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**BEACON INSTITUTE AND CLARKSON UNIVERSITY
WIN COVETED NATIONAL SCIENCE FOUNDATION AWARD**

Schumer, Hall, McHugh, Saland, Leibell Laud Institutions for Environmental Leadership

*\$1.4 Million Grant Will Expand Innovative STEM Curriculum in Troy, Dutchess County
and St. Lawrence River Valley High Schools*

BEACON, NY — Beacon Institute for Rivers and Estuaries and Clarkson University today announced they have been jointly awarded \$1.4 million through the National Science Foundation's (NSF) Innovative Technology Experiences for Students and Teachers (ITEST) grant program, a prestigious national award that recognizes innovative teaching approaches that foster Science, Technology, Engineering and Mathematics (STEM) skills among high school students.

Beacon Institute and Clarkson received the award to expand their Student Enabled Network of Sensors for the Environment using Innovative Technology (SENSE IT) curriculum, a program that will teach 3,000 New York high school students over three years to design, build, test, deploy and interpret environmental sensors used to monitor water quality in the Hudson and St. Lawrence Rivers. The program also includes intensive teacher training sessions on cutting-edge technological and education skills, and requires long-term commitments by schools to utilize these methods. Students and teachers will work directly with the River and Estuary Observatory Network (REON) initiative that is being implemented by Beacon Institute, IBM and Clarkson.

"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. It is the one thing that even the presidential candidates agree upon," 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."

"This grant will allow us to build on the synergy that already exists between our two institutions," said Clarkson University President Tony Collins. "We will be able to utilize on a statewide scale Clarkson's

successful experience in programs that build and encourage STEM skills in K-12 students. At the same time it is key for the future of our state and national economy that we nurture in these young people an interest in the environment, for in the upcoming decades, successful commerce will be equated with a healthy and sustainable world environment."

The SENSE IT program provides hands-on teacher and student training to construct sensors for the waters of the Hudson and St. Lawrence Rivers with the ultimate goal of interesting students in STEM-based career paths. The SENSE IT curriculum takes an innovative approach to teaching a variety of science, mathematics, pre-engineering and technical skills within an environmentally-themed context. The NSF grant monies will allow the SENSE IT program to be implemented in high schools in the City of Troy and Dutchess, St. Lawrence, Franklin and Jefferson Counties.

Senator Charles Schumer said, "This is a terrific award for the first-rate programs at the Beacon Institute and Clarkson University. This money will provide teachers with the resources they need to help students develop into global leaders and innovative thinkers of the future," said Schumer. "Well-funded and well-run institutions of higher education are vital not only for the future of the students but for the future of the country as well. It is of critical importance that we continue to improve our education system and promote collaborative partnerships between our universities and our research groups to enhance academic opportunities and success."

Senator Stephen M. Saland and Senator Vincent L. Leibell, who provided state aid in support of the program, said the award is yet another demonstration that Beacon Institute continues to gain momentum as a positive force in the Hudson Valley and New York State.

"We must do everything we can to prepare our students for the jobs of tomorrow, and this grant will help our students compete for and win good jobs in the critical areas of science and engineering," Senator Saland said. "Beacon Institute's innovative approach of using the growing interest in environmental protection to encourage students to hone their STEM skills is yet another demonstration that having a world-class research facility on the banks of the Hudson will pay broad dividends for the Hudson Valley and New York State."

Senator Leibell said, "Beacon Institute continues to deliver on its promise to not only bring technological innovation to environmental protection, but to play a vital role in lives and futures of students in the Hudson Valley and beyond. This grant is proof positive that rather than becoming some ivory tower-like facility with little interaction with the community around it, Beacon Institute and its leadership understand the importance of working in a collaborative way to help students in local schools become the science and engineering leaders of tomorrow."

The SENSE IT program's curriculum modules include such topics as sensor development, sensor deployment and data gathering, water quality investigation and sharing data across observatories. The program is specifically designed to integrate into any high school STEM curriculum, including classes focusing on mathematics, chemistry, general science, physics, environmental science or computer science. Throughout the program, students will learn the engineering design process by designing, constructing, programming and testing water monitoring sensors in the Hudson and St. Lawrence Rivers, which together span the entire state of New York. The project will teach students various mathematical and scientific concepts that can then be transferred through other educational and career opportunities.

"As research director for Beacon Institute and director for the Center for the Environment at Clarkson University, I am pleased with the NSF award for this project," said James S. Bonner, Ph.D., P.E. "This represents an important step in our long-term strategic plan to grow our environmental research program. On a personal note, the project is especially important as my father was a school district superintendent in the Adirondack and Hudson Valley region for decades."

"The SENSE IT program is unique in its use of discovery-based learning and collaborative team work," said Liesl Hotaling, Chief Education Officer of Beacon Institute for Rivers and Estuaries. "Through our partnership with Clarkson University, a leader in technological education programs, students will receive cutting-edge lessons in science and technology, while also making a meaningful contribution to the challenges that face our natural environment today."

"The significance of strong local and regional partnerships is evident in this funding," said Susan E. Powers, associate dean for research and graduate studies at Clarkson's Coulter School of Engineering. "Clarkson has developed an extensive network with K-12 school districts in the northern New York region to grow its reputation for educational outreach. At the same time, strong ties between Beacon Institute and the Clarkson Center for the Environment will enhance both the research and education of students throughout eastern New York to improve the quality of our state's great rivers."

In addition to preparing and engaging high school students in STEM topics, the SENSE IT program also provides teachers with innovative and intensive professional development opportunities. With both in-class and out-of-school programming incorporated into the SENSE IT lessons, participating teachers will collaborate with other high school educators and students throughout New York, as well as leading faculty members and researchers from Clarkson University and Beacon Institute.

Congressman John Hall, a member of the House Select Committee on Energy Independence and Global Warming said, "The National Science Foundation Grant for the SENSE IT program is an important investment in New York's future. Providing New York high school students with the tools to become proficient in science, math and engineering is vital for their future in an increasingly competitive global economy. The SENSE IT program will also prepare our students to better understand and deal with the daunting environmental challenges that face the Hudson Valley. This grant will help give the next generation the knowledge that will allow our region to lead the way in the development of new environmental and energy technology."

Congressman John McHugh said, "Ensuring that students in New York have the skills they need to compete in today's increasingly competitive economy is imperative. This grant from the National Science Foundation will allow New York high school students the chance to learn a combination of cutting-edge technology and environmental stewardship. Northern and Central New York is becoming a leader in many emerging energy and environmental technologies, and investing in our students while they are still in high school can help to ensure that we have a highly trained workforce in the future."

About Beacon Institute:

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

About Clarkson University:

Clarkson University launches leaders into the global economy. One in six alumni already leads as a CEO, VP or equivalent senior executive of a company. Located just outside the Adirondack Park in Potsdam, NY, Clarkson is a nationally recognized research university for undergraduates with select graduate programs in signature areas of academic excellence directed toward the world's pressing issues. Through 50 rigorous programs of study in engineering, business, arts, sciences and health sciences, the entire learning-living community spans boundaries across disciplines, nations and cultures to build powers of observation, challenge the status quo, and connect discovery and engineering innovation with enterprise. www.clarkson.edu

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