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**Media Contact:**

Kathleen Hickey  
Chief Communications Officer  
Beacon Institute for Rivers and Estuaries  
845-325-8243 cell  
[khickey@bire.org](mailto:khickey@bire.org)  
[www.bire.org](http://www.bire.org)

**\*\*\* Media advisory for Thursday, 7/30/09 \*\*\*  
10:30-11:00 a.m**

*Members of the press are invited to view teachers and students deploying and testing water sensors they've built through SENSE IT in the Hudson River at Hudson Shores Park in Watervliet. Directions follow.*

**Teachers from nine Capital region school districts to implement SENSE IT science & technology program in classrooms this fall**

*Beacon Institute and Clarkson University hold two-week National Science Foundation-funded professional development program for high school teachers, hosted by The Sage Colleges*

TROY, NY-- Many of today's students are choosing not to pursue careers in science, technology, engineering or mathematics, but a new hands-on approach using sensor technology aims to change that. SENSE IT (Student Enabled Network of Sensors for the Environment using Innovative Technology) is an innovative program created by Beacon Institute for Rivers and Estuaries and Clarkson University to offer high school teachers new ways to engage students in hands-on exploration and application of the critical science, technology, engineering and math (STEM) skills that can further excite students about science and technology career paths.

Since July 20, teachers from nine of the region's school districts have been participating in an intensive two-week SENSE IT professional development course held at The Sage Colleges in Troy, funded by the National Science Foundation. The teachers are from the AuSable Valley, Cairo-Durham, Hadley-Luzerne, Hoosick Falls, Schenectady, Schuylerville, Shenendehowa, Troy and Waterford-Halfmoon school districts. This week, students from these school districts will join their teachers to test-run application of the curriculum modules that will be implemented in their classrooms this fall.

SENSE IT is the educational offshoot of the River and Estuary Observatory Network (REON) – a partnership between Beacon Institute, Clarkson University and IBM to create a real-time integrated network of sensors, robotics and computational technology distributed throughout the 315-mile river to monitor its health.

SENSE IT brings sensor technology into the classroom by providing teachers with the hands-on curriculum modules and equipment to teach their students to construct their own prototype water quality sensors, with the ultimate goal of interesting students in science, engineering and technology career paths.

“Our goal is to use the Hudson River and the REON project as learning platforms to demonstrate how science and technology help us view, interpret and interact with the environment,” said Liesl Hotaling, Chief Education Officer for Beacon Institute and creator of SENSE IT. Hotaling is a nationally recognized expert in developing internet-based science curricula for K-12 teachers.

SENSE IT began as a pilot project in 2008 when Hotaling approached Tech Valley High School (TVHS) principal Dan Liebert about implementing SENSE IT with its teachers and students. Teachers Leah Penniman and Michelle Sweeny taught TVHS students to design, build, test, deploy and interpret environmental data from their own water quality sensors.

“The main benefit to students from this collaboration with Beacon Institute has been direct experience with how the very things they are studying in school – algebra and environmental science – are actually being applied in the real world,” said TVHS Principal Dan Liebert. “This is a prime example of how Tech Valley High is sharing its successes with colleagues throughout the entire Capital Region.”

“The school’s technology focus, the collaborative support of both faculty and administration and the strong interest among the students made Tech Valley High School the perfect site for the SENSE IT pilot,” said Hotaling. She noted that the success of the pilot led to significant funding from the National Science Foundation for expansion in the Capital District region, as well as in Potsdam and the Hudson Valley. Additional funding from Motorola Foundation, Turner Construction Company, Louis Greenspan Charitable Trust, the Bender Scientific Fund of the Community Foundation of the Greater Capital Region, Verizon and Senator Stephen Saland and Senator Vincent Leibell have augmented the expansion.

Following the successful pilot, the National Science Foundation awarded Beacon Institute and Clarkson University \$1.4 million to expand SENSE IT to 3,000 New York high school students over the next three years.

At the heart of the SENSE IT roll-out are two summers of intensive two-week teacher professional development workshops on cutting-edge technological and education skills. The SENSE IT curriculum modules include sensor development, deployment and data gathering; water quality investigation and sharing data across observatories. SENSE IT is designed to integrate into any high school STEM (science, technology, engineering and mathematics) curriculum, including mathematics, chemistry, general science, physics, environmental science

or computer science classes. Students learn the engineering design process by designing, constructing, programming and testing water monitoring sensors, with the ultimate goal of interesting students in STEM-based career paths. Acceptance into the program requires long-term commitments from teachers and schools to employ these methods.

"For New York State and the nation to remain competitive in the global economy it is essential we develop math, science and engineering skills in young students," said John Cronin, Director and CEO of Beacon Institute. "By combining an environmentally-driven purpose—the monitoring and protection of critical waterways— with advanced technological skills, we are preparing a new generation of innovators and leaders who can address one of our most pressing regional, national and global environmental challenges—threatened water resources."

***About Beacon Institute for Rivers and Estuaries:***

Beacon Institute for Rivers and Estuaries, with offices in Beacon and Troy, New York, is a not-for-profit environmental research organization engaging scientists, engineers, educators and policy experts in collaborative work focusing on real-time monitoring of river ecosystems. It aims to make the Hudson Valley a global center for scientific and technological innovation that advances research, education and public policy regarding rivers and estuaries. [www.bire.org](http://www.bire.org)

**Directions to Hudson Shores Park, Watervliet:** From I-787, take exit 8 for Green Island Bridge. Make a right at the light at the end of the ramp and make an immediate right into the entrance to Hudson Shores Park. Drive past the Rusty Anchor Restaurant parking on the left and proceed down into the next parking area. On the left and down the hill is a floating dock where teachers and students will be deploying their sensors.

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