Twenty-Fifth 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, Twenty-Fifth 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, Fifty-Seventh Interdepartmental Hurricane Conference*, Miami, Florida.

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

<sup>G</sup>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, Eleventh International Conference on Wind Engineering*, Lubbock, Texas, 2013-2020.

<sup>G</sup>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, Eleventh International Conference on Wind Engineering*, Lubbock, Texas, 2029-2036.

<sup>G</sup>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, Eleventh International Conference on Wind Engineering*, Lubbock, Texas, 2577-2584.

<sup>G</sup>Gast, K. D., and J. L. Schroeder, 2003: "Supercell Rear-Flank Downdraft as Sampled in the 2002 Thunderstorm Outflow Experiment," *Proceedings, Eleventh International Conference on Wind Engineering*, Lubbock, Texas, 2233-2240.

<sup>G</sup>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, Twenty-Sixth Conference on Hurricanes and Tropical Meteorology*, Miami, Florida, 487-488.

<sup>G</sup>Lorsolo, S., and J. L. Schroeder, 2004: "Hurricane Boundary Layer Rolls Observed During the Landfall of Hurricane Isabel," *Preprints, Twenty-Sixth Conference on Hurricanes and Tropical Meteorology*, Miami, Florida, 609-610.

<sup>G</sup>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, Twenty-Sixth 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.

<sup>G</sup>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, Twenty-Second Conference on Severe Local Storms*, Hyannis, Massachusetts.

<sup>G</sup>Gast, K. D., and J. L. Schroeder, 2004: "Extreme Wind Events Observed in the 2002 Thunderstorm Outflow Experiment," *Preprints, Twenty-Second Conference on Severe Local Storms*, Hyannis, Massachusetts.

<sup>G</sup>Beck, J., J. L. Schroeder, J. Wurman, and C. Alexander, 2004: "High-Resolution Dual-Doppler Radar Observations of a Non-Tornadic Supercell," *Preprints, Twenty-Second Conference on Severe Local Storms*, Hyannis, Massachusetts.

<sup>G</sup>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, Twenty-Second Conference on Severe Local Storms*, Hyannis, Massachusetts.

<sup>G</sup>Martinez, M., and J. L. Schroeder, 2004: "Lightning Signatures in Convective Storms on the High Plains," *Preprints, Twenty-Second Conference on Severe Local Storms*, Hyannis, Massachusetts.

Schroeder, J. L., 2005: "Observing Hurricane Boundary Layer Phenomena using Mobile Research Radars," *Preprints, Fifty-Ninth Interdepartmental Hurricane Conference*, Jacksonville, Florida.

<sup>G</sup>Orwig-Gast, K. D., and J. L. Schroeder, 2005: "Extreme Wind Events Observed in the 2002 Thunderstorm Outflow Experiment," *Proceedings, Tenth Americas Conference on Wind Engineering*, Baton Rouge, Louisiana.

<sup>G</sup>Edwards, B. P., and J. L. Schroeder, 2005: "A Summary of the Wind Engineering Mobile Instrumented Tower Experiment during the 2004 Atlantic Hurricane Season," *Proceedings, Tenth Americas Conference on Wind Engineering*, Baton Rouge, Louisiana.

Schroeder, J. L., S. Lorsolo, J. Beck, and C. Weiss, 2005: "Using Mobile Research Radar to Extract Hurricane Boundary Layer Wind Information," *Proceedings, Tenth Americas Conference on Wind Engineering*, Baton Rouge, Louisiana.

Schroeder, J. L., B. P. Edwards and M. Martinez, 2005: "A Study Coupling Wind Speed and Radar Observations," *Proceedings, Tenth Americas Conference on Wind Engineering*, Baton Rouge, Louisiana.

Haynie, B., J. L. Schroeder, I. Sonmez, and W. Burgett, 2005: "An Overview of the West Texas Mesonet," *Proceedings, Thirteenth Symposium on Meteorological Observations and Instrumentation*, Savannah, Georgia.

<sup>G</sup>Sonmez, I., J. L. Schroeder, W. S. Burgett, and K. B. Haynie, 2005: "The Enhancement of QA/QC Tests for West Texas Mesonet Wind Parameters," *Proceedings, Thirteenth Symposium on Meteorological Observations and Instrumentation*, Savannah, Georgia.

<sup>G</sup>Lorsolo, S., and J. L. Schroeder, 2005: "Hurricane Boundary Layer Small-Scale Features using RHI Data Coupled with VAD Analysis," *Preprint, Thirty-Second Conference on Radar Meteorology*, Albuquerque, New Mexico.

