

The Stockholm Junior Water Prize (SJWP), founded by the Stockholm Water Foundation, is the most prestigious international youth award for a high school water science research project. HRH Crown Princess Victoria awards the prize each year in a royal ceremony, during World Water Week in Stockholm, Sweden. Would you like to help your son, daughter or an emerging young scientist or engineer you mentor to win an all expenses paid trip to Sweden while conducting noteworthy research on our water environment? Then the SJWP competition is just the thing.

PE TIP SHEET NO. 24:

Science Project Competition Encourages Budding Scientists and Engineers

BY

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It is well known that there is a developing shortage of scientists and engineers in the United States. Data shows that the high school graduates in the US are slipping behind students in other developed countries in science and math. We need to catch up and catch up quickly.

The purpose of the Stockholm Junior Water Prize (SJWP) is to increase students' interest in water-related issues and research, and to sensitize them - as future scientists, engineers and leaders - to global water challenges. This year, high school students from 28 countries competed in Sweden for this international honor.

High school students (grades 9-12) who enter water related science fair projects in regional or state International Science and Engineering Fair (ISEF) or other designated science fairs are eligible to compete. The event is open to projects that aim to enhance the quality of life by improving water quality, water resources management, water protection, water treatment, wastewater treatment, water education, or the social-related aspects of water. Projects may focus on local, regional, national, or global topics.

In the United States, the Water Environment Federation (WEF) and its member associations, organize the U.S. national, state, and regional SJWP competitions with support from ITT Industries, the Coca-Cola Company and the U.S. Environmental Protection Agency (EPA) Office of Science and Research. WEF member associations select state SJWP winners and sponsor the winners' and their teachers' travel to the national competition.

FWEA PARTICIPATION

For the past six years, members of the Florida Water Environment Association (FWEA), through the FWEA Public Education Committee (PEC), have worked at the local and state level to facilitate the Stockholm Junior Water Prize competition. The competition begins each school year during regional high school science fairs that are affiliated with the ISEF in each state. These regional fairs feature

science projects in 14 scientific categories. FWEA members participate as judges and observers at these regional fairs throughout Florida, seeking projects that fit the criteria for the statewide Stockholm Junior Water Prize competition.

Regional science fair participants whose projects fit the criteria are encouraged to enter the statewide Stockholm Junior Water Prize competition. Entries are judged each year by the FWEA during the annual Florida Water Resources Conference. A panel of PEC members serves as judges for the state event, where 16 regional entries were considered at the 2006 conference.

The 2006 state competition PEC selection panel, chaired by Tom Jones and including Camille Yates, Julie Karlskint, Frank Wyche, Dr. Amit Kaldate and Tim Madhanagopal selected three finalists, and then chose Yun (Rose) Li as Florida's SJWP winner. Then a well-rounded senior at Stanton College Preparatory High School in Jacksonville, Rose's project, *Impact of Water Reclamation: An Analysis of Water Quality and the Growth, Morphology, and Propagation of Rapid-Cycling Brassica Rapa*, also placed fourth in the International Science and Engineering Fair Nationals held in Indianapolis. Her project impressed the selection panel with its thoroughness and innovation.

2006 SJWP NATIONAL COMPETITION

In June, Rose, called "delightful and competitive" by national competition organizers, represented Florida in Atlanta, Georgia, at the national competition. Emily Brownlee of Prince Frederick, Md. was named the U.S. winner during a June 24th ceremony at the Georgia Aquarium in Atlanta, Ga. Her winning project was entitled, "A Tale of Two Oysters: The Chesapeake Bay Native (*Crassostrea virginica*) and the Non-Native (*Crassostrea ariakensis*) Oysters and the Effects of an Increasing Water Quality Problem, Algal Blooms – A Vital Management Issue for the Chesapeake Bay." Brownlee was awarded \$3,000 and an all-expense paid trip to Stockholm, Sweden, where she competed against more than 30 other countries for the international honor during World Water Week in August. Her school received a \$1,000 grant to enhance water environment education made possible through support from the U.S. Environmental Protection Agency Office (EPA) of Research and Development. Brownlee presented her research at WEF's Technical Exhibition and Conference in October 2006 in Dallas, TX.

