

Mid-Hudson Chemist



ACS Local Section
Mid-Hudson

Spring 2018

ACS Earth Day Weekend Hike

Yes, we will have another hike this year! We had so much fun last year, we decided to do it again.

The Earth Day weekend hike will take place on Saturday, April 21, 2018 and start at the Helen Fahnestock Hubbard Lodge in Cold Spring. Hike start time is 10:00 am. Put this event on your calendar. The lodge address is 2920 Route 9, Cold Spring. Park along the side of the road. This will be a 4-6 mile hike that winds through an old farming community where remnants of house foundations still remain. There are a few panoramic viewing points and gentle rolling hills. The hike is medium intensity.

Detailed information will be provided on the listserv as we get closer to the hiking date. Mary will make some cookies, and Butch agreed to lead the hike! If you have questions, please email Mary Dery at derymary@aol.com. Please put ACS Earth Day hike in the subject line.

UPCOMING EVENTS

19TH ANNUAL MID-HUDSON ACS UNDERGRADUATE
RESEARCH SYMPOSIUM

SPEAKER: DR. BART KAHR, NEW YORK UNIVERSITY

PLACE: VASSAR COLLEGE

DATE: APRIL 18TH

PLEASE SEE ANNOUNCEMENT ON PAGES 3-4.

EARTH DAY WEEKEND HIKE

CONTACT: MARY DERY

DATE & TIME: APRIL 21ST, 10 AM

CHEMISTRY IN THE FINGER LAKES

CONTACT: JOAN SKINNER

DATE: JUNE 8-10

PLEASE SEE INFORMATION ON PAGE 6.

CHEMISTS CELEBRATE EARTH WEEK (CCEW)

Dive into Marine Chemistry

APRIL 22-28, 2018

CHEMISTS
CELEBRATE
EARTH WEEK
15 YEARS

2018 Executive Committee

Chair: Lynn Robinson; **Chair-Elect:** Maryellen Sinclair; **Past Chair:** Patti Cusatis; **Treasurer:** Joan Skinner; **Secretary:** Matthew McLaughlin; **Councilor:** Mary Dery; **Alternate Councilor:** Timothy MacMahon; **Members-at-Large:** Christopher Sgro, Glenn Roy, and Lori Wojciechowicz; **NCW Co-Chairs:** Cynthia MacMahon and Timothy MacMahon; **Science Olympiad Chair:** Lynn Maelia; **Awards Co-Chairs:** Patti Cusatis, Lynn Maelia, and Marianne Scheffler; **Economic and Political Affairs Chair:** Mary Dery; **WCC Chair:** Lynn Robinson; **YCC Chair:** William Maelia; **SCC Chair:** Glenn Roy; **Publicity Chair:** Chet Dziobkowski; **Co-Webmasters:** William Maelia and Patti Cusatis; **Mid-Hudson Chemist Editor/Publisher:** Gissel Mentore

~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 email to acs-mh@lists.msmc.edu.

Mid-Hudson ACS Website: www.midhudsonacs.org

Please visit our site and contact our Webmasters (William.Maelia@gmail.com, patti.cusatis@basf.com) with your comments or additional items to be posted.

Like us on Facebook: www.facebook.com/MidHudsonACS

Follow us on Twitter: www.twitter.com/mid_hudson_acs

~Join the Mid-Hudson ACS WCC Discussion List~

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

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

To post a message to all the list members, send email to wcc-mh@lists.msmc.edu.



Dr. Natasha Khatri speaks on the History of Ammunition, West Point, November 16, 2017.



The Women Chemists Committee hosted a Girl Scout event at Mount Saint Mary College on February 3, 2018. Twenty Girl Scouts from New Paltz and Wallkill attended the forensics-themed event.



See 2018 CCEW Illustrated Poem Contest details and entry form on pages 8-9.



The Mid-Hudson Section of the American Chemical Society and Vassar College Present the

19th Annual Undergraduate Research Symposium

Wednesday, April 18, 2018

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

Symposium Program (Reservations for dinner are required, but the seminar and poster session are open to everyone.)

- 3:30–4:00 PM: Check-In & Poster Set-Up (Bridge for Laboratory Science south foyer)
- 4:00–5:00 PM: Seminar (Main Building Villard Room)
- 5:00–5:30 PM: Awards and Announcements (Main Building Villard Room)
- 5:30–6:10 PM: Poster Session A & 6:10–6:50: Poster Session B (Bridge for Laboratory Science)
- 7:00 PM: Buffet Dinner (Bridge for Laboratory Science north atrium)

Guest Speaker: Dr. Bart Kahr, Department of Chemistry, New York University

“Why are Crystals Straight?”