<sup>G</sup>Lorsolo, S., and J. L. Schroeder, 2006: "Small-Scale Features Observed in the Boundary Layer of Hurricanes Isabel (2003) and Frances (2004)," *Preprint, 14th Conference on Interaction of the Sea and Atmosphere*, Atlanta, Georgia.

<sup>G</sup>Lorsolo, S., and J. L. Schroeder, 2006: "Tower and Doppler Radar Observations from the Boundary Layer of Hurricanes Isabel (2003) and Frances (2004)," *Preprint, 27th Conference on Hurricanes and Tropical Meteorology*, Monterrey California.

<sup>G</sup>Giammanco, I., J. L. Schroeder, and B. Edwards, 2006: "A Summary of Texas Tech University's 2005 Hurricanes at Landfall Project," *Preprint, 27th Conference on Hurricanes and Tropical Meteorology*, Monterrey, California.

Mark Powell, et al., 2006: "Hurricane Katrina's Wind Field: Synthesizing Wind Observations to Construct an Analysis of Record," *Preprint, 27th Conference on Hurricanes and Tropical Meteorology*, Monterrey, California.

Holmes, J. D., H. M. Hangan, J. L. Schroeder, C. L. Letchford, and K. D. Orwig, 2007: "A Forensic Study of the Lubbock-Reese Downdraft of 2002. I. Storm characteristics," *Proceedings, 12th International Conference on Wind Engineering*, Cairns, Australia.

Holmes, J. D., H. M. Hangan, J. L. Schroeder, and C. L. Letchford, 2007: "A Forensic Study of the Lubbock-Reese Downdraft of 2002. II. Running-mean Wind Speeds and Turbulence," *Proceedings, 12th International Conference on Wind Engineering*, Cairns, Australia.

<sup>G</sup>Giammanco, I. M., J. L. Schroeder, and B. D. Hirth, 2007: "Texas Tech University's Rapid Deployment Surface Observing Platform," *Preprint, 61<sup>st</sup> Interdepartmental Hurricane Conference*, New Orleans, Louisiana.

Weiss, C. C., and J. L. Schroeder, 2008: "StickNet – A New Portable, Rapidly-Deployable, Surface Observing System," *Preprints, 88<sup>th</sup> Annual Meeting of the American Meteorological Society*, New Orleans, Louisiana, paper 4A.1.

Weiss, C. C., and J. L. Schroeder, 2008: "The 2007 and 2008 MOBILE Experiment: Development and Testing of the TTU StickNet Platforms," *Preprints, 24<sup>th</sup> Conference on Severe Local Storms*, Savannah, Georgia, paper 5.1

Schroeder, J. L., 2009: "The Digital Hurricane Consortium," *Preprints, Fifty-Ninth Interdepartmental Hurricane Conference*, Tampa, Florida.

<sup>G</sup>Giammanco I. M., J. L. Schroeder, M. D. Powell, and D.A. Smith, 2009: "Observations of Tropical Cyclone Low-level Wind Maxima," *Proceedings, 11<sup>th</sup> Americas Conference on Wind Engineering*, San Juan, Puerto Rico, 14pp.

<sup>G</sup>Orwig K. D., and J. L. Schroeder, 2009: "Full-Scale Strong Winds from a Time-Varying Perspective," *Proceedings, 11<sup>th</sup> Americas Conference on Wind Engineering*, San Juan, Puerto Rico, 12pp.

Schroeder J. L., C. C. Weiss, and J. G. Guynes, 2009: "Innovative Technologies to Investigate Fine-Scale Atmospheric Motions and Their Impact," *Proceedings, 11<sup>th</sup> Americas Conference on Wind Engineering*, San Juan, Puerto Rico, 13pp.

<sup>G</sup>Giammanco I. M., T. M. Brown, and J. L. Schroeder, 2009: "Texas Tech University's Hurricanes at Landfall Project 2008," *Proceedings, 11<sup>th</sup> Americas Conference on Wind Engineering*, San Juan, Puerto Rico, 13pp.

<sup>G</sup>Zachry, B. C., C. W. Letchford, D. Zuo, J. L. Schroeder, and A. B. Kennedy, 2009: "Surface Drag Coefficient Behavior During Hurricane Ike," *Proceedings, 11<sup>th</sup> Americas Conference on Wind Engineering*, San Juan, Puerto Rico, 15pp.

<sup>G</sup>Hirth, B. D. and J. L. Schroeder, 2009: "Examination of the Coastal Transition Zone of Hurricane Frances," *Proceedings, 11<sup>th</sup> Americas Conference on Wind Engineering*, San Juan, Puerto Rico, 2pp.