Three U.S. finalists were also awarded \$500 each. Their schools received \$1,000 grants to enhance water environment education, also provided through the support of U.S. EPA. Finalists were:

- ◆ Megan O'Brien, of Milwaukee, Wisconsin, for the project, "*Zebra Mussels Vs. Quagga Mussels: Their Survival In Oxygen Deficient Conditions.*"
- ◆ Heather Smith of Vicksburg, Mississippi, for the project, "*Maximum Escape Speeds of Lake Sturgeon (Acipenser Fulvescens).*"
- ◆ Katherine VanderWeele Snyder of Portland, Oregon (2005 U.S. SJWP Winner), for the project, "*Removal of Arsenic From Drinking Water by Water Hyacinths (Eichhornia crassipes): Year II.*"

The U.S. entrant has won the international competition three times since the competition began in 1997. As you see, these students are typically working at a level way above what you would normally expect.

This year's winning project was entered by Wang Hao, Xiao Yi and Weng Jie, China, for their originality, ingenuity and tenacity in their use of low-cost, ecologically friendly technology to restore a polluted urban river channel. These international winners received a cash award of \$5,000 and a crystal water drop sculpture.

2007 National Competition in Phoenix

To be eligible for the 2007 international competition, state winners must attend the on-site competition in Phoenix, Arizona in June 2007. In Phoenix, students will display and present their projects to a panel of distinguished WEF judges. They will participate in a three-day, expense paid, social and educational program culminating in an awards program that will be hosted by the Arizona Water Environment Association.

FWEA Run Up To 2008

After competing with other member associations for the honor to host the national competition and being selected by WEF, the FWEA will step up its involvement with the Stockholm Junior Water Prize by hosting the 2008 competition. The event will take place in *Orlando*. The FWEA and its partners have formulated an exciting program and schedule of events for our young developing scientists and engineers. The event will be held on June 19-21. Opportunities for sponsorships will soon be announced.

In view of the area's theme parks and other world-class attractions, we are certain that fellow MAs will see substantial interest from students competing for the state award and a trip to this exciting destination. It is anticipated that 40 or more state winners accompanied by their advisors and family will join us in Orlando so we are planning to host 200 to 300 people.

The FWEA has formed a SJWP National Competition Ad Hoc Local Organization Committee (LOC) to plan this important event. Chaired by WEF Director Tom Helgeson and co-chaired by FWEA Director John Giachino, the LOC is seeking volunteers to help plan and execute this exciting event. Please contact Tom at Tom.Helgeson@CH2M.com or John at jgiachino@boyleengineering.com if you would like to join the LOC team.

2008 Competition Partners

The lives of the students participating in the 2008 U.S. competition in Florida will be greatly enriched by their experiences in Florida. The LOC has reached out to and formed affiliations with some of the premier local science and engineering-based institutions in Florida to work with us on this important event. Each of these organizations has strong programs related to water quality. We are proud to announce our partnership with the following institutions.

- ◆ *NASA at Kennedy Space Center* ~ America's Spaceport where the mission is to protect our home planet, explore the universe, search for life, and inspire the generation of explorers
- ◆ *University of Central Florida* ~ UCF fosters the creation of intellectual capital that can solve today's pressing problems and improve the quality of life

- ◆ **Sea World Orlando** ~ At Sea World, protecting and preserving the water environment and all of its wildlife is more than an interest – it's a passion

The students will be treated to a special tour of Kennedy Space Center (KSC). They will experience the unique chance to tour – up close – NASA's launch and landing facilities, and experience interactive simulators, live shows and jaw-dropping encounters with massive rockets. They will view the green roof and other stormwater technologies being developed and utilized at UCF. At SeaWorld, they will be treated to a special behind the scenes tour.

2008 Awards Luncheon at KSC

The Awards Luncheon will be held at KSC where the National SJWP winner and runners up will be announced. A prominent NASA astronaut will make the awards where every single competitor will be acknowledged as a true winner through her or his competitive experience.

Water For People

It is envisioned that the competition will be held in conjunction with a fundraiser for Water For People (www.waterforpeople.org). Through this event, there will be ample opportunities for students, advisors and parents alike to rub elbows with professionals engaged in water environment endeavors.

Want to Meet the Crown Princess of Sweden?

Don't miss this opportunity to involve your high school aged young adults in this fabulous learning experience. Or become a mentor for a student who has an interest in entering a water quality related project in a local, regional or state science fair. Not only will the student's education be enhanced and their appreciation for our water environment be improved, but you may get to shake hands with HRH Crown Princess Victoria in Sweden!

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