

Mid-Hudson Chemist



Spring 2017

Mid-Hudson Section
American Chemical Society



As part of our anniversary year celebration, the Mid-Hudson section is announcing a participation program called **The Carat Club**. This program is being implemented to recognize those people who attend multiple section events throughout 2017. We will be presenting prizes at three different levels. Please be sure to sign in at each event you attend in order to be included. Looking forward to your participation!

UPCOMING EVENTS

WOMEN IN SCIENCE

SPEAKER: MARY VIRGINIA ORNA

PLACE: VASSAR COLLEGE

DATE & TIME: MARCH 2ND, 7 PM

PLEASE SEE ANNOUNCEMENT ON PAGE 3.

18TH ANNUAL MID-HUDSON ACS UNDERGRADUATE
RESEARCH SYMPOSIUM

SPEAKER: DR. LUIS M. CAMPOS, COLUMBIA UNIVERSITY

PLACE: MARIST COLLEGE

DATE: APRIL 21ST

PLEASE SEE ANNOUNCEMENT ON PAGES 4-5.

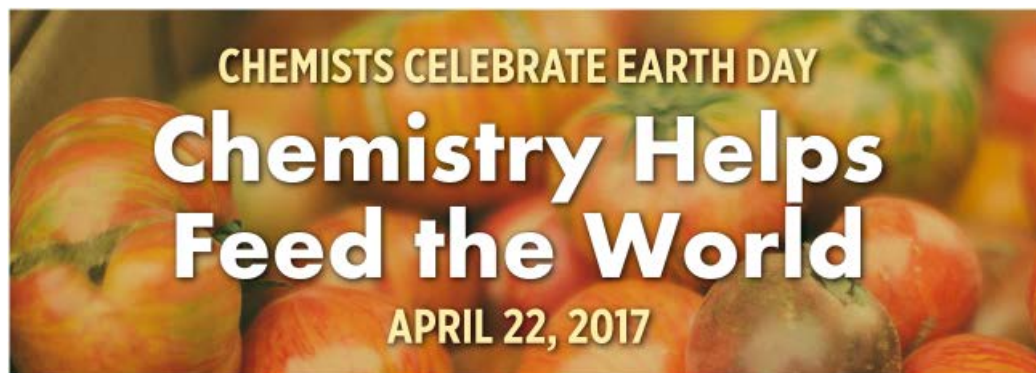
SUNKEN MINE HIKE

CONTACT: MARY DERY

PLACE: FAHNESTOCK STATE PARK

DATE & TIME: APRIL 22ND, 10 AM

PLEASE SEE ANNOUNCEMENT ON PAGE 7.



2017 Executive Committee

Chair: Patti Cusatis; **Chair-Elect:** Lynn Robinson; **Past Chair:** Marianne Scheffler; **Treasurer:** Joan Skinner; **Secretary:** Jocelyn Nadeau; **Councilor:** Mary Dery; **Alternate Councilor:** Timothy MacMahon; **Members-at-Large:** Mary Ellen Sinclair, Christopher Sgro, and Neil Fitzgerald; **NCW Co-Chairs:** Cynthia MacMahon and Timothy MacMahon; **Science Olympiad Chair:** Lynn Maelia; **Awards Co-Chairs:** Patti Cusatis, Lynn Maelia, and Marianne Scheffler; **Government Affairs Chair:** George Ruger; **WCC Chair:** Lynn Robinson; **YCC Chair:** William Maelia; **Publicity Chair:** Chet Dziobkowski; **Webmaster:** William Maelia; **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 updated site and contact our Webmaster (William.Maelia@gmail.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.

Local Section Outreach Volunteer of the Year

Jocelyn Nadeau has received a 2017 Local Section Outreach Volunteer of the Year Award from National! ACS will include a news item online and in C&E News. Congratulations, Jocelyn!

Anniversary Logo Design Winner



The Mid-Hudson section extends a special "Thank You" to **Rhiana Acuna** from SUNY Orange. Rhiana is the winner of the logo design contest for our 75th anniversary and Timothy MacMahon presented her with a certificate and monetary award for her design.

December 9th board meeting at Mill House Brewing Co. in Poughkeepsie.



From left to right: Patti Cusatis, Lynn Robinson, Jocelyn Nadeau, Joan Skinner, Mary Dery, Mary Ellen Sinclair, Marianne Scheffler



The Mid-Hudson Section of the American Chemical Society Announces a Special Presentation in honor of the 75th Diamond Anniversary of our section and Women's History Month:

Women in Science

Guest Speaker: Mary Virginia Orna

Date and Time: Thursday March 2, 2017 (snow date March 9) 7:00 PM

Location: Vassar College, Rockefeller (Rocky) Hall Room 200

Enter campus via Main Campus Drive, at stop sign turn left, first building on left.

