



EnviroEd

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www.nywea.org.



Message From the Chair

Welcome to the Fall/Winter 2012/13 edition of the NYWEA Public Outreach Committee Newsletter. I hope everyone reading this Newsletter had a safe, "cool" and relaxing summer vacation and a happy and

healthy holiday season.

As always, our newsletter editor and her Team have done a great job developing another newsletter full of interesting and useful information. This edition of our newsletter includes informative websites which can be used in your classroom, as well as several upcoming competitions and scholarships to help you engage your students in environmental activities.

Please "Mark Your Calendars" and plan on joining us at the 85th Annual NYWEA Winter Meeting and Exhibition will be held at the Marriot Marquis in New York City from February 4th to February 6th, 2013. Additional information can be found at <http://nywea.org>. The conference is attended by professional engineers, licensed operators, consulting engineers, public officials, educators, students, and all parties interested in the water environment in New York. Succession Planning will be the theme of this year's conference and is designed to raise awareness about the value and importance of water, water-related issues, and the water profession.

I hope to see you all at the 85th NYWEA Annual Meeting in New York City. In the meantime, if you have any questions, comments or interesting ideas for future newsletters, please e-mail either myself at joseph.corrado@aracdis-us.com or Ms. Beth Petrillo at bpetrillo@dep.nyc.gov.

Happy Holidays!!

facebook

Work for Water - A New Website

Work
for
Water

Check out **Work for Water!**

It's the place where students and job seekers can explore green careers, and utilities will find a clearinghouse of resources for recruiting in the wonderful world of water.

Developed by the **American Water Works Association** and **Water Environment Federation**, the world's leading technical experts on drinking water and water quality, this site is packed with resources to help you find jobs or prepare for rewarding careers in protecting public health and the environment.

Learn about what it takes to work for water and get a great job for a great cause!

Check them out at workforwater@wef.org

Please contact Beth Petrillo, Vice-Chair at bpetrillo@dep.nyc.gov if you would like previous newsletters emailed to you or if you have any suggestions on how we can improve the newsletter.

U.S. Stockholm Junior Water Prize

2012 U.S. Stockholm Junior Water Prize

What is the SJWP?

The International Stockholm Junior Water Prize (SJWP) is the most prestigious international competition for a high school water science research project. Its purpose is to increase youth attention toward the water environment, and to sensitize them – as future leaders - to local and global water challenges. HRH Crown Princess Victoria is the patron of the prize. In a royal ceremony, during World Water Week, the international winner receives \$5,000 USD and a blue crystal sculpture.

The SJWP was founded by the Stockholm Water Foundation and is administered by the Stockholm International Water Institute (SIWI). ITT Industries is the global sponsor.

In the United States, the Water Environment Federation (WEF), and its member associations, sponsor and organize the state and national competition with support from ITT Industries and The Coca-Cola Company.

NYWEA Sponsors Winning Student in National Stockholm Junior Water Prize

The Water Environment Federation and the New York Water Environment Association, were honored to announce that Kunal Sangani of Fayetteville, NY was selected the national winner of the 2012 Stockholm Junior Water Prize (SJWP) – the most prestigious international competition for water-related research. Sangani graduated from Fayetteville-Manlius High School in June and now attends Stanford University.



*Kunal Sangani awarded the U.S. Stockholm Junior Water Prize at the Boston WEF competition.
Photo by Allison O'Brien, WEF*

Sangani's project, "Modeling and Environmental Analysis of Hydraulic Fracturing in Upstate New York," was selected top among 49 state SJWP winners at the national competition held this summer in Boston. His study examined the various aspects of hydraulic fracturing on groundwater resources in upstate New York and presented a model for understanding its potential environmental impacts on the natural environment and groundwater resources.

He entered his project through a regional International Science and Engineering Fair – the Greater Syracuse Scholastic Science Fair – hosted by the Museum of Science and Technology in March 2012. NYWEA judges selected Sangani for the state's top SJWP title from among 26 student water environment projects entered in regional fairs statewide. The association sponsored Sangani's

entry in the national WEF competition in Boston, from which he went on to the international competition in Stockholm, Sweden this August.

For the national prize, Sangani won \$3,000 and an all-expense paid trip to Stockholm where he competed against national winners from more than 30 countries for the international honor during World Water Week, August 25–30, in conjunction with the Stockholm Water Symposium. Sangani's school also received a \$1,000 grant toward enhancing water science education. Sangani presented his research to the water quality professionals that attended WEFTEC 2012 conference held in New Orleans, LA on October 1.

"I had an amazing time in Boston – it was a great experience! I want to thank NYWEA for sponsoring my trip. I couldn't have been more excited to attend the competition in Stockholm!" commented Sangani.

In addition to this notable water prize, Sangani was named a Siemens Regional Finalist and an Intel STS Semi-Finalist for his research. Last year, at the Intel International Science and Engineering Fair, he received First Place in the Environmental Management Category.