Weiss, C. C., J. L. Schroeder, J. Guynes, P. Skinner, and J. Beck, 2009: "The TTUKa Mobile Doppler Radar: Coordinated Radar and In Situ Measurements of Supercell Thunderstorms During Project VORTEX2," *Preprint, 34th Conference on Radar Meteorology*, Williamsburg Virginia, paper 11B.2.

<sup>U</sup>Aguilar, T. A., and J. L. Schroeder, 2009: "Near-Surface Wind Flow Characteristics of a Thunderstorm Outflow Event," *Preprint, 34th Conference on Radar Meteorology*, Williamsburg, Virginia.

<sup>G</sup>Zachry, B. C., C. W. Letchford, D. Zuo, J. L. Schroeder, and A. B. Kennedy, 2009: "Surface Drag Coefficient Behavior during Hurricane Ike: Implications for the ASCE Wind Load Standard and Hurricane Storm Surge Forecasting," *Proceedings, Hurricane Hugo 20th Anniversary Symposium*, Charleston, South Carolina.

Womble, J. A., D. A. Smith, J. L. Schroeder, D. Liang, T. M. Brown, and K. C. Mehta, 2009: "Image-Based Wind Damage Functions," 7<sup>th</sup> *International Workshop on Remote Sensing for Disaster Management Applications*, University of Texas, Austin, Texas.

Womble, J. A., D. A. Smith, D. Liang, J. L. Schroeder, T. M. Brown, and K. C. Mehta, 2010: "Imagery-Based Wind Damage Functions," *Proceedings, 2010 ASCE Structures Congress*, Orlando, Florida.

Masters, F. J., K. R. Gurley, W. L. Coulbourne, M. Biggerstaff, K. Knupp, M. Levitan, A. Kennedy, J. Wurman and J. Schroeder, 2010: "The Digital Hurricane Consortium: An Adaptive Mesonet to Monitor Wind, Surge, Wave & Rainfall Intensities and Damage at Landfall," *ASCE Structures Congress*, Orlando, Florida.

<sup>G</sup>Giammanco, I. M., J. L. Schroeder, M. D. Powell, and D. A. Smith, 2010: "WSR-88D Observations of Hurricane Boundary Layer Vertical Wind Profiles at Landfall," 2<sup>nd</sup> *Annual AAWE Workshop*, Marco Island, Florida.

<sup>G</sup>Hirth, B. D., and J. L. Schroeder, 2010: "Examination of the Coastal Transition Zone of Hurricane Frances (2004)," 2<sup>nd</sup> *Annual AAWE Workshop*, Marco Island, Florida.

<sup>G</sup>Gunter, S., and J. L. Schroeder, 2010: "Shear Features within a Convective Rainband of Hurricane Frances." *Lubbock Severe Weather Conference*, Lubbock, Texas.

<sup>G</sup>Giammanco, I. M., and J. L. Schroeder, 2010: "WSR-88D Observations of tropical cyclone low-level wind maxima," *Lubbock Severe Weather Conference*, Lubbock, Texas.

<sup>G</sup>Skinner, P. S., C. C. Weiss, A. E. Reinhart, W. S. Gunter, J. L. Schroeder, and J. Guynes, 2010: "TTUKa Mobile Doppler Radar Observations of Near-Surface Circulations in VORTEX2," 25<sup>th</sup> *Severe Local Storms Conference*, Denver, Colorado.

Freedman, J. M., D. Hanley, J. Zack, J. Manobianco, C. D'Annunzio, J. Wilczak, J. Schroeder, B. Ancell, K. Brewster, S. Basu, V. Banunarayanan, and K. Orwig, 2012: "The Wind Forecasting Improvement Project (WFIP): Description, Goals, and Preliminary Results from the Southern Study Area," 3<sup>rd</sup> *Conference on Weather, Climate and the New Energy Economy*, New Orleans, Louisiana, accepted.

<sup>G</sup>Hirth, B. D., and J. L. Schroeder, 2012: "Examination of the Coastal Transition Zone of Hurricane Frances (2004)," 30<sup>th</sup> *Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra Beach, Florida, accepted.

<sup>G</sup>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, accepted.

<sup>G</sup>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, accepted.

<sup>G</sup>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, accepted.