Abstract: Why are Crystals Straight? In chemistry, we know the vast majority of what we know about molecular structure from the scattering of X-rays from crystals. Diffraction works so well because crystals have long range translational symmetry. In fact, crystals are straight, by definition. Their sharp edges and flat faces, so unlike most everything else in Nature, flash forth their symmetry, translational symmetry first and foremost. However, we have shown in the past decade that a large fraction of simple molecular (organic) crystals can be made to grow with helicoidal morphologies, as structures with curvature that are decidedly not straight. Studies of the mechanisms that give rise to these apparent distortions in crystals that twist as they grow has developed into a meditation and a program of computation aimed at understanding why and when crystals develop translational symmetry. We have come to see translational symmetry not as a requirement of crystallinity, but rather as an imperfect compromise between free energy and size.

About the Speaker: Bart Kahr was born in New York City in 1961. He studied chemistry with I. D. Reingold at Middlebury College, with Kurt Mislow at Princeton University (Ph.D., 1988), and with J. M. McBride at Yale University. He was a faculty member at Purdue University from 1990 to 1996 and at the University of Washington, Seattle from 1997 to 2009. After which, he returned to his hometown where he is currently Professor of Chemistry in the Molecular Design Institute at New York University. Kahr's research group studies the growth, structure, and physical properties of complex organized media. Bart also practices the experimental history of chemistry and crystallography, that is those aspects of the development of science of can only be informed by contemporary laboratory experiments. In recent years, he has been advocating for the changes in the way that universities and government agencies manage scientific misconduct. In 2014, he was named NSF Distinguished Lecturer in the Mathematical and Physical Sciences.

Call for Poster Abstracts: To present a poster, please submit an abstract of *200 words or less*. Please make every effort to adhere to the specific formatting guidelines, as follows:

1. Submit each abstract as a separate Microsoft Word file. The filename should include: the first author's last name, the institution name, and the faculty advisor's last name.
2. Use 16 point Times New Roman font with one inch margins all around.
3. Do not include references.
4. Include an abstract header with each of the following items centered, on separate lines, and formatted as follows:
 - Title: in bold and all caps
 - List of authors: in bold and separated by commas. The faculty advisor's name should be followed by an asterisk (*).
 - Institution Name: in bold
 - Institution Address: in bold (e.g., **124 Raymond Ave, Poughkeepsie, NY 12604**)
 - Faculty Advisor's Email Address: in bold and lower case
5. Please submit your abstract as an email attachment on or before **Wednesday, March 28** to: jotanski@vassar.edu. If you are unable to meet this deadline, please contact Dr. Joe Tanski to make arrangements. There is a \$25 conference fee per poster up to \$400 maximum per school. In your email, please RSVP by indicating the full names of all the authors who will be attending and follow the instructions below for dinner reservations. Faculty advisors will receive a confirmation email regarding the submitted abstract prior to the event.

Poster Size: To fit on the poster boards, posters should be approximately 48 inches wide by 36 inches in height.

Dinner Reservations: A buffet dinner will be served following the poster session (\$25/person). Please RSVP for dinner by emailing jotanski@vassar.edu by **March 28**.

RSVPs: If you plan to attend the symposium, please email jotanski@vassar.edu the following information by **March 28**:

1. The full names of all participants that will be attending the symposium, institution name, and attached abstract if presenting a poster.
2. The full names of all participants that will be attending the buffet dinner.

Directions and Parking: For directions to our campus, see: <http://info.vassar.edu/visit/>. Attendees should park in the South Lot: On the interactive campus map <http://info.vassar.edu/visit/maps/> click for student parking and South Lot will be highlighted in blue. From there, the Bridge for Laboratory Sciences is a short walk northward. There will be signs directing you to the appropriate entrance of the Bridge for Laboratory Sciences for Check-In. If you have mobility impairments, contact jotanski@vassar.edu (or call 845-437-5731) at least a few days prior to the event to arrange for transportation from the parking lot to the Student Center.

We look forward to seeing you all at the 19th annual Mid-Hudson ACS Undergraduate Research Symposium at Vassar College. Please check the event website for further details and updates:

<https://www.midhudsonacs.org/undergraduate-research-symposium.html>

Call for Applications for

2018 Undergraduate Student Research Awards

The Mid-Hudson Section of the American Chemical Society invites applications for the 2018 Mid-Hudson valley ACS Undergraduate Research Awards from student researchers who plan to present their work at the 2018 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 (2017-2018 academic year) as an undergraduate at one of colleges in the Mid-Hudson ACS area. Students must also present their work at the 2018 Mid-Hudson ACS Undergraduate Research Poster Symposium at Vassar College on April 18, 2018.

