

# Oak Ridge National Laboratory Historically Black Colleges and Universities/Minority Educational Institutions Program Highlights

Oak Ridge National Laboratory  
Managed by UT-Battelle, LLC,

*A world-class Laboratory  
building a world-class  
program of outreach to  
minority universities.*



**Participants in Day of  
Science Activities.**



*New Orleans resident Shubha  
Kale Ireland's track record as a  
researcher led to an opportunity  
at Oak Ridge National  
Laboratory (ORNL) and a  
temporary home for her family  
displaced by Hurricane Katrina.*

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## Silver Linings

*The dark cloud of Katrina gives a Xavier University researcher an unexpected opportunity*

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by Joanna Wilkins

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**Y**ou wouldn't know just by talking to her that Shubha Kale Ireland has just been through a catastrophe. She projects a thoroughly positive outlook.

But she and her family experienced, along with thousands of others, one of the nation's worst calamities: Hurricane Katrina.

Shubha is a microbiologist and geneticist at New Orleans' Xavier University. Her husband Rick is a lawyer and a doctoral student in finance. They have a son, Kaitan, 6.

In the haste to leave the area, the Irelands left nearly everything behind. Like many, they had essentially what they could throw in their car. Their first refuge, Baton Rouge, was mayhem. It was some time before she knew if Rick was safe. (Rick had stayed behind for several hours to secure the house.) "I even left my passport and driver's license behind in the rush," Shubha says.

Many of her papers and research documents were irretrievable and possibly destroyed at the college, as was likely much of her collaborative

work at nearby Tulane and for the U.S. Department of Agriculture.

Earl Hayes of the White House Initiative on Historically Black Colleges and Universities noted her field of research and the strength of her work, which includes many published abstracts, and mentioned her case to Will Minter, director of ORNL's Asset Management and Small Business Division, who set in motion a process that has given the Irelands an opportunity to resume life in Oak Ridge.

Shubha Ireland now has an office in the Life Sciences Division's Biochemical Engineering Research group in Building 4505 under group leader Jonathan Mielenz.

She has a five-month research appointment arranged through the efforts of Minter, the Office of Science's Peter Faletra, University Partnerships Director Lee Riedinger and the Oak Ridge Institute for Science & Education, Chief Financial Officer Greg Turner helped Rick find a

**SHUBHA**, *continued on page 4.*



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**Participant Reaps Rewards of  
Multiple Research Assignments** *by Joanna Wilkins*

**A**riel Ruffin can attest to the value of research participation programs.

Having received four different appointments during her undergraduate years at Tennessee State University, these experiences have proven to be the bridge between her education and her career goals.

In fact, her first assignment in 2002 defined her future. While at the California Institute of Technology through a Minority Undergraduate Research Fellowship, Ruffin helped in the growth of carbon nanotubes by actually designing and testing each of the samples. She was hooked. She knew then that she wanted to study and work in the field of condensed matter physics and nanoscience.

While she's known for a while where she wants to focus her studies, Ruffin took full advantage of the research participation programs administered by the Oak Ridge Institute for Science and Education, receiving three appointments at the Spallation

Neutron Source (SNS) at the U.S. Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL).



After graduating in December 2004, Ruffin returned to the SNS to begin a 16-week research assignment under the DOE Science Undergraduate Laboratory Internship (SULI) program. Ruffin returned in 2005. While the research has been interesting, Ruffin hopes the networking through the three assignments will lead her to a permanent research position in a DOE

nanoscience laboratory after she earns her master's and Ph.D. in condensed matter physics from Vanderbilt University.

Ruffin explained. "I have established many contacts with employees as well as other students. Working at ORNL has been a tremendous learning opportunity, one that I'm grateful to have had."



**2005 Day of Science**



Oak Ridge National Laboratory (ORNL) hosted a Day of Science on October 10, 2005. More than 230 students and faculty from 29 colleges and universities had an opportunity to experience the range of cutting-edge research conducted at ORNL.

Students and faculty participated in seminars conducted by scientists, browsed exhibits illustrating the diversity of the Laboratory, toured the Everest

Visualization Laboratory and watched demonstrations ranging from Robotics and Wonders of Plasma to the Van de Graaff Generator.

The Day of Science also provided personal interview opportunities for students interested in ORNL internship opportunities. A graduate fair was included to encourage students to pursue advanced degrees in science, mathematics, and engineering at the core universities participating in the UT-Battelle partnership.

## Educational Partnerships and Outreach through Science Education

In addition to offering internships and research experiences to undergraduates, graduate students and postgraduates from HBCU's and other MEP's, Oak Ridge National Laboratory (ORNL) has a clear-cut mission to reach out to faculty at these institutions by offering collaborative opportunities as well as summer and sabbatical research appointments at the Laboratory.

ORNL believes that these opportunities foster long-term collaborations which not only have benefits for the Laboratory, but also have long-term impacts on the curriculum and quality of teaching within these HBCU's and MEP's.

