March 26, 2009

NYSTAR Sci ☆ Tech News Bytes

Dear Friends,

NYSTAR is pleased to highlight the Beacon Institute and the Brookhaven National Laboratory, two vital New York research centers. As always, feel free to contact us with your thoughts and suggestions. Write to: contact@nystar.state.ny.us.

—***Ed Reinfurt***, *Executive Director of NYSTAR*

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The Beacon Institute: An Important Resource

The Beacon Institute "is a not-for-profit environmental research organization with the mission to create and maintain a global center for scientific and technological innovation that advances research, education and public policy regarding rivers and estuaries."

Here is an update of some of the activities at the Institute which has offices in Beacon and Troy, New York.

•IBM's global report on water resources features a case study of the company's collaboration with Beacon Institute's Rivers and Estuaries Observatory Network (REON). IBM'S accompanying national ad campaign features Beacon Institute in NY Times, Wall St. Journal, and Washington Post.

•Clarkson University and Beacon Institute collaborate to transfer $4.3M of real-time monitoring technology from Texas to the Hudson River for REON deployment in Spring.

•NOAA's Integrated Ocean Observatory System program endorses REON plan to connect inland to ocean waters through Hudson-based REON real-time observatory network, offers NOAA technical assistance.

•Hudson River House members to request Hill briefing from NOAA on advancing REON to be the first national pilot program for a "white water to blue water" real-time monitoring observatory.

•Article by Beacon Institute, IBM, Clarkson, and RPI authors on "Complex real-time environmental monitoring of the Hudson River and estuary system," is published in the prestigious IBM Journal of Research and Development -- "written for the worldwide scientific research and development community and knowledgeable professionals." Currently online with hard copy publishing to follow in April.

•See Scientific American article with description of REON collaboration: http://www.sciam.com/article.cfm?id=going-with-the-flow-water

For more on the Institute: http://www.thebeaconinstitute.org/home/

NYSTAR's internationally recognized programs spur the development, design and manufacture of new technologies in a wide range of areas, including nanotechnology, electronics, life sciences, information technology, materials processing, and many others.

www.nystar.state.ny.us

Brookhaven Lab to Receive $184.3 million in Recovery Act Funding

Department of Energy

The U.S. Department of Energy's Brookhaven National Laboratory will receive $184.3 million in new science funding from President Obama's American Recovery and Reinvestment Act, principally to accelerate construction of the National Synchrotron Light Source II (NSLS-II), a new $912 million project approved to start construction earlier this year by the Department of Energy (DOE).

The funds are part of $1.2 billion announced by Secretary of Energy Steven Chu, during a visit to Brookhaven, from funding allocated under the Recovery Act to DOE's Office of Science. The funds will support an array of Office of Science-sponsored construction, laboratory infrastructure, and research projects across the nation.

"Leadership in science remains vital to America's economic prosperity, energy security, and global competitiveness," said Secretary Chu. "These projects not only provide critically needed short-term economic relief but also represent a strategic investment in our nation's future. They will create thousands of jobs and breathe new life into many local economies, while helping to accelerate new technology development, renew our scientific and engineering workforce, and modernize our nation's scientific infrastructure."

http://www.energy.gov/news2009/7083.htm

Spotlight on NY's Facilities

The **Biosafety Level-3 Laboratory** at NY Medical College ensures safe working conditions for researchers studying highly infectious agents. The laboratory is under negative pressure with exhaust air HEPA filtered. Equipment includes a 6-ft. biological safety cabinet (Nuaire, Class II, type A/B3 laminar flow hood), a double-chambered CO2 incubator (VWR), a Beckman GS-6R table-top centrifuge equipped with containment buckets, an Abbott Quantum II spectrophotometer, an Abbott Qwik Washer, an inverted Leitz-Wetzlar microscope, a standard light microscope, two water baths, a refrigerator-freezer, a microcentrifuge and a Hirayama autoclave.

For assistance in using this facility contact:
Jason Doling at NYSTAR at 518-292-5700.

