

Mid-Hudson Chemist



March 2014

January and February Talks

The Mid-Hudson ACS began its spring series of lectures on January 29th with Dr. Glenn Roy presenting "The Electronic Tongue Applied to Bitterness Inhibition of Acesulfame and Saccharin" at Vassar College. Dr. Roy discussed his work on *in vitro* taste sensors (electric tongue) as a screening tool used to assess bitterness inhibition. Dr. Roy was a Research Fellow at PepsiCo (now retired). Some of his most recent work included the discovery of natural ingredients to prevent UV-induced color fading of beverages, a tea browning inhibitor to replace ascorbic acid, and bubble modifying ingredients for soft drinks. He has compiled a book on *in vitro* taste sensors (The Electric Tongue).

Dr. Christopher Smart (Vassar College) presented "The Art and Science of Stained Glass" at Mount Saint Mary College on February 27th. The historical development of the art of stained glass was reviewed and the science that underlies the control of the appearance of the glass was discussed. The talk covered the work of some of the major innovators in the late 19th century American stained glass movement as compared with their European contemporaries. Examples from the mid-Hudson valley were highlighted. Dr. Smart joined the Vassar College faculty in 1993. He teaches organic chemistry and he and his research students investigate the surface chemistry of buckminsterfullerenes and carbon nanotubes. Dr. Smart also has an interest in art glass, and his glass marbles were recently featured in a show in the College's Palmer Gallery.

UPCOMING SPRING 2014 EVENTS

"THE UNCERTAIN FUTURE OF INDIAN POINT AND NUCLEAR POWER"

SPEAKER: CHARLES KOCSIS, INDIAN POINT

PLACE: MARIST COLLEGE, POUGHKEEPSIE, NY

DATE & TIME: MARCH 26, 7 PM

PLEASE SEE ANNOUNCEMENT ON P.3.

15TH ANNUAL MID-HUDSON ACS UNDERGRADUATE RESEARCH SYMPOSIUM

PLACE: SUNY NEW PALTZ

DATE: APRIL 25

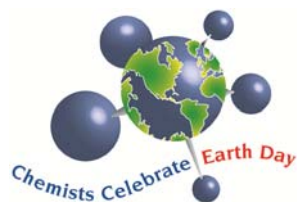
SPEAKER: WUNMI SADIK, SUNY BINGHAMPTON

PLEASE SEE ANNOUNCEMENT ON P.4.

CONGRATULATIONS TO JOAN SKINNER!



The Mid-Hudson local section is recognizing Joan Skinner as our 2014 Outreach Volunteer of the Year! Her name, picture and information about her outreach efforts within the section will be posted on the Local Section Outreach Volunteers of the Year page on the ACS website and in C&EN. This award, sponsored by the national ACS, includes a certificate and recognition gift to present to Joan during a future local section event. Congratulations, Joan!



Earth Day is April 22

2014 Theme: The Wonders of Water

2014 Executive Committee:

Chair: Cynthia MacMahon; **Chair-Elect:** William Maelia; **Past Chair:** Lynn Maelia; **Treasurer:** Joan Skinner; **Secretary:** Jocelyn Nadeau; **Councilor:** George Ruger; **Alternate Councilor:** Timothy MacMahon; **Members-at-Large:** Joseph Tanski, Patti Cusatis, Michelle Risolo; **NCW Co-Chairs:** Cynthia MacMahon and Timothy MacMahon; **Science Olympiad Chair:** Lynn Maelia; **Awards Chair:** Patti Cusatis; **Government Affairs Chair:** George Ruger; **WCC Chair:** Janet Petroski; **YCC Chair:** Jodie Wasacz; **Publicity Chair:** Chet Dziobkowski; **Webmaster:** William Maelia; **Mid-Hudson Chemist Editor/Publisher:** Gissel Mentore

Mid-Hudson ACS Website: www.midhudsonacs.org

Our website is currently undergoing a transformation! Please visit our updated site and contact our Webmaster (William.Maelia@gmail.com) with your comments or additional items to be posted.

