



TEXAS TECH UNIVERSITY

Wind Science and Engineering Research Center

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

NIRE Announces Renewable Energy Research and Development Project: [The National Institute for Renewable Energy](#) (NIRE), Texas Tech University (TTU), and industrial and research partners, will soon power up the first of several planned renewable energy test and production facilities to help resolve key issues facing the wind power and broader clean energy industries.

The first wind turbines will be placed at the Reese Technology Center in Lubbock, Texas. Work is now under way on the large-scale wind turbine platform and is planned for completion later this year. The installation will serve to aid in certification and further development of new technologies from several multinational corporations in the wind and renewable energy sectors.

TTU and the National Wind Resource Center (NWRC) will have research access to these turbines. NWRC is initially focused on solutions to the three main challenges faced nationally in the wind power industry: enhancing the performance and reliability of wind power, decreasing the cost of wind power, and addressing power-storage issues.

South Plains Electric Co-Op, in coordination with Golden Spread Electric, will purchase the power generated at the wind farm. The collaboration with industry partners is expected to support several hundred full-time engineering, production and technical support jobs in Texas, according to NIRE.

In addition, U.S. Energy Secretary Steven Chu announced a \$5.2 million competitive grant award from the U.S. Department of Energy, with TTU faculty as the lead academic investigators with a number of collaborating academic and industrial partners. The grant is aimed at advancing wind energy forecasting and midsize wind turbine research.

WISE Faculty and Students visit E.ON wind Farm & Hirschfeld Steel: Dr. Ernie Kiesling and Dr. Audra Morse of the Civil and Environmental Engineering department at Texas Tech along with **Richard P. Walker** of WISE organized a trip to visit an E.ON wind farm at Panther Creek followed by a tour of Hirschfeld Industries in San Angelo. Students in attendance included: civil engineering students; wind energy students; WISE Ph.D. students **Kyla Kersh, Anant Jain, and Kuangmin Gong**; and Wind Energy Student Association members.

The Panther Creek tour consisted of meeting E.ON wind farm technicians and professionals, touring E.ON O&M facilities, and visiting a wind turbine. The E.ON tour was very informative as to how a wind farm operates and the day to day task that is involved in keeping a wind farm operational.

Followed by the Panther Creek tour, the next stop involved participating in Steel Day presented by Hirschfeld Industries in San Angelo. Steel Day consisted of presentations by Hirschfeld executives about their company and its future in steel as well as wind tower manufacturing. After the presentations, the Hirschfeld team took the visitors on a tour of their Bridge Girder Plant and Martifer-Hirschfeld Energy Systems Plant.

Overall the experience was very informative to the students and very well presented. Both E.ON and Hirschfeld Industries were very cooperative and informative. *Story contributed by Marina Llantada. Photos of the tour are on Page 2.*

ATMO Mondays Schedule:

BA Room 373 at 11:10am

10/4 Ryan Metzger
10/11 No Lecture
10/18 R.J. Hill
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

10/6 Dr. Donald Farris, UC & Lin Cong
10/13 No Lecture
10/20 Dr. Delong Zuo, CE & Kuangmin Gong
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

AMS Student Group Schedule:

Contact AMS Student Chapter President Jennifer.Daniel@ttu.edu for more information.

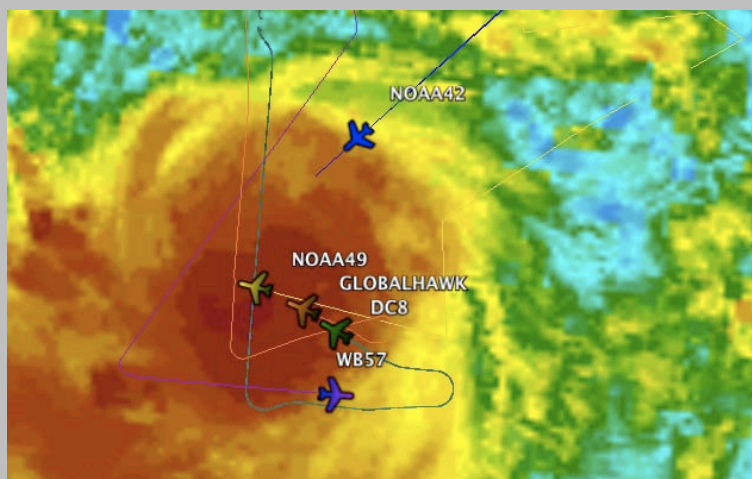
10/13 Chapter Meeting, BA 373
5:45pm

10/18 Pumpkin Carving & Pizza Party, Reese Center 7pm to 8:30pm. Pumpkins will be donated to Lubbock's Lighted Pumpkin Trail.

E.On Panther Creek & Hirschfeld Steel Tour Photos Courtesy Kyla Kersh and Jennifer Jernigan of Hirschfeld Industries.



WISE Ph.D. Candidate Amber Reynolds Second NASA GRIP Deployment: Amber Reynolds served as forecast and navigation support for NASA's Global Hawk UAV during the science flight on September 16, 2010 into Hurricane Karl, which involved unprecedented coordination between NASA, NOAA, and the Air Force. The NASA DC-8, Global Hawk, and WB57 investigated Karl, along with the NOAA 42 and 49 aircraft, while the Air Force C130J aircraft provided fixes on the hurricane center. The Global Hawk set a new world record for the number of passes over the eye of the hurricane in a single science flight. Of the 20 passes over the eye, 6 of them were coordinated with the DC-8. The Global Hawk continued overflights of Hurricane Karl during its overnight intensification to a Category 3 hurricane. Onboard instruments included the High-Altitude Imaging Wind and Rain Airborne Profiler (HIWRAP) from NASA Goddard, High-Altitude monolithic Microwave integrated circuit Sounding Radiometer (HAMSr) from JPL, and the Lightning Instrument Package (LIP) from NASA Marshall.



Left, an image from the Real Time Mission Monitor showing 3 NASA and 2 NOAA aircraft flying through and around the eye of Hurricane Karl on September 16, 2010. Right, an image taken at 1821 UTC on September 16, 2010 from the camera mounted on the bottom of Global Hawk showing overshooting cloud tops, which are believed to be related to hurricane intensification.