## **GRANTS AND RESEARCH CONTRACTS**

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

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

*IGERT: Multidisciplinary Program in Wind Science and Engineering*  
2003-2008

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%)

**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 2012  
Primary PI: Andy Swift/John Schroeder with multiple co-PI's  
Total Award of \$5,871,000 (8%)

*Weather Forecast Improvement Project*

January 2011-December 2012  
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 – Texas Tech University Experimental Wind Farm*

December 2011 – September 2012  
Sole PI: John Schroeder  
Total TTU Award of \$200,000 (100%)

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

*Improving Hurricane Wind Speed Estimates at Landfall*  
August 2010-July 2012  
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)***

**AWS Convergence Technology**

*National Mesonet Pilot Project*

May 2010-September 2011

Sole PI: John Schroeder

Total Award of \$171,418 (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 2013

Sole PI: John Schroeder

Total Award of \$124,000 (100%)

**Risk Management Solutions, Incorporated**

*Documentation of Hurricane Wind Fields*

September 2006-August 2012

Sole PI: John Schroeder

Total Award of \$85,000 (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 06/2001 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 06/2001 with co-PI Richard Peterson (TTU)

2001 TTU Excellence Funds – Proposal (\$262,669) – *Promoting Excellence and Expansion of the Interdisciplinary Research Efforts at TTU* – submitted 08/2001

2001 Pantex BWXT – Proposal (\$45,027) – *Evaluation of BWXT Pantex Lighting Detection Warning System and Potential Incorporation of Static Potential Monitoring System* – submitted 11/2001

2002 TLTC – Proposal (\$9,643) – *Incorporation of Hands-On Computer Based Modules into a New Meteorological Instrumentation Course* – submitted 02/2002

2002 NOAA HPCC Program – Proposal (\$92,000) – *"Black Box" Recorders for Extreme Wind Events* - submitted 08/2002 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 02/2003 with multiple co-PI's from multiple institutions

2003 ARP – Pre-proposal (\$60,000) – *Boundary Layer Structure within Extreme Thunderstorm Events* - submitted 06/2003

2005 ONR – Pre-proposal (\$106,345) – *Investigation of Linear Features in the Hurricane Boundary Layer* - submitted 04/2005

2005 ARP – Pre-proposal (\$41,900) – *Investigation of Coherent Features in the Hurricane Boundary Layer* - submitted 10/2005

2007 NSF – Proposal (\$300,000) – *Technician Support: Advancing Observations of Earth-Atmosphere* - submitted 07/07 with co-PI Chris Weiss (TTU)

2007 TTU VPR – Proposal (\$34,420) – *Hurricanes at Landfall: Filling the Information Gap* - submitted 10/07

2007 NSF – Proposal (\$3,200,000) – *IGERT: Multidisciplinary Program in Wind Science and Engineering* - submitted 10/07 submitted with multiple co-PI's (TTU)

2007 ARP – Proposal (\$119,716) – *Reducing the Wind Speed Uncertainty at Landfall* - submitted 10/07

2007 NOAA – Proposal (\$3,512,262) – *An Adaptive Coastal Observation Network for Landfalling Hurricanes* - submitted 12/07 with multiple co-PI's (multiple institutions)

2008 NOAA – Proposal (\$28,117) – *Providing Real-Time Communications for Hurricanes at Landfall* - submitted 8/08

2008 NSF – Proposal (\$499,522) – *Documenting the Engineering-Relevant Aspects of Extreme Thunderstorm Winds* - submitted 10/08

2008 TTU VPR – Proposal (\$35,000) – *Observations of the Hurricane Boundary Layer* - submitted 03/08

2009 Sea Grant – Pre-Proposal (\$200,000) – *Digital Hurricane Consortium* - submitted 02/09 with multiple co-PI's (multiple institutions)

2009 ONR – Proposal (\$262,949) – *Improving Hurricane Wind, Surge and Wave Intensity* - submitted 04/09 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 08/10/2009 with multiple co-PI's (multiple institutions)

2010 NIST – Proposal (\$15,000,000) – *Center for Integrated Earth System Research* - submitted 04/26/2010

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 07/14/2010 with a co-PI (TTU)

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

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

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 November 2010 with multiple co-PI's (multiple institutions)

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

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

2011 NSF – STEM Proposal (\$198,235) – *Southwestern University Data Acquisition and Learning Laboratory* - submitted May 2011 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 – Six-Year Review Committee – Drs. Leary and Karlsson (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 (3) hires (2011)