~Join the Mid-Hudson ACS Discussion List~

The following website may be used to subscribe, unsubscribe, or view the archive:

lists.msmc.edu/mailman/listinfo/acs-mh

To post a message to all the list members, send e-mail to acs-mh@lists.msmc.edu.

Call for American Chemical Society Mid-Hudson Section 2014 College Recognition Awards

The Mid-Hudson Section of the American Chemical Society is once again sponsoring the College Recognition Awards. The purpose of this award is to recognize achievement in the field of chemistry and to encourage further study in chemistry. One student from each college in the Mid-Hudson Section will be presented with a certificate and cash award at the Undergraduate Research Symposium in April. The chemistry faculty at each college should select one award winner on the basis of general excellence in chemistry. Four-year degree-granting colleges may wish to recognize a junior year student, while a community college may select a second-year student.

Winner selections from the faculty must be submitted by March 28, 2014. Nominations received after the deadline will not be considered. Please send the following information to Patti Cusatis by email (patti.cusatis@basf.com):

- Student's Name and E-Mail Address
- Advisor's Name and E-Mail Address
- Student's Graduation Year and Major
- Student's Hometown
- Student's Future Plans

Hudson Valley Science Café

A Science Café is a monthly gathering in a café, pub or restaurant, open to the public, with a short presentation of a topic followed by discussion. The essence of a Science Café is informality, with groups seated around tables with food and drink to encourage conversation. Hudson Valley Science Café usually meets on the 4th **Wednesday** of the month, except where noted.

Website: <http://www.cafescientifique.org/index.php/find-your-local-cafe/northamerica/details/1/104/north-america-hudson-valley?start=20>

NEW meeting site: The Plaza Diner, 27 New Paltz Plaza in New Paltz (just west of the Thruway exit, off Main Street, northern side of road). The \$4.00 admission fee includes coffee or tea. Please arrive at 6 PM if you want to order dinner. No orders will be taken during the presentation (7 PM).

March 26, 2014: "Land Development and Lyme Disease: A Challenge for Environmental Policy and Public Health", Irwin Sperber, Ph.D., Assoc. Professor, Sociology Department, SUNY New Paltz

April 23, 2014: "Current Environmental and Medical Hazards from Fracking to Hip Replacements", Max Costa, Ph.D., Professor and Director, The Nelson Institute of Environmental Medicine, NYU-Langone School of Medicine

May 28, 2014: "Cataracts: Classifications, Treatment Options and Determining the Right Time to Treat", Michael Bywater, O.D., a practicing optometrist

Hudson Valley Science Café has received start-up funds from WGBH-NOVA and the American Chemical Society. To suggest a speaker (yourself included), please contact Dr. Toby Rossman (tobyrossman@yahoo.com).

50- and 60-Year Members Save the Date

This year, the Mid-Hudson Section will honor several members celebrating 50- and 60- year ACS membership. The honorees will be guests of the Mid-Hudson Section at the Research Symposium on April 25th. Formal invitations will be mailed. Please save the date!



The Mid-Hudson Section of the American Chemical Society and Marist College Announce:

The Uncertain Future of Indian Point and Nuclear Power

Speaker: Charles Kocsis, Indian Point

Time: Wednesday, March 26th at 7 PM, refreshments at 6:30 PM in DN 235

Location: Donnelly Hall, Room 238, Marist College, Poughkeepsie, NY

About the Lecture: Our current energy market is as chaotic as it has ever been since its fragmented beginnings. Deregulation, climate change concern/denial and fracking are just some of the issues affecting the future of nuclear power. In the controversial business of nuclear power, Indian Point has often been the center of the controversy. Despite the fact that Indian Point has been the most difficult plant to gain political favor, in our current world of wholesale electrical generation, it could be the last nuclear plant running.

About the Speaker: Charles Kocsis has been at Indian Point for 24 years. He is currently an Operations Instructor where he trains and evaluates control operators. Every spring they shut one of the plants down, and he supervises the change of nuclear fuel in the core. He held previous positions as a Senior Reactor Operator, Radiological Engineer and Radiation Protection Technician.