Light refreshments and social time 6:30 PM

This talk will highlight the contributions of women chemists and other women scientists who are Nobel laureates and have done spectacular chemistry, including discovering some elements. Many are "firsts," such as the first woman scientist on the Harvard faculty and the first woman to actually "invent" environmental science. The difficulties these women had while doing their science will also be documented.

Sister Mary Virginia Orna, O.S.U. (Order of Saint Ursula) is professor of chemistry at the College of New Rochelle. She is a tour speaker on the roster of the American Chemical Society and has been an invited lecturer to every part of the United States and many countries in Europe, the South Pacific, and the Middle East. Her countless publications have appeared in the Journal of Chemical Education, Color Research and Application, and many other journals. She has also authored numerous books, book chapters, and encyclopedia articles. Mary Virginia has served as Chair, Program Chair and Treasurer of the Division of the History of Chemistry of the ACS. She is currently serving as ACS Councilor and as a member of the ACS Divisional Activities Committee. She is a recipient of several major awards such as the 1989 New York State Professor of the Year and the 1996 ACS Visiting Scientist Award. Mary Virginia Orna is presently president of ChemSource, Inc., a major effort in chemistry teacher preparation and enhancement funded by the National Science Foundation.

Directions: Vassar College is located at 124 Raymond Avenue in Poughkeepsie. Please visit www.vassar.edu for a campus map and driving directions.

Mid-Hudson Section
American Chemical Society



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

18th Annual Undergraduate Research Symposium Friday, April 21, 2017

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 (Grand Foyer)/Poster Set-Up (Student Center/SC 3102-3105)
- 4:00–5:00 PM: Seminar (Fusco Recital Hall/MU 3201)
- 5:00–5:30 PM: Awards and Announcements (Fusco Recital Hall/MU 3201)
- 5:30–6:30 PM: Poster Session A and 6:30–7:30 PM: Poster Session B (SC 3102-3105)
- 7:30 PM: Buffet Dinner (Cabaret)

Guest Speaker: Dr. Lüis M. Campos, Department of Chemistry, Columbia University

“Modular Polyelectrolytes for Batteries and Bioimaging”

Abstract: Polymers offer a rich palette to be decorated with functional units in order to tune various properties, and to harness the collective interactions of the building blocks that can be exploited for technological advances. However, introducing functionality can alter the supramolecular interactions leading to unpredictable behavior. Our group is interested in using building blocks that can be used to exploit organic materials in multiple applications ranging from energy storage to biology. This talk will provide an overview on the chemistry and uses of the cyclopropenium ion that are enabling advancements in materials science.

About the Speaker: Lüis M. Campos is an Associate Professor in the Department of Chemistry at Columbia University. He was born in Guadalajara, Mexico, and moved at the age of 11 to Los Angeles, California. He received a B.Sc. in Chemistry from CSU Dominguez Hills in 2001, and a Ph.D. from the Department of Chemistry & Biochemistry at UCLA in 2006 working under the supervision of M. A. Garcia-Garibay and K. N. Houk. At UCLA, he was awarded the NSF Predoctoral Fellowship, Paul & Daisy Soros Fellowship, and the Saul & Silvia Winstein Award for his graduate research in solid-state photochemistry. Switching to materials chemistry, he went to UCSB as a UC President's Postdoctoral Fellow to work under the supervision of C. J. Hawker at the Materials Research Laboratory. At Columbia, his group's research interests lie in polymer chemistry, self-assembly, and organic electronic materials. To date, he has co-authored over 70 articles and 10 patents, and has received numerous awards, including the ACS Arthur C. Cope Scholar Award, ONR Young Investigator Award, NSF CAREER Award, 3M Non-Tenured Faculty Award, Cottrell Scholar Award, I-APS Young Faculty Award, the Journal of Physical Organic Chemistry Award for Early Excellence, and the Polymers Young Investigator Award.

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., **3399 North Road, Poughkeepsie, NY 12601**)
 - Faculty Advisor's Email Address: in bold and lower case
5. Please submit your abstract as an email attachment on or before **Tuesday, March 14** to: jocelyn.nadeau@marist.edu. If you are unable to meet this deadline, please contact Dr. Jocelyn Nadeau to make arrangements. There is a \$25 conference fee per poster up to \$200 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 jocelyn.nadeau@marist.edu by **March 14**.