NYWEA Scholarships

NYWEA Offers \$23,000 in Scholarships!

The New York Water Environment Association will be offering a total of six (6) \$1,500 scholarships and one (1) \$10,000 scholarship in 2012.

2013 \$10,000 Environmental Career Scholarship

The eligibility criteria for the \$10,000 scholarship (paid out over four years) is as follows:

The recipient must be:

- A qualifying high school senior
- A New York State resident
- Enrolled full-time in a B.S. or B.E. degree program with an environmental emphasis.

Application deadline: January 23, 2013

2013 \$1,500 Scholarship Application Package

To be eligible for one of the \$1,500 scholarships:

- Two(2) are granted to children of members
- Two (2) are granted to students enrolled at a college or university where there is a NYWEA student chapter, and
- Two (2) are granted to high school students who will be enrolled in an environmentally related program in a four year college or university.

Application deadline: January 23, 2013.

2013 N.G. Kaul Memorial Scholarship

The N.G. Kaul Memorial Scholarship Fund will be offering a total of \$2500 in scholarships to students pursuing graduate or doctoral degrees in environmental/civil engineering or environmental science concentrating on water quality who show a commitment to government service.

Application deadline: February 28, 2013.

Jim Anderson Memorial Scholarship

The Jim Anderson Memorial Scholarship offers one \$1,250 scholarship annually. Applicants must be enrolled in a BS or BE full-time engineering program with a focus on environmental issues, particularly water/wastewater.

Application deadline: May 1, 2013

Lucy Grassano Memorial Scholarship

The scholarship will be utilized to further the careers of secretaries, administrative assistants, and operators in the water quality field.

Application deadline: October 1, 2013

2013 NYWEA Met Chapter Scholarship \$1,500

The New York Water Environment Association Metropolitan Chapter will be offering up to two (2) \$1,500 scholarships. These scholarships are based on the following eligibility:

- Applicant must be a student enrolled at a College or University within the Metropolitan
- Chapter geographic boundaries (New York City) with an established NYWEA Student Chapter.

- Applicant must be enrolled in full-time engineering or environmental related program with a focus on environmental issues and must be completing their Junior year, Senior year or enrolled in a Graduate Program. Such programs could include but not limited to:

- i. Environmental Engineering
- ii. Civil Engineering - Water or Environmental Engineering Emphasis
- iii. Chemical Engineering -Water or Environmental Engineering Emphasis
- iv. Environmental Science

To receive the payment, application must maintain a GPA of 2.4 out of 4.0 for the current year course of study.

Application deadline: November 18, 2013

NOTE: There is still time to apply for the 2012 Scholarship! The deadline is November 18, 2012.

Attention Parents of High School Seniors

Did you know that NYWEA has a Child of Member Scholarship? Do you have a son or daughter following in your environmental footsteps? If so, you may want to encourage them to submit a scholarship application in the Child of Member category. For more information visit the NYWEA website, www.nywea.org.

U.S. Stockholm Junior Water Prize - more ...

Behind every successful student there's usually a dedicated teacher. Here is a letter from Sally Mitchell, mentor of the U.S. Stockholm Junior Water Prize Winner Kunal Sangani.

My name is Sally Mitchell, I have been very fortunate to mentor Kunal Sangani, the National winner of the Stockholm Jr. Water Prize. This experience was a teacher's dream!

Kunal took independent study AP chemistry with me as a sophomore and I couldn't believe how quickly he could learn. For the past two years, Kunal worked with a team of mentors putting together his projects. His passion for the environment is unparalleled. He is easily among the most brilliant and talented students I have come across in my thirty years of teaching.

As his mentor, I was able to go to Sweden with him, and see him get recognized. After attending the Stockholm Junior Water Prize event this summer, my life has really changed.

I am more aware of the needs for clean water and the problems faced by the world. I was able to attend many sessions on water quality and food security, opening my eyes to the various needs for water.

I have been blessed with water by living in New York State. There are so many people out there without the necessary water to survive. This year, I have exposed my students to the problems faced by many around the world.

My Syracuse University Project Advance Chemistry class attended a NYWEA Central Chapter meeting on wastewater management and they are now working on research problems related to water. I have one student working on the dredg-

ing in Onondaga Lake, four students studying the water quality at Otisco Lake, one student working on landfill leachates, and others working on improving water filters.

Water is truly a necessity of life, and I understand the importance teachers play in inspiring students to study water quality management.

Sally Mitchell

Chemistry Teacher
East Syracuse Minoa High School
6400 Fremont Road
East Syracuse, NY 13057

Findings:

Kunal Sangani spent many weeks working on his experiments and analyses in laboratories at SUNY Stony Brook and the SUNY College of Environmental Science and Forestry. "I started my research on hydraulic fracturing last summer when I worked under the mentorship of Dr. Miriam Rafailovich at SUNY Stony Brook. In the fall, I continued my research at SUNY-ESF with the help of Dr. Neal Abrams and Sally Mitchell."