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 under page layout/margins 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 and will probably not be familiar with your research or your area of specialization. You need to clearly outline what you are doing and why it is being done. Remember, your audience is not familiar with your research, although they will be professional chemists, so you need to explain it to them in terms they can understand.
- 3) **Experimental:** Just a brief review of your experimental design and data 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 will be 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 award. Do not be shy about drawing chemical structures and writing out the reactions as these are some of the best ways to help other chemists 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 have to 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, who are chemists, 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 poorly 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 Friday **April 6, 2018**. **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.

Call for Judges

59th Annual Dutchess County Regional Science Fair

The 59th Annual Dutchess County Regional Science Fair is soon approaching! It is one of the longest running science fairs in the country and is the first regional science fair in New York State. The Mid-Hudson ACS Section will be participating again this year.

Volunteers from our membership are needed to represent the section as judges at the science fair. This is a fun, rewarding event and there are no special requirements to be a judge. All are welcome to volunteer!

Date: Saturday April 7, 2018

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

Time: Judging will take place from 9:30 AM to 12:30 PM.

Please email Marianne Scheffler with your name, email address, and phone number at cmcc@pipeline.com to participate as a judge. More information will follow.

Thank you in advance for your support and assistance with the 2018 Dutchess County Regional Fair.

Chemistry in the Finger Lakes

The Mid-Hudson section along with several other local NY ACS sections are planning a weekend program, June 8-10, 2018 based at Keuka College.

A **Registration Fee** of \$100 includes:

- 2-night accommodations in the dorms at Keuka College on Keuka Lake
- 2 Breakfasts (Sat & Sun), 1 Lunch (Sat), 1 Dinner (Sat)
- Tour of Corning Museum of Glass
- Tour of Anthony Road Winery
- Social Friday night at Keuka College
- 4 speakers on the Chemistry of:
 - ❖ Distilling
 - ❖ Glass
 - ❖ Wine
 - ❖ Keuka Lake, one of the NY State Finger Lakes

Transportation is not provided for the weekend. Round trip estimation is 650 miles. **If this program is of interest to you, please respond to Joan Skinner at ChemFingerLakes@gmail.com so interest can be determined.** Registration will be available in the coming weeks and is limited to the first 12 to sign-up from the Mid-Hudson section. After that, a waiting list will be available.

The Sterling Hill Mine Tour and Museum

Your Local Section of the ACS had a sequel to our previous Warthin Museum Tour at Vassar College.

The Sterling Hill Mine Tour and Museum in Ogdensburg NJ was truly spectacular. The location is on the US National Register of Historic Places and famous for its 91 fluorescent varieties of minerals and chief supply of zinc. Zinc is the primary element used internationally in industry for corrosion protection. The mine closed in 1984 due to rising NJ business taxes. Since then, a very professionally displayed museum of mining history and thousands of minerals, rocks of splendor, fill a warehouse. There is a very large collection of the antique carbide headlamps from the mining crews. The world's most comprehensive and elaborate pictorial "Table of the Elements" is on display. We were challenged to "find a better one".

The property is elaborately adorned with an enormous Indonesian petrified stump, hero miner statues, drilling equipment and rail cars of a time gone by. We entered the maze of 35 miles of tunnels and by the tour's end had literally walked through a mountain, though only maybe 25 feet vertically deep. The zinc vein in the marble travels downwards at a 50 degree angle dug as exits at several levels and finally to 2675 feet below. A 50 degree inclined stairwell (as seating) lowers workers by electric winch through a narrow tunnel passageway to any desired level of the mine. This was not my idea of a carnival ride done daily. The stable 56 degree air was very comfortable.

Only a few native elemental metals are recovered from the mine while others are mineralized and must be extracted. There are 35 minerals here that are found nowhere else. The process of moving enormous quantities of rock was with electric "elevators". Historically, steam power was used. First you blow up the area of interest. Then immediately move the boulders to an enormous crusher and conveyor that transport the rock out the top of the mountain to another conveyor. The arduous process of digging the tunnels was simulated by timed explosions radiating from a center explosion to create a void that collapses to a rubble pile.

Over very many years the leaching calcium and other soluble salts have glued the rocks and supported the walls. The arched tunnels are reinforced "naturally". Water has percolated through the mountain into very deep large pools that is pumped out of the interior for the local potable water supply. Inside the tunnels, we were treated to a landmark "fluorescent vein" that was predicted to exist by test bore holes. The hollowed out "wedding chapel" is used regularly and been filmed because of its magnificent wall murals of fluorescent minerals.