Since 2001, the Laboratory has made 85 appointments to 55 different faculty members representing 32 different HBCU's and MEP's across the country. Faculty have come to ORNL under the auspices of a number of different programs and funding sources:

- Department of Energy Faculty and Student Teams Program (FaST)
- Department of Energy Faculty Sabbatical Program
- ORNL/ORAU HBCU and MEI Faculty Summer Research Program
- Higher Education Research Experiences Program (HERE) at ORNL
- Nuclear Regulatory Commission Faculty Program
- Department of Energy, Office of Biological and Environmental Research Faculty Program

## BEEP Highlights 2005

**B**lack Executive Exchange Program (BEEP) is a voluntary partnership between the National Urban League (NUL), corporate America, government and other institutions to loan African-American executives to participating colleges as "Visiting Professors." Visiting Professors lecture in credit-bearing courses that correspond to their industries and participate in other BEEP-related activities such as networking sessions, workshops and mock job interviews.

BEEP's program is basically about helping to grow our future leaders and inspire achievements "beyond the possible" through committed involvement and operational excellence.

Faye Brewer, Project Engineering Manager, Facilities Development Division, attended the School of Business 2005 BEEP Corporate Alliance Program Seminar (CAPS) Business Seminar at Bethune-Cookman College in Daytona Beach, Florida.

Ella DuBose, Staffing Assistant, Human Resources Consulting and Staffing Services, attended the Annual Career Awareness Seminars at Morris College, Sumter, South Carolina.

Each year BEEP stages an annual four-day conference. The conference was attended by some 400 business professionals, participating executives and 100 participating students. The 36<sup>th</sup> Annual BEEP Leadership Conference was held in Miami Beach, Florida, June 15-18, 2005. BEEP is actively involved with 84 Historically Black Colleges and Universities (HBCUs), and the University of Omaha, is the pilot program for extending its services to major university campuses. The program has more than 2000 visiting professors representing 650 corporations, government agencies or private industry.

## Participants' Summer Experience Places University Research Program on "FaST" Track to Success

by Joanna Wilkins



*Prairie View A&M University professor Dr. Suresh Aghara (center) works with FaST Participants Eric Wright (l.) and Jerrod Deason.*

**D**r. Suresh Aghara knows that the Prairie View A&M University nuclear engineering program is now on the "FaST" track to success. Aghara, a professor at Prairie View A&M University, and two of his students spent the summer of 2005 at the U.S. Department of Energy's (DOE's) Oak Ridge National Laboratory (ORNL) as participants in the Faculty and Student Teams (FaST) program, administered by the Oak Ridge Institute for Science and Education for DOE and the National Science Foundation. He says the experience will be the catalyst needed to accelerate the development of Prairie View's nuclear engineering program.

"Participation in this program provided the perfect combination of time, resources, and surroundings to jump-start nuclear-related research at Prairie View," explained Aghara.

Undergraduates Eric Wright and Jerrod Deason have traveled from the east Texas university to join Aghara in ORNL's Nuclear Science and Technology Division for 10 weeks of research, networking and camaraderie with fellow students, faculty and researchers from across the nation.

**FaST Track**, *continued on page 4.*



## FaST Track to Success

*Continued from page 3.*

Both Wright and Deason commented that the experience, while exposing them to research and development as well as the culture of a national laboratory, has solidified their commitment to pursue master's degrees in nuclear engineering. The daily interactions with scientists, engineers and other research participants were also enriching.

"The opportunity to work beside Ph.D. researchers from around the globe – all of whom are so enthusiastic to teach the next generation of scientists – as well as the organized outings with other students, created a stimulating learning environment," Deason said. "This experience has allowed me to build a network of friends, advisors, and mentors who are from different cultures and involved in different fields of applied sciences."

Wright agreed. "It has been a very positive learning experience," he said. "The program has exceeded all of my expectations."

"Our hosts, Jeff Johnson and Bernie Kirk, have been valuable resources to us in terms of introducing us to various people and groups that could lead to future developments and connections," he noted. "We also hope that our work with this research group will result in future joint research between our institution and ORNL."

Aghara plans to search for funding to secure this relationship with the Oak Ridge lab, but he also knows that his participation in the FaST program will enrich the teaching and research capability at Prairie View.

"With a heavy teaching load and limited resources, the task of weaving research into the educational experience has been formidable," he said. "But I hope to place one or two students at ORNL each summer and eventually place Prairie View graduates at the laboratory in a few years."

**Shubha**, *continued from page 1.*

part-time position in the Business and Information Systems Directorate.

Will Minter gave Carol Leffew the task of making arrangements for the Irelands. In short order, she lined up the use of a house in the River Run development from local realtors Tom and Peggy Hanrahan and gathered donated household items from Business & Information Services employees and a local rental firm. The Irelands plan to go back to the New Orleans area in January to possibly pick up life as they knew it. "You don't desert a university when it's down," she says, also noting the uncertainty of whether Xavier and the New Orleans community will ever fully recover.



### **The ORNL Research Connection for Minority Institutions of Higher Education**

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*2005 ORNL HBCU/MEI Program Highlights*