

# NSF NEW MEXICO-CHIHUAHUA: PARTNERSHIP FOR INNOVATION

## In this Issue:

### Projects

- *Wind Energy Project*
- *Wind farms on Mexican Ejidos*
- *Environmental impact of wind mills*
- *Cost of Materials*
- *Virtual Map of ITESM-Campus*
- *NMT presented at the Annual Water Research Symposium*

### Trainings

- *NMSU-ITESM participate in WETS 2006*

### Events

- *NMSU visit ITESM campus*
- *NMSU organize Meeting with NSF participants*
- *CIMAV student recruitment process*
- *UACJ student recruitment process*

## Projects

### Wind Energy

New Mexico State University researchers and students have teamed with the Tecnológico de Monterrey (ITESM) to advance wind power technology and projects along the Border. The NMSU College of Engineering, Institute for Energy and Environment (IEE), is collaborating with the NMSU Office of International Programs (OIP) as part of the National Science Foundation Partnership for Innovation Program focused on the development of wind energy and technology along the Border. The project is aimed at the commercialization of wind energy. The pro-



Marco Munoz, Diego Benavidez, Zach Mills, professor Robert Foster and Jackie Sanchez from the NMSU Wind Energy Team (July 2006)

ject is working on several fronts including development of an inexpensive wind turbine for grid applications; identification of candidate wind sites along the U.S.-Mexico Border; commercialization of the first wind farm along the U.S.-Mexico Border; and supporting wind industry development along the Border.

NMSU engineering students Diego Benavidez and Zach Mills, as well as NMSU business students Jacqueline Sanchez and Marcos Muñoz are conducting evaluations and research as part of the NMSU wind program. They are supported by Institute of Energy and Environment in the College of Engineering (IEE) staffers Martin Gomez, Luis Estrada, and their profes-

*"Wind energy is the world's fastest-growing energy technology"*

*U.S. Department of Energy*

sor and adviser Robert Foster of the Southwest Region Experiment Station at NMSU.

### Wind Farms on Mexican Ejidos

NMSU team business students are assessing the political and economic requirements for developing small (5-10 MW) wind farms on Mexican ejidos (cooperative farms and ranches) that promote local economic development. This project includes assisting SEMARNAT (Mexican Environmental Secretariat) on establishing guidelines for wind farm implementation in Mexico. The

Continues in page 2...

## Office of International Programs

MSC 3567

PO Box 30001

Las Cruces, NM 88003

Phone: 505-646-5854

Web Page:

[www.nmsu.edu/~ip/nsf](http://www.nmsu.edu/~ip/nsf)

Editor: Leticia Vilchis

## Events

### NMSU visits ITESM campus

On July 27 the NMSU wind research team took a trip to Chihuahua city to visit their partners team at the ITESM. In this trip the students participating by presenting the parts of the project called "Wind Energy and technology Development in the Border Region". During this visit students also had the opportunity to take a tour of the campus and enjoy a meal while sharing experiences with their counterparts from Chihuahua.

### NMSU will be hosting all the members of the NSF-PFI Project

The students from NMT, CIMAV, UACJ, and ITESM will be visiting the NMSU campus on October 26 and 27, to make presentations of their projects. In this visit the participants will have the opportunity to interact with their counterparts and to be acquainted with all the partners projects.



NMSU/ITESM team at ITESM campus Chihuahua (July 2006)

## Projects continue...

NMSU student team is assessing the feasibility and economics of establishing a wind farms in southern New Mexico. NMSU has monitored the wind resource at several sites and is analyzing data. Promising sites have the potential to become commercial wind farms on the Border, creating new jobs and opportunities while providing non-polluting power.

## Environmental Impact of wind farms

NMSU International Business student Jacqueline Sanchez is conducting a research as part of the NMSU wind program on the environmental impact that can be generated by wind turbines. This investigation is based on an analysis of the death rate of bats and birds living around wind mills areas.

## Student research costs of materials for wind turbine

Giselle Lujan, from ITESM/PFI team, is conducting the cost analysis to develop the wind tower in the Chihuahua campus and the future economic feasibility of the same.

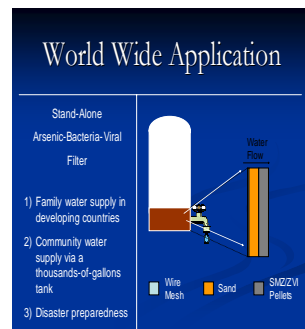
## ITESM students develops a virtual map of campus

Mario A. Solis, an engineering student from ITESM developed a virtual map of the Chihuahua campus to determine the best site to establish a wind tower in

campus. This project was supervised and sponsor by the staff and the project coordinator at the ITESM campus Dr. Oscar R. Salinas.

## NMT presented their project at the "Annual Water Research Symposium"

The New Mexico Institute of Mining and Technology (NMT) students team: Vincent Brandon, Jonathan Gardner, Pablo Garibay and



Ben Simpson, under support and supervision of Dr. Peter Anselmo sent an abstract to the Annual Water Research Symposium <http://wrii.nmsu.edu/conf/confsymp.html>. The abstract was accepted and the students presented on August 15 of this year. The project is focusing in the commercialization of surfactant-modified Zeolite/Zero Valent Iron Pellets and it is oriented to different municipalities, associations and individuals who reside in the region of New Mexico/Chihuahua. New Mexico Tech is trying to bring SMZ/ZVI pellets to the marketplace, and looking to establish a company based on

SMZ/ZVI pellets. While producing the pellets may itself be a profitable venture, it may prove to be even more profitable to provide maintenance for SMZ/ZVI pellet filters in a way similar to the Culligan model, where the company comes to your home or your city and either replaces or recycles the SMZ/ZVI filter.

In the following months students will be performing industrial testing instead of the lab tests that they were using previously. During this test, students will be under the supervision of Dr. Rob Bowman from the engineering department of NMT.



Ponnequin Wind farm in Colorado at the Wyoming Border

## Events continue...

### CIMAV and UACJ Recruit their Project Student Teams

The center for investigation of Advance Materials (CIMAV) have started recruiting the students to participate in their project to determine the feasibility and business plan of a spin-off company to fabricate and commercialize a kit that determines the gender in reptiles, birds, and

mammals using a steroid hormone.

The Autonomous University of Juarez (UACJ), recently started their recruitment process of the students that are going to participate in the Project called "Software for Geographical Information to Facilitate Real State Transactions in Juarez, Chihuahua".

## Training

### NMSU-ITESM participate in WEATS 2006

NMSU and ITESM student interns recently participated in WEATS 2006 sponsored by NREL in Colorado from August 8 -11, 2006. The purpose of the wind energy training was to provide Native Americans, international participants, and engineering students with a more in-depth background on wind energy tools. NMSU has been assisting NREL with WEATS course instruction and organization since 2000.



Jaime Trevino and Alejandro Hernandez, from the ITESM team and Zach Mills and Diego Benavidez with Professor Robert Foster in front of a wind turbine. Boulder Colorado, WEATS 2006 (August 2006).