A large, white industrial robotic arm is the central focus, extending from the top right towards the center. The arm has a complex, lattice-like structure at its end. In the background, several people wearing hard hats and safety gear are gathered, looking at the machine. The setting appears to be a large industrial facility with high ceilings and bright lighting. The overall tone is professional and technical.

AROUND THE
GLOBE

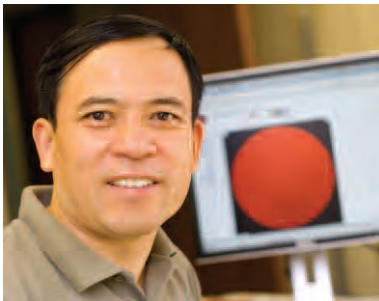
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Once a primarily local institution in the city of Newark, NJIT today collaborates with partners in every part of the world.

Once a primarily local institution in the city of Newark, NJIT today collaborates with partners in every part of the world. The most dramatic example of the university's international impact is the solar physics program:

The new 1.6 meter clear aperture solar telescope (*left*) – the largest of its kind in the world – came on line in 2008-2009 at **NJIT's Big Bear Solar Observatory** in California, with "first light" observations made in May. The new telescope was constructed by a team of researchers, led by **Philip R. Goode**, distinguished professor of physics, in collaboration with the University of Hawaii. The new telescope offers a significant incremental improvement in ground-based infrared and high angular resolution capabilities, and enhances the center's continuing program to understand photospheric magneto-convection and chromospheric dynamics.

Haimin Wang, distinguished professor of physics, is founding director of



the recently created **Space Weather Research Laboratory at NJIT**. Designed to study the magnetic activities of the Sun and their effects on the near-Earth environment, the center manages and maintains the Global H-Alpha Network with four other observatories around the globe to study the Sun in crimson hydrogen light 24 hours a day. In addition to BBSO, the Global High-Resolution H-Alpha Network includes the Kanzelhöhe Solar Observatory (KSO) in Austria, the Catania Astrophysical Observatory (CAO) in Italy, Meudon Observatory in France, and

the Huairou Solar Observing Station (HSOS) and the Yunnan Astronomical Observatory (YNAO) in China.

Louis Lanzerotti, distinguished research professor of physics, leads



an ongoing, multi-institutional project known as PENGUIn – Polar Experiment Network for Geospace Upper-atmosphere Investigations supported by NSF funding that collects imaging and data related to space weather at South Pole and McMurdo stations in Antarctica and Sondrestrom in the Arctic. The project's goal is an enhanced capacity to predict, sufficiently in advance, events that might have negative technological and societal impact.

Ionosphere irregularities and scintillations that disrupt communication and navigation systems are the focus of a study led by **Andrew Gerrard**, associate professor of physics, using images from the Huancayo Observatory and the Jicamarca Radio Observatory, both in Peru. The team uses an all-sky imager to provide ground-based observations of the two-dimensional airglow emissions during an Air Force Communications/Navigation Outage Forecast System mission. He also directed the recent installation of 1.2 meter steerable optical telescope at Jenny Jump Mountain in Hope, NJ.



Elsewhere in the World . . .

Civil and mechanical engineering students from **NJIT's Engineers Without Borders** program have spent the past three years working with villagers in Milot, Haiti to remove bacteria from local drinking water, reducing water-borne illnesses. Over the course of five trips to the village, students researched and designed bio-sand filters, built and installed prototypes, set up a filter production center, and trained



villagers to produce the filters. In the photo, University Registrar **Joseph Thompson** (*2nd from right*) served as advisor to students **Kate Boardman**, **Paul Rodriguez**, and **Bryce Anzelmo**.

A collaboration between Solvay Company of Belgium and NJIT initiated a study of a new technology



to reduce the toxicity of dredged sediments, led by **Lisa Axe**, professor of civil and environmental engineering. Several hundred million cubic yards of sediment are dredged from ports and harbors each year to keep waterways open, but the dredged materials are often contaminated with heavy metals from industrial or urban activity. With funding from the New Jersey Water Resources Research Institute, Axe and her team utilized a new thermal technique that incorporates the addition of phosphate, which resulted in an 89 percent reduction in zinc leachability.