At the exit we viewed the oldest rocks in the universe as meteorites. One was sliced and etched with nitric acid wash to show the interior elemental differences. Our exit took us to yet another room of fabulous displayed minerals that fluoresce.

I only had two disappointments the entire day. Our tour guide informed me that the Prospectors show on TV is staged and does not portray rare minerals' discovery and recovery. And, Le Vian brand of chocolate diamonds are industrial diamonds for drills without any real gem quality value.

-Glenn Roy, Ph.D., 31y ACS member

CARAT CLUB WINNERS

As part of our anniversary year celebration in 2017, the section implemented a participation program called **The Carat Club**. This program recognized those people who attended multiple section events throughout the year. The following people were recognized with prizes given out during our culmination event. Congratulations to all the winners!

Diamond Level:

Glenn Roy
Michelle Rissolo
Miriam Rossi
Terri Campbell

Emerald Level:

Francesco Caruso
Jennifer Bett
Joe Fracalossi
Nicoline Kiwiet
Toby Rossman

Ruby Level:

Joanne Bierschenk
Klaus Beyer
Lori Wojciechowicz
Mark Logan
Rachel Josef
Ryan Forster

Mid-Hudson Section
American Chemical Society



THANK YOU FOR A GREAT YEAR

Our section's 75th anniversary year was very busy and its success can be attributed to the many people involved. From our brainstorming sessions at the end of 2016 to the culmination event, we accomplished a great deal in terms of speaker events, tours, social events and community outreach. In addition to many special activities, we were still able to execute all our core events as well. Your dedication to our section is appreciated!

Bill Maelia	Joe Litow
Butch Dery	Joelyn Cornwell
Chet Dziobkowski	Lynn Maelia
Chris Sgro	Lynn Robinson
Chris Smart	Marianne Scheffler
Cyndy MacMahon	Mary Dery
Dawn Riegner	Maryellen Sinclair
Eileen Kowalski	Matt McLaughlin
Elisa Woolridge	Megan Ferguson
Gissel Mentore	Michael Migliore
Glenn Roy	Miriam Rossi
Janice Perez	Neil Fitzgerald
Jason Koch	Rhiana Acuna
Jennifer Bett	Terri Campbell
Joan Skinner	Tim MacMahon
Jocelyn Nadeau	William Kroth

2018 CCEW Illustrated Poem Contest Dive into Marine Chemistry

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

Contest Deadline: April 20, 2018

Prizes: Barnes & Noble Gift Cards

Contact: Lynn Maelia, lynn.maelia@msmc.edu/845-569-3131

Winners of the Mid-Hudson Local Section's Illustrated Poem Contest will advance to the National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes!

Write and illustrate a poem using the CCEW theme, "Dive into Marine Chemistry." 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 marine chemistry include:

Alginate	Coral	Bioluminescence	Brine
Salinity	Seaweed	Thermal Vents	Oil Spill



Entries will be judged based upon:

Artistic Merit - use of color, quality of drawing, design & layout
 Poem Message - fun, motivational, inspiring about yearly theme
 Originality Creativity - unique, clever and/or creative design
 Neatness - free of spelling and grammatical errors

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 yearly CCEW theme.
- 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 enter 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.



**2018 CCEW Illustrated Poem Contest
Dive into Marine Chemistry
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 deadline for the Mid-Hudson Local Section Contest is April 20, 2018.

Student and Organization Information			
Student Name:			
Grade:			
Parent/Guardian Name:		Parent/Guardian Email:	
Parent Address:			
City:		State:	Zip:
School or sponsoring group: <i>(e.g. Boys and Girls Club or Scout Troop, 4-H, etc.)</i>			
Teacher Name:		Teacher Email:	
School Address:			
Address Line 2:			
City:		State:	Zip:
Please send any follow up for the student to the <u>school</u> <input type="checkbox"/> or <u>parent</u> <input type="checkbox"/> address.			
Judging Category by Grade (Check one)			
K-2 <input type="checkbox"/>	3-5 <input type="checkbox"/>	6-8 <input type="checkbox"/>	9-12 <input type="checkbox"/>
FOR LOCAL SECTION USE ONLY			
Local Section Name:		Mid-Hudson	
CCEW Coordinator Name:		Lynn Maelia	
CCEW Coordinator Email/Phone:		lynn.maelia@msmc.edu / 845-569-3131	