For the past seven years, he has also been an Adjunct Professor at Orange County Community College teaching chemistry, physics and environmental science classes.

Prior to Indian Point, he spent six years in the US Navy serving on a nuclear submarine. His duties included everything from mopping decks to controlling the chemistry in the reactor coolant system.

He has a MS in Radiological Engineering from Georgia Tech and a BS in Nuclear Technology from Regents College.

Directions: Marist College is located at 3399 North Road, just off Rte. 9, approximately 1 mile north of the Mid-Hudson Bridge in Poughkeepsie, NY. Detailed directions are available at www.marist.edu/about/directions.html.

For a campus map, please visit www.marist.edu/about/map.html.

Contact: Dr. Jocelyn Nadeau (jocelyn.nadeau@marist.edu, 845-575-3000, Ext 2224)



The Mid-Hudson Section of the American Chemical Society and SUNY New Paltz Present the

15th Annual Undergraduate Research Symposium, Friday April 25, 2014

This symposium provides a chance for undergraduate students in the chemical sciences to present their research. All areas of chemistry, environmental science, molecular biology, and related fields are welcome. A seminar given by a guest speaker will be followed by a poster session and buffet dinner.

Conference Program

Poster Set-up: 3:30–4:00 PM, Awards and Announcements: 4:00–4:15 PM, Seminar: 4:15–5:15 PM, Buffet Dinner beginning at 5:30 PM, and Poster Session: 6:15–7:15 PM (Poster session A) and 7:15–8:15 PM (Poster session B)

Reservations required for dinner but the seminar and poster session are open to all.

Guest Speaker: Wunmi Sadik, Department of Chemistry, SUNY Binghamton
“Biochemical Sensor: A new, objective approach for pain measurement”

Patients in pain may either understate or overstate their degree of pain. Some other patients may be unable to adequately articulate their level of discomfort. Pain is the complex response to the interaction of multiple inflammatory mediators that are released at the point of injury. Clinical assessment of pain is necessary to diagnose, manage, and choose treatment options, as well as for the evaluation of the most efficient treatment. Current methods of assessing pain include visual analog, Wong-Baker faces and verbal numeric scales. However, studies have shown that these methods may be subjective and discrepancies are likely to be recorded for similar pain intensity measurements. Hence there is a need to develop a more objective scale that relies on the fundamentals of biochemical mechanism of pain transduction. This presentation will focus on new concepts in pain transduction using biochemical principles. Multidimensional biosensors developed for markers of acute and chronic pain will be discussed. The talk will also discuss the synthesis and characterization of potential bioactive flavonoid derivatives for cyclooxygenase 2, inducible nitric oxide synthase, and a variety of inflammatory genes.

About the speaker: Omowunmi “Wunmi” Sadik is a professor of Chemistry - and in the last five years the principal investigator and director of “The Center for Advanced Sensors and Environmental Systems (CASE)” at SUNY-Binghamton. Dr. Sadik has held appointments at Harvard University, Cornell University and Naval Research Laboratories. She has over 140 full-length publications and patents, and has given 121 keynotes and invited lectures, as well as contributed 178 conference lectures and abstracts. A leading expert in biosensors for environmental health and risk assessments, Sadik holds four U.S. patents for her work on biosensors, which have been licensed for commercial products. Dr. Sadik is a fellow of the Royal Society of Chemistry, Fellow of the American Institute for Medical & Biological Engineering (AIMBE) and the recipient of Harvard University’s Distinguished Radcliffe Fellowship, National Science Foundation’s Discovery Corps Senior Fellowship, SUNY Chancellor’s Award for Research, Chancellors Award for Scholarship & Creative Activities, Chancellor’s Award for Outstanding Inventor, Harpur College Dean’s Distinguished Lecturer, Australian Merit Award, and NRC COBASE fellowship. Dr. Sadik chaired the inaugural “Gordon Conference on Environmental Nanotechnology in 2011 and has served as the nanotechnology editor for the RSC Journal of Environmental Science Processes and Impact. She co-edited the ACS Symposium series on environmental sensors and has organized and/or chaired 24 symposia/workshops at national and international conferences. As the President and co-founder of the Sustainable Nanotechnology Organization-SNO (www.susnano.org), Dr. Sadik is promoting the responsible growth of nanotechnology around the world through research, education and outreach.