He focused his research experiments on two different aspects of hydrofracking, leading to two separate conclusions. First, using a mathematical model, he looked at how much pressure is used to fracture the rock during hydrofracking. He found that if the process used half the amount of pressure (megapascals) it does today, it would cause less overall damage to the rock column. Less pressure would result in a slower, more gradual processing of natural gas, but over a projected 30-year period, the amount produced would be the same, he reported. With less damage done to the rock, he postulated that it would also be harder for toxins and methane to travel into the water system.

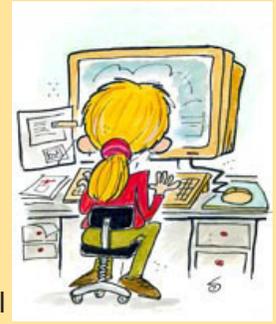
The second part of his research tested the chemical composition and environmental toxicity of actual wastewater samples provided by a company hydrofracking in Pennsylvania.

Interviewed by the Syracuse Post Standard (Elizabeth Doran, www.Syracuse.com, 6/22/12), Sangani explained: "I performed the chemical tests and found traces of lead and high amounts of barium and strontium, but what was most surprising to me was that they exhibited beta decay." That means they were radioactive, and he noted: "If not handled properly, it could accumulate and contaminate our ecosystem."

In his paper, he wrote: "These measurements are perhaps the first documentation of metal ion concentrations and radioactivity in hydraulic fracturing effluent." His plant studies further revealed stunted growth and toxicity in increasing effluent concentrations.

To read the entire project paper, "Modeling and Environmental Analysis of Hydraulic Fracturing in Upstate New York," go to www.nywea.org/clear-waters/ and select the 2012 Fall edition of Clear Waters.

Websites of Interest



www.nyweametro.org– This is the Metropolitan chapter website of the New York Water Environment Association.

www.dec.ny.gov– The New York State Department of Environmental Conservation has launched a new electronic newsletter for families. It is called DEC Outdoor Discovery. Each issue introduces subscribers to a seasonal environmental or nature topic, suggests a related activity, and lists family-friendly events at DEC’s environmental education center. To subscribe, go to the website above and click on DEC Outdoor Discovery.

www.nyc.gov/dep–New York City Environmental Protection website.

www.epa.gov/teachers This is EPA’s newly revised and improved environmental education website for teachers. One new feature is the addition of grade levels for the cited classroom materials.

<http://www.epa.gov/fishadvisories/kids> - EPA website for kids.

www.teachengineering.com Teach Engineering is a multi-university partnership that has developed K-12 engineering education curriculum modules that are standards-based, free and available over the internet. It aims to equip teachers with lessons in science, math and engineering that are creative and exciting.

<http://science.nsta.org> National Science Teachers Association newsletter. Each issue is filled with informative articles.

<http://www.wef.org/LearnAboutWater/ForEducators/CurriculumMaterials/>. The Water Environment Federation has many children’s publications including Water the Amazing Journey “Go With The Flow, and World-wide Waste, It’s not a Load of Rubbish.

www.engineeringk12.org Go Engineering’s e-newsletter is for K-12 educators. Its purpose is to promote the importance of engineering and technology education and explore the many ways that engineering and technology can help teachers meet the challenge of making mathematics and science come alive for students.

www.pbs.org/journeyto-planetearth Funded by the National Science Foundation, Journey To Planet Earth is a video series that helps students and adults understand the most critical and timely issues facing the natural sciences.

www.epa.gov/watersense/water/drop.htm - The WaterSense program announces an exciting new set of educational materials for kids and teachers “A Day in the Life of a Drop” teaches students about the connections between the sources of the water they use and how that use affects human health and the environment. These fun learning materials include a teachers guide, two student worksheets, a spreadsheet to track water use at home, and a pledge for students and their families to filter out bad water habits.

<http://greeneducationfoundation.org> The Green Education Foundation, in partnership with the Center for Green Schools, provides k-12 green-themed lesson plans and activities to share with educators around the world.

<http://urbanext.illinois.edu/schoolonline> This website offers curricula and teaching ideas from educators at the University of Illinois Extension. Students in grades K-6 can explore topics including weather, hydrology, food origins through interactive games and activities.

<http://www.newyorkcityh2o.org> – An educational non-profit organization that offers programs about NYC’s water and ecology to school groups and interested members of the public. Programs include, hikes, bike tours and lectures.



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Upcoming Events Mark your Calendar!

NYWEA 85nd Annual Winter Meeting

February 4 - February 6, 2013 at the Mar-
riott Marquis in New York City

2013 NYWEA SPRING TECHNICAL CON-
FERENCE & EXHIBITION

June 3 – June 6, 2013, Sheraton, Syra-
cuse University Hotel & Convergence
Center