



TEXAS TECH UNIVERSITY

Wind Science and Engineering Research Center

Bi-Weekly Newsletter: Faculty, Staff, and PhD Student Updates

25th AMS Severe Local Storms Conference in Denver has

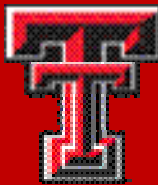
strong TTU showing: Dr. Chris Weiss, Dr. John Schroeder, Jerry Guynes, WISE Ph.D. Student Patrick Skinner and ATMO Graduate Students Tony Reinhart, Brad Charbonneau, Ryan Metzger, and Scott Gunter were authors/coauthors on a total of 7 papers on VORTEX2 at last week's AMS Severe Local Storms Conference in Denver, CO (11-14 Oct). Dr. Weiss, Tony, Brad, Ryan, and Patrick all attended and it seemed to go quite well. See the extended program of the conference here:

http://ams.confex.com/ams/25SLS/techprogram/programexpanded_643.htm

While at the conference, Patrick Skinner received one of three awards for Best Student Oral Presentation at the conference. His paper, entitled "TTUKa Mobile Doppler Observations of Near-Surface Circulations in VORTEX2", received top ratings for the award. The conference was hosted by the American Meteorological Society, and was chaired by Dr. Christopher Weiss (Associate Professor, TTU Atmospheric Science).

The WISE Center wishes to congratulate Patrick on this accomplishment!

Send us your news! Let us know what you are up to, and we'll add it in the next newsletter. Email us at Kelsey.seger@ttu.edu.



Atmospheric Science Hosts Lightning Research

Equipment : During the last week of September, visitors from Duke University and FMA Research, Inc. visited to install a sprite detection camera and low-frequency electric field change detection antenna on the roof above the Atmospheric Science Group. These instruments are operated remotely by Prof. Steven Cummer of Duke University and Dr. Walt Lyons of FMA Research, and are being hosted free of charge by TTU Assistant Prof. Eric Bruning on behalf of the lightning research community.

During the visit, Dr. Lyons, himself a former Professor, national broadcast meteorologist, and past President of the American Meteorological Society, gave a wonderful seminar describing sprites and their connection to ordinary lightning in thunderstorms. His talk included high speed video footage of ordinary lightning and sprites, which are mesospheric electrical discharges thought to be initiated by flashes that move a large amount of charge from one place to another. Over the next few years, he plans several visits to attempt to observe sprites with a special high-speed camera while also simultaneously filming the parent lightning discharge from the ground. The availability of the TTU's West Texas Lightning Mapping Array (LMA) and its continuous overlap in coverage with the Oklahoma LMA makes West Texas a favorable location for these observations.

In Other News: WISE Faculty Member Dr. Brian Ancell (Assistant Professor, Atmospheric Science) recently sat on a panel of early-career scientists at the annual meeting of the University Corporation for Atmospheric Research (4-5 October, Boulder, CO). The panel debated the role of UCAR and member universities in addressing future scientific questions and societal needs.

ATMO Mondays Schedule:

BA Room 373 at 11:10am

10/25 Jennifer Daniel
11/1 Natalie Gusack
11/8 Erin Kashawlic
11/15 Joe Jurecka, NWS Lubbock
11/22 Matt Ziebell, NWS Lubbock
11/29 No Lecture
12/6 Open slot
Email Chris.Weiss@ttu.edu if you wish to present your research on 12/6.

WISE Wednesdays Schedule:

EE Room 217 at 3:30pm

10/27 Dr. Eric Bruning, ATMO & Neha Marathe
11/3 **McDonald-Mehta Lecture:** Dr. Yukio Tamura, Tokyo Polytechnic University & International Council of Wind Engineering
11/10 Dr. Jennifer Rice, CE & Kyla Kersh
11/17 Dr. Song-Lak Kang, ATMO & Anant Jain

The McDonald-Mehta Lecture Series presents:

“Monitoring Techniques in Wind Engineering”

By Dr. Yukio Tamura

Professor, Wind Engineering Research Center
Tokyo Polytechnic University



Wednesday, November 3, 2010, from 3:30 p.m. – 4:30 p.m.
(Reception following the seminar)
Electrical Engineering Building Room 217

Abstract:

This lecture introduces recent topics focusing on monitoring techniques in wind engineering. Techniques for monitoring wind speeds, wind pressures and building responses are introduced, covering different measurement techniques in laboratory and field as well as simulation of strong wind events in a wind tunnel. For example, particle image velocimetry techniques, Doppler sodars and radars, simultaneous multi-channel pressure measuring systems, global positioning systems and so on are discussed. Their contributions and potential ability in wind engineering are demonstrated with reference to the author's group and other researchers' recent results. If the time allows, some other interesting topics relevant to wind engineering such as the universal equivalent wind load distributions are also briefly introduced.

Grants and Contracts for WISE Faculty Members:

- Dr. Andrew H. Swift was awarded \$2,750 by Vulcan, Inc. The title of the proposal was "Expanding SILK with High-level Modular Language for Reasoning about Action and Change."
- Dr. Stephen B. Bayne was awarded \$14,000 by the Air Force Office of Scientific Research. The title of the proposal was "Support for 4th US-Japan Pulse Power and Symposium on Pulsed Power and Plasma Applications."
- Drs. Stephen B. Bayne, Michael G. Giesselmann, Changzhi Li, and Vittal S. Rao were awarded \$207,500 by the National Science Foundation. The title of the proposal was "MRI-Development of Real Time Simulator for Smart Grid Systems Integrated with Distributed Renewable Energy Sources."
- Dr. Darryl L. James was awarded \$62,196 by Sandia National Laboratories. The title of the proposal was "Sunshine to Petrol."
- Dr. Kenneth A. Rainwater was awarded \$1,309.84 by the U.S. Department of Agriculture. The title of the proposal was "New Water Management Technologies to Sustain Rural Economies - FY 2009."
- Dr. Kenneth A. Rainwater was awarded \$81,000 by the State Energy Conservation Office. The title of the proposal was "SECO Renewable Technology Grant."

Cool Video from IBHS: Check out what a full scale wind tunnel can do to unreinforced homes in Category 3 Hurricane winds!
http://today.msnbc.msn.com/id/3041440/vp/39737094/from/en-us_msnhp/gt1/43001/#39737094

Tour for Dr. Keith Kozlowski: On Sept. 28th the Whitacre College of Engineering and the Mechanical Engineering Department, along with Dr. Timothy Maxwell, hosted Dr. Keith Kozlowski from the Air Force Research Laboratory at Tyndall AFB, FL. Potential means to store electric energy were discussed and plans to develop joint proposals to various DOD entities to fund energy storage research were developed. The potential to produce ammonia, a liquid, carbon free fuel, at the point of use from electricity, water, and air will be the topic of near term research activities. The current commercialization of an inexpensive electrolyzer, the Electrogen, in the Lubbock area was also discussed by representatives from the Lubbock Economic Development Alliance and local industry.

Dr. John Schroeder provided a tour of WISE projects at Reese Center.