Call for Abstracts: To present a poster, please submit an abstract of 200 words or less. The format for the abstract should adhere to the following guidelines:

- 1) Use 12 point Times-Roman font with one inch margins.
- 2) The file should be an MS Word document.
- 3) The title should be typed in capital letters, followed by the authors' names and institution name, institution address, and email in lower case letters. The advisor's name should be followed by an asterisk (*).
- 4) Please submit the abstract as an attachment no later than **March 28** by e-mail to: mhacs@newpaltz.edu. If you are unable to meet this deadline, please contact Dr. Megan Ferguson by e-mail at fergusom@newpaltz.edu. There is a \$25 conference fee per poster up to \$200 maximum per school.

Posters: In order for posters to fit on the poster boards, posters should be no larger than 46 inches wide by 36 inches in height.

Dinner: The buffet dinner will accompany the poster session (\$25/person). Please RSVP to mhacs@newpaltz.edu by March 28 with the following information:

1. Names and number of participants that will be attending the symposium.
2. Names and number of participants that will be attending the buffet dinner.

You will receive a confirmation email within the next few weeks regarding your dinner reservation and the scheduling of your poster.

Directions and Parking:

The poster session (and set-up) is scheduled in the Multi-purpose Room on the second floor of the Student Union Building (SUB) and all attendees should park in the Route 32 Parking Lot 28 (please see links to maps below). The talk will take place on the first floor of Coykendall Science Building in the Auditorium (CSB AUD), which is a short walk from the SUB. There will be signs posted along Rt. 32 and on campus directing attendees to the talk, poster session, and dinner.

Please see the following link on the SUNY New Paltz web site regarding directions to the campus:

http://www.newpaltz.edu/about/directions_text.html

Please see the following link for a map to Lot 28 and SUB and CSB on campus: <http://www.newpaltz.edu/map/>

We look forward to seeing you at the annual Mid-Hudson ACS symposium.

Mid-Hudson ACS Section Celebrates Earth Day
- Illustrated Poem Contest
The Wonders of Water

The Mid-Hudson section is once again taking part in the **ACS Chemists Celebrate Earth Day** celebration and participating in an **Illustrated Poem Contest** for students in Kindergarten – 12th grade. Contest details and entry form are available on pages 8-9. Winners will advance to the national ACS Illustrated Poem Contest. **To each participating school: Please send your entries with entry form to Lynn Maelia (Lynn.Maelia@msmc.edu) by Friday, April 11, 2014, to the address below.** Please pass this on to any K-12 educators that would be interested.



Lynn Maelia
Mount Saint Mary College
330 Powell Avenue
Newburgh, NY 12550
845-569-3131

Science Fair Judges Needed

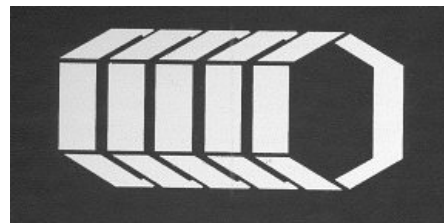
Judges are needed for the annual **Dutchess County Regional Science Fair**.

Date: Saturday, March 29, 2014

Place: Falcon Hall, Dutchess Community College, Pendell Road, Poughkeepsie, NY

Time: 8:45 AM – 12:30 PM

Please contact Marianne Scheffler by e-mail at cmcc@pipeline.com for further information or to volunteer. Thank you for your support of this great local event!