### **SELECTED ACTIVITIES**

Faculty Advisor – West Texas Student Chapter of the American Meteorological Society, 2001-2008  
Associate Director of WISE, 2006-2010  
Committee Member – Civil Engineering Spring Alumni Event, 1994  
Vice-President – Local American Meteorological Society Student Chapter, 1996-1997  
Teacher – Shake Hands with Your Future - Meteorology/Engineering, 1997, 1999  
Representative – Stormy Science Saturday at the Lubbock Science Spectrum, 1998  
Tour of WERFL – Science Teachers of Region 17, 1998  
Tour of WERFL – Crestview 3<sup>rd</sup> Grade, 1998  
Presentation – Lubbock High School, “Storm Chasing” Class, 1998, 1999  
Representative – Severe Weather Awareness Day, 1999  
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 Chancellors 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

## **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)

## **DEAN’S REPRESENTATIVE – DISSERTATION DEFENSES**

Lizhong Chen – *Vector Time-Varying Autoregressive (TVAR) Models and Their Application to Downburst Wind Speeds*, 8 February 2005  
 Hongchao Zhu – *C-130 Testing on Low-Rise Buildings*, 26 April 2005

## **NATIONAL SCIENCE FOUNDATION REVIEWS**

2006 Wind Engineering

2011 MRI

## **CONSULTING PROJECTS**

**McDonald-Mehta Engineers**, Lubbock, Texas

March 1999 - "Investigation of the Collapse of the Pleasant Acres Apartment Building"

January 1998 - "Investigation of the TAMI Leasing Company Partially Reinforced Concrete Masonry Wall Collapse"

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 Member's 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 Member's 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 Member's 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 Member's 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 Member's Meeting, Boulder, CO – October 5-6, 2010  
 AMS Heads and Chair's 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 Member's 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

## **SELECTED INTERVIEWS AND DOCUMENTARIES**

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

Disaster Relief News Stories web page included an article “When a Hurricane Nears, the DOW Rises (No, Not that DOW),” by J. Gregg McNew who interviewed John Schroeder regarding the mobile tower that will be deployed in front of landfalling hurricanes. August 21, 1998.

“Watchful eyes: Wind engineering team studies hurricanes across the nation, down the seaboard,” by Melody Ragland, *Lubbock Avalanche-Journal*, described the work of the WEMITE team and interviewed John Schroeder and others. September 10, 1998.

“Coastal currents: Tech research teams put themselves in path of Hurricane Dennis for study,” *University Daily* (TTU), interviewed John Schroeder and others. August 30, 1999.

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; story 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; the interview occurred on April 12, 2005.

Julian Butler for Granada TV interviewed John Schroeder regarding hurricanes and their sometimes devastating effects; the interview occurred on 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; the interview occurred on August 1, 2005.

Michael Castellon from *Vistas* interviewed John Schroeder regarding the hurricanes at landfall efforts at Texas Tech University; the interview occurred on 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; the interview occurred on September 2, 2005.

Rick Wais of Texas State Network interviewed John Schroeder regarding Hurricane Katrina; the interview occurred on September 6, 2005.

Richard Korman of *ENR Magazine* interviewed John Schroeder regarding Hurricane Katrina; the interview occurred on September 6, 2005.

Jyri Raivio of *Helsingin Sanomat* interviewed John Schroeder regarding Hurricanes Rita and Katrina; the interview occurred on 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.

Interviews with Amy Montalvo of KAMC (Lubbock) concerning Hurricane Dolly Deployment. Aired July 25 and 28 2008.

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

Multiple interviews with Brittany Peiper of KCBD (Lubbock) concerning Hurricane Gustav. Aired multiple days in August 2008.

Interview with Leslie Cranford for *Texas Tech Today* on September 17, 2008 concerning the hurricane field operations.

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

Interview with Holly Kitten from the Texas Tech Year Book on October 11, 2009 concerning thunderstorm and hurricane field research efforts and the ties to education.

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

Interview with John Robison of KCDB (Lubbock) concerning Severe Weather Awareness Day on February 27, 2010.

Interview with Susan McCabe for *AGCO Farm Equipment Magazine* regarding severe storms research on October 14, 2010.

Interview with Jen Henderson for *Metro Family Magazine* regarding severe storms safety on January 28, 2011.

Interview with Yann Ranaivo for *Amarillo Globe-News* reporter, regarding high wind in West Texas high on April 16, 2011.

Interview with Kassidy Ketron of the *Daily Toreador* (TTU) regarding hurricane season on June 7, 2011.

Interview with Adam Young of the *Lubbock Avalanche-Journal* regarding Hurricane Irene on August 27, 2011.

## **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 63 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.

TTUKa Radars – two mobile high-frequency, high-sensitivity research radars; developed in 2006-2008; directed and maintained 2008-2011.

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 Joint Wind Turbine Test Facility - worked to develop a state-of-the-art facility to study turbine-to-turbine interaction at Reese Technology Center, since 2011.