

National Engineers Week Future City Competition 2013

Middle school students devise solutions to manage storm water pollution

One of the most potentially damaging aspects of extreme weather is catastrophic flooding, as evidenced recently in the aftermath of Hurricane Sandy. For the 2012-2013 Future City® Competition, middle school students have been researching the topic “Rethink Runoff: Design Clean Solutions to Manage Storm Water Pollution” since September 2012.

Future City is a national, project-based learning experience in which students in 6th, 7th, and 8th grades imagine, design, and build cities 150 years in the future. For the past 20 years, the annual challenge has encouraged middle schoolers to develop their interest in science, technology, engineering, and math (STEM). The program is sponsored in part by the National Engineers Week Foundation, a consortium of professional and technical societies and major U.S. corporations. Major funding for the national finals comes from Bentley Systems, Inc., and Shell Oil Company, with additional support from Atkins Global and S.D. Bechtel, Jr. Foundation.

The Competition

More than 30,000 students from schools in 37 regions around the United States will participate. Greg Bentley, CEO of Bentley Systems, a sponsor of the national Future City Competition for the past 14 years, said: “This year’s challenge is particularly timely given the massive flooding that occurred early in 2012 in so many parts of the globe. Providing resilience to such devastation through the design and construction of better-performing, intelligent infrastructure is what engineers do to protect the world’s life-sustaining potable water supplies. Having these bright young students come up with similarly rigorous solutions to a problem they know to be very real is a great way to inspire them to pursue a career in engineering—so that



they, too, can make a difference in the quality of life for people around the world.”

Student teams plan and design virtual cities with SimCity 4 software (donated by Electronic Arts), build physical models with recycled materials and a budget of just \$100, research and write a solution to an engineering problem, write a narrative describing their city, and present their ideas before a panel of judges. Students will research and write an essay (maximum 1000 words) in which they design a way to manage stormwater runoff in their future cities.

Teams are judged on their presentation, virtual city design, physical model, research essay, and city narrative. Regional winners will be decided at the regional finals this month. The regional winners will then face off at the national finals in Crystal City, VA, which take place in February 2013 during National Engineers Week.

The first-place national team wins a trip to Space Camp in Huntsville, AL, sponsored by Bentley Systems, Inc. The second-place team receives a \$5000 scholarship from the



National Society of Professional Engineers (NSPE) for its school's technology program. The third-place team receives a \$2000 scholarship from IEEE-USA for that school's technology program. Bentley will also provide a 10-seat academic suite of engineering software for each school of the top three teams.

"Future City has, once again, brought forth an important issue for students to address," adds Debra Stewart, Director, Supplier Diversity, Workforce Development & Diversity Outreach, Shell Oil Company. "The Rethink Runoff project will promote critical and innovative thinking skills. We believe it is important to continually engage and encourage STEM education to help arm the future scientists and leaders with the necessary knowledge needed to help our global community."

Other National Engineers Week Events

National Engineers Week, February 17-23, 2013, celebrates the positive contributions engineers make to society and is a catalyst for vigorous outreach to kids and adults alike. Events occur across the United States and are hosted by individuals, local engineering groups, companies, and universities. "Introduce a Girl to Engineering Day" on February 21, 2013, will give thousands of women engineers and their male peers the chance to directly mentor girls and young women in grades K through 12. Planning tips, event ideas, and resources are available at www.eweek.org/EngineersWeek/Introduce.aspx.

The "Global Marathon For, By, and About Women in Engineering & Technology 2013," an associated event, takes place March 6-8, 2013. The Global Marathon is an annual worldwide online forum connecting professional and college women. Register at www.globalmarathon.net.

Be a Mentor

Future City is looking for engineering and technical professionals who may be interested in serving as

mentors. Find a Future City program near you (www.futurecity.org) and volunteer to mentor a team, judge a competition, or join a regional planning committee.

The National Engineers Week Foundation supports engineering

outreach and education through a network of thousands of volunteers in its partner coalition of more than 100 professional societies, major corporations, and government agencies. For more information, visit www.eweek.org.



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