RSVPs: If you plan to attend the symposium, please email jocelyn.nadeau@marist.edu the following by **March 14**:

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://www.marist.edu/about/directions.html>. Attendees should park in the McCann/Sheahan Parking Lot (Lot#2): <https://www.marist.edu/security/pdfs/parkingmap.pdf>. From there, the Student Center is just a short walk up the stairs (Building 30; <http://www.marist.edu/about/map.html>) where all the events will take place. There will be signs directing you to the appropriate entrance of the Student Center, which will take you to the Grand Foyer for Check-In. If you have mobility impairments, contact neil.fitzgerald@marist.edu (or call 845-575-3000 x2491) 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 18th annual Mid-Hudson ACS Undergraduate Research Symposium at Marist College. Please check the event website for further details and updates: <http://www.marist.edu/science/2017urs.html>

Call for Applications for 2017 Undergraduate Student Research Awards

The Mid-Hudson Section of the American Chemical Society invites applications for the 2017 Mid-Hudson valley ACS Undergraduate Research Awards from student researchers who plan to present their work at the 2017 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 (2016-2017 academic year) as an undergraduate at one of colleges in the Mid-Hudson ACS area. Students must also present their work at the 2017 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 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 email as an attached Word Document to Dr. Timothy MacMahon email:

timothy.macmahon@sunyorange.edu by Friday **April 7, 2017**. Please indicate in the subject line of the email that you are submitting an application for the URS Student Research Award. Confirmation that the submission has been received will be sent via email.

Mid-Hudson Section
American Chemical Society



Sunken Mine Hike

As part of the Gems of the Hudson Valley theme for our 75th anniversary, the ACS Mid-Hudson section is sponsoring a sunken iron ore mine trek in and around Fahnestock State Park on Earth Day, April 22, 2017 at 10:00 AM. We will start at the trail head at 295 Dennytown Road in Putnam Valley. (There is a little red check-in stand on the property with a large parking area.) Bring some snack food and water. The hike is relatively flat with a few sections with some inclines that have a few rocks. It is rated easy to intermediate, about 3 miles long. For more information, contact Mary Dery at derymary@aol.com or 914-456-5881.

Call for Judges

58th Annual Dutchess County Regional Science Fair

The 58th 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.

Marianne Scheffler, 2016 Chair of the Mid-Hudson ACS, is requesting volunteers from our membership 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 1, 2017

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

Time: Judging will take place from 9:00 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 2017 Dutchess County Regional Fair.

Geology and Gems at Vassar College

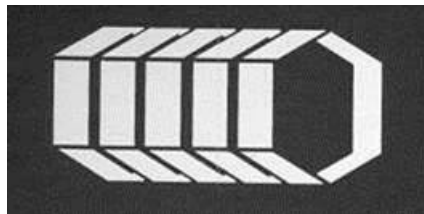
The celebration of the 75th Diamond Anniversary of the Mid-Hudson Section began on February 2nd with a presentation on geology and gems at Vassar College.

From a 30-year ACS member who loved this experience..., About 30 members of the MHACS section and their guests assembled for an illuminating lecture on the color of gems and minerals by 30 year Vassar Professor Jeff Walker, (Ph.D. from Dartmouth College, NH). We learned about the intricate dance of nature-substituting elements in inorganic formulas to account for the color in our most famous and "not so famous" gems and minerals. A fascinating and science-based understanding met all our expectations. After a bagels-to-go free sale, we were all excited to enter Vassar's-own Warthin Museum of locally and nationally accumulated earthly specimens. The Museum's Collection Manager, Rick Jones, summarized what we had to view in beautiful antique, wood framed, glass enclosed cases, "don't lean on them". So many of them!! Vassar student Miranda Kay had a special presentation exhibit and at that point you knew you would be in this long room for a long time. We saw sparkly, shiny, so deep green, no it's a flower not mineral, it's a rock, no it glows in UV light! It glows? Did I mention, this is a college of geology and gem learning. All earthly? Well, who can say they held a hefty sized meteorite in their hands. Many did. "It's just a chunk of iron with other heavy elements. But it's from space!".

-Glenn Roy, Ph.D. (30-year ACS member)

Did you miss our inaugural lecture for the MHACS 75th Diamond Anniversary? Come to our next event!

United States National Chemistry Olympiad



USNCO

Dear Science Educator,

The Mid-Hudson Section of the American Chemical Society (ACS) will again be participating in the **U.S. National Chemistry Olympiad (USNCO)** in 2017 and you and **your students are invited to participate**. The primary goals of this program are to stimulate interest and achievement in chemistry among high school students throughout the United States and to provide recognition of outstanding young chemistry students, teachers, and schools.

Students competing in the USNCO are eligible to be selected as members of the United States team for the International Chemistry Olympiad (IChO). For the past thirty two years, the United States has sent a team of four students to compete with nations around the world at the IChO. The students participate in both theoretical and laboratory examinations over several days. The IChO also provides students the opportunity to interact with their peers from other countries. The 2017 international event will be held July 6-15, 2017 in Nakhom Pathon, Thailand.

We will begin the selection process for the IChO by choosing ten (10) participants from the Mid-Hudson Section to take the National Chemistry Olympiad qualifying exam on Saturday, April 22nd at Mount Saint Mary College in Newburgh, NY. Student who are selected and who complete this exam will be given an extra incentive to compete with a \$50 award. National recognition will be based on the results of this exam.

To select our 10 