NYSTAR Resources

NYSTAR's **Funding Opportunity Newsletter** (FON) is now part of the weekly e-Newsletter. The FON provides information on funding opportunities for high-technology academic research and economic development in NYS. To see the newsletter: http://www.nystar.state.ny.us/fon/funding.htm

To visit the research equipment and facilities database: http://www.nystar.state.ny.us/ref/index.htm

To learn about the supercomputing program: www.nystar.state.ny.us/hpc/About_HPC_Computing_Program.html

NYSTAR Assists Researchers at RPI

Science Daily
Researchers at RPI have developed a new technique for growing slimmer copper nanorods, a key step for advancing integrated 3-D chip technology.

These thinner copper nanorods fuse together, or anneal, at about 300 degrees Celsius. This relatively low annealing temperature could make the nanorods ideal for use in heat-sensitive nanoelectronics, particularly for "gluing" together the stacked components of 3-D computer chips.

Funding for the research reported in the Electrochemical and Solid-State Letters was provided by the New York State Foundation for Science, Technology and Innovation (NYSTAR) through the Interconnect Focus Center-NY.

http://www.sciencedaily.com/releases/2009/03/090317125232.htm

Upcoming Events

April 2, 2009 - Albany, NY
The Center for Women in Government and Civil Society is sponsoring: Women in Science, Technology, Engineering and Mathematics (STEM) Careers
518-442-3894

April 8, 2009 - Albany, NY
Tech Valley Energy Forum with Congressman Paul Tonko
http://neny.org/ContentManager/index.cfm?Step=Display&ContentID=249

NYSTARS

Governor Paterson recently unveiled $101.8 million in stem cell research awards. NYSTAR congratulates the following winners of awards from the University of Rochester Medical Center.

Hani Awad, Ph.D. – To investigate the repair of articular cartilage defects;
Dirk Bohmann, Ph.D. – To investigate the precise genetic "controls" of adults stem cells;
Laura Calvi, Ph.D. – To improve the recovery of hematopoietic cells (stem cells in the blood system) that are depleted after cancer treatments;
Di Chen, Ph.D. – To examine the function of stem cells found in the blood system and their possible use in the treatment of metabolic bone diseases;
Steven Goldman, M.D., Ph.D. – For new therapies for adult de-myelinating diseases such as multiple sclerosis;
Catherine Ovitt, Ph.D. – To repair salivary glands damaged during radiation treatment for neck cancers;
James Palis, Ph.D. – To develop a universal donor red blood cell to treat various conditions;
Gregory Tall, Ph.D. – To explore the molecular mechanisms in stem cells that regulate division and specialization;
Lei Xu, Ph.D. – To identify cancer stem cell markers and strategies to selectively destroy these cells;
Xinping Zhang, Ph.D. – To improve the healing time and efficacy of bone grafts.

http://www.urmc.rochester.edu/pr/news/story.cfm?id=2415

YOUNG INNOVATORS

Intel Science Search Winners

New York Times
There are colorful Keith Haring-esque caricatures of brainiacs like Madame Curie, Albert Einstein and B. F. Skinner brightening the walls of the research room at Roslyn High School — drawn not by future Harings, but future Curies, Einsteins and Skinners. Traditional felt banners from destination universities like Yale, Princeton and Cornell dangle like intellectual catnip above computer stations. Symposium and science fair announcements fill the bulletin board.

The decorating theme is embodied by Chelsea Lynn Jurman, one of two Long Islanders — the other is Preya Shah of Ward Melville High School in East Setauket — to reach the top 10 of the prestigious Intel Science Talent Search: Wear your thinking cap.

But the walls are also dotted by a slew of photocopied admonitions from the management, a k a Allyson J. Weseley, the teacher/mentor who runs the school's research program. Two samples: "Potato chips make you fat, but you can burn calories disposing of the bags"; "Kelly Clarkson may drink Vitamin Water, but she throws it out." —Robin Finn

http://www.nytimes.com/2009/03/22/nyregion/long-island/22colli.html?_r=2&ref=science

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David Paterson
Governor