Attention: High School Teachers and Students

The Mid-Hudson Section of the American Chemical Society will be participating in the International Chemistry Olympiad for 2014. We are starting the selection process to choose 10 participants from the Mid-Hudson Section. These 10 participants will take the National Chemistry Olympiad qualifying exam on Saturday, April 26th at Mount Saint Mary College. Part of the National exam will consist of a laboratory practical section, as in past years. Twenty students will be chosen nationally from the results of the national exam to participate in a study camp at the U.S. Air Force Academy in Colorado Springs in June. From these students, the national team will be selected to represent the U.S. in Hanoi, Vietnam in July.

To select our 10 students, we will hold Local ACS Section qualifying exams, which will be administered at your school, should you choose to participate. If you feel that your school has students who can compete in the Local Section exams, or are a high school student who would like to participate, please let us know. More information can be found at www.chemistry.org/education/olympiad.html.

We encourage you to take part in this exciting program! Contact Lynn Maelia by phone: 845-569-3131, fax: 845-562-6762, e-mail: Lynn.Maelia@msmc.edu or mail at Mount Saint Mary College, 330 Powell Avenue, Newburgh, New York 12550.



American Chemical Society Poster Contest
sponsored by the
Mid-Hudson Section of the American Chemical Society

The Mid-Hudson Section of the American Chemical Society has chosen the following students to receive recognition for their work and efforts in the 2013 National Chemistry Week poetry contest with the theme "Energy: Now and Forever!". Six schools participated in the contest. First place winning posters in each category were submitted to the national competition for judging. Danielle Bellettiere, from Minisink Valley Middle School won FIRST PLACE in the 6th to 8th grade category at the national level for her poem!

3-5

1st place: Dominique Gooden - Bishop Dunn Memorial School

6-8

1st place: Danielle Bellettiere - Minisink Valley Middle School*

2nd place: Naomi Phemister - Heritage Middle School

3rd place: James Maniscalchi - Bishop Dunn Memorial School

3rd place: Kevin Horan - Bishop Dunn Middle School

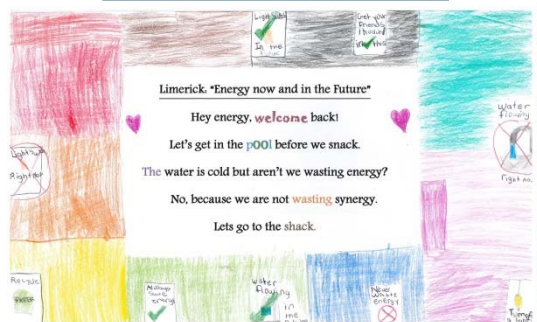
9-12

1st place: Sarah Remling - Millbrook High School

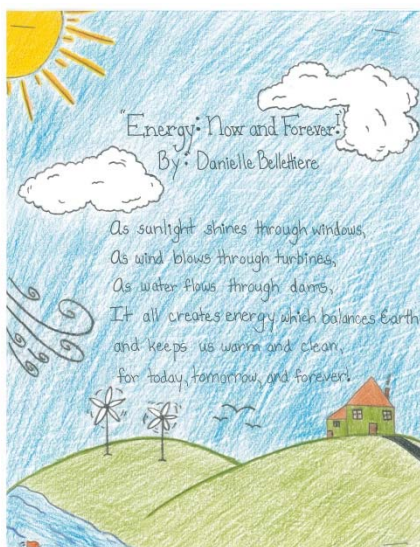
2nd place: Christiana Gramano - Millbrook High School

3rd place: Hunter Cocks - Valley Central High School

Dominique Gooden
3-5 Local Winner

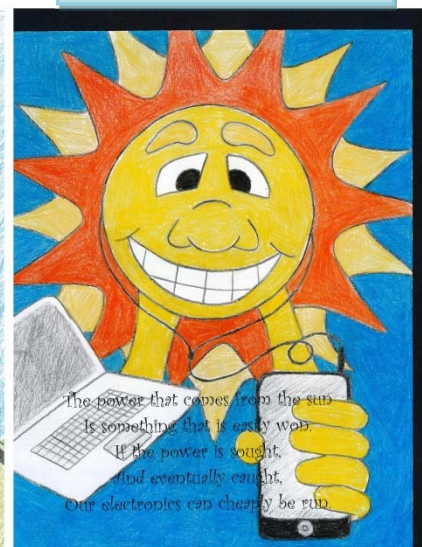


Danielle Bellettiere



6-8 Local Winner and
National Contest Winner

Sarah Remling
9-12 Local Winner



Call for Applications for 2014 Undergraduate Student Research Awards

The Mid-Hudson Section of the American Chemical Society invites applications for the prestigious 2014 Mid-Hudson ACS Undergraduate Research Awards from student researchers who plan to present their work at the 2014 undergraduate poster symposium. **Outstanding submissions will be selected to each receive a monetary award.** This is a separate application and is not required of all students presenting posters only those students who wish to be considered for this very prestigious award need apply.

Rationale

The Mid-Hudson Section wishes to reward undergraduate students who choose to write a short summary about their research and scholarship activities.

Criteria

Research work should be completed by a student currently enrolled (2013-1014 academic year) as an undergraduate at one of colleges in the Mid-Hudson ACS area. Students must also present their work at the 2014 Mid-Hudson ACS Undergraduate Research Poster Symposium.

Application Format and Procedure:

All papers submitted must be primarily chemistry, not biology or physics.

*Format: The paper must be written in Microsoft Word with a font type of New Times Roman and a font size 12. Margins should be set to the Narrow setting in Word. The description part of the paper may not be longer than two pages; however, the Acknowledgments and References may cause the paper to run longer. **Any papers longer than the requested two written pages will not be considered.***

The summary should be written in normal scientific format and divided into appropriate sections in the following order:

- 1) Title with authors: The title of the paper should be at the top with the authors underneath. The student submitting the paper for the award must be clearly indicated. This can be done by bolding and underlining that author.
- 2) Introduction: Keep in mind that the judges for the paper come from a wide variety of chemical backgrounds including all the major disciplines of chemistry so the background material must be comprehensible to all judges not just to those in your specialty. This means you must explain all chemistry and related information for a wide ranging audience and not to just one chemical specialty that your research involves.
- 3) Experimental: Just a brief review of your experimental design is needed.
- 4) Results and Discussion: This along with the introduction and conclusion are the most important parts of the paper. This is your chance to wow the judges with your fabulous work. Remember the judges will not be familiar with your work so you must educate them. Now after years of learning and studying, is your chance to educate us. Make sure you include all chemical structures, equations and reactions. Remember, although you have spent many hours intimately involved in this research and thus all the reactions and chemicals are as familiar to you as your best buddies, they are probably new to the judges. The better the judges understand exactly what you are doing and what you have accomplished the better your chances at winning the grand prize. Do not be shy about drawing chemical structures and writing out the reactions as these are some of the best ways to help the judges understand exactly what your research is about.
- 5) Conclusion: This needs to be consistent with the introduction and should obviously quickly summarize what your research has accomplished and if applicable where it will be going in the near future.
- 6) Acknowledgments and References: This part of the paper may exceed the two page limit and should be as extensive and comprehensive as needed.
- 7) In Summary: Again, it is important to remember the judges are not experts in your area of research so your job is to educate them on your research and WOW them with the work you have been doing. This does not mean you should be overly technical in your writing. You should include all the relevant chemistry being careful to include all important chemical structures and reactions but make sure the paper is readable and flows well. The judges volunteer their time to judge this competition and will not spend excessive amounts of time trying to decipher cryptic or non-coherent writing. As a parting note, remember the judges must be able to understand exactly what you have accomplished so a poorly organized and worded paper will not impress the judges. Good luck on your submission and the judges are looking forward to learning about your research.

Submission procedure:

Applications should be sent by e-mail as an attached Word Document to Dr. Timothy MacMahon e-mail: timothy.macmahon@sunyorange.edu by Monday **April 14, 2014**. Please indicate in the subject line of the e-mail that you are submitting an application for the URS student research award. Confirmation that the submission has been received will be sent via e-mail.



Chemists Celebrate Earth Day 2014 Illustrated Poem Contest

THE
WONDERS
OF
WATER

The Mid-Hudson Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten - 12th grade.

Contest Deadline: April 11th

Prizes: Barnes & Noble Gift Cards

Contact: Lynn Maelia, Lynn.Maelia@msmc.edu;
Mount Saint Mary College, 330 Powell Avenue, Newburgh, NY 12550

Winners of the Mid-Hudson illustrated poem contest will advance to the ACS National Illustrated Poem Contest!

Write and illustrate a poem using the CCED theme, “The Wonders of Water”. Your poem must be **no more** than 40 words, and in the following styles to be considered:

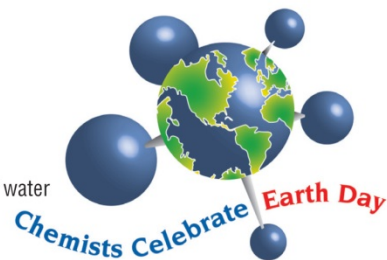
HAIKU • LIMERICK • ODE • ABC POEM • FREE VERSE • END RHYME • BLANK VERSE

Possible topics related to water and chemistry include:

- Fresh water sources
- Water conservation and purification
- Chemical composition of water
- Physical properties of water
- Any other relevant topics

Entries will be judged based upon:

- Relevance to and incorporation of the theme
- Word choice and imagery
- Colorful artwork
- Various physical properties of water
- Any other relevant topics



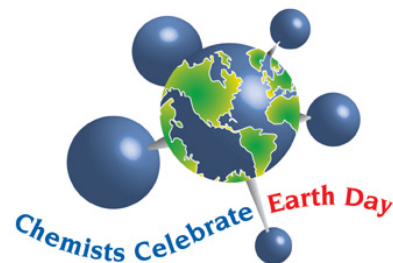
Contest Rules:

- Poems must conform to a particular style. No poem may be longer than 40 words.
- The topic of the poem and the illustration must be related to the CCED 2014 theme, “The Wonders of Water”.
- All entries must be original works without aid from others.
- Each poem must be submitted and illustrated on an unlined sheet of paper (of any type) not larger than 11” x 14”. The illustration must be created by hand using crayons, watercolors, other types of paint,

colored pencils or markers. The text of the poem should be easy to read and may be printed with a computer, before the hand-drawn illustration is added, or the poem may be written on lined paper which is cut out and pasted onto the unlined paper with the illustration.

- Only one entry per student will be accepted.
- All entries must include an entry form.
- All illustrated poems and/or digital representations of the poems become the property of the American Chemical Society.
- Acceptance of prizes constitutes consent to use winners' names, likenesses and entries for editorial, advertising and publicity purposes.

American Chemical Society



Chemists Celebrate Earth Day (CCED) 2014

“The Wonders of Water”

ILLUSTRATED POEM CONTEST ENTRY FORM

Please fill out this form, print, and attach to the back of the poems. All fields are required. Incomplete forms will invalidate the entry. The receipt deadline for the Mid-Hudson **Local Section Contest** is April 11th.

Student's Name							
Grade							
Parent/Guardian							
School or sponsoring group: <i>(e.g. Boys and Girls Club or Scout Troop, 4-H, etc.)</i>							
Teacher's Name							
School Address							
Address Line 2							
City				State		Zip	
Judging Category							
K-2 nd		<input type="checkbox"/>		3 rd -5 th		<input type="checkbox"/>	
				6 th – 8 th		<input type="checkbox"/>	
						9 th – 12 th	
						<input type="checkbox"/>	
FOR LOCAL SECTION USE ONLY							
Local Section Name (Number)		Mid-Hudson, 106					
CCED Coordinator Name		Lynn Maelia, Mount Saint Mary College, 330 Powell Avenue, Newburgh, NY 12550					
Email / Phone		Lynn.Maelia@msmc.edu / 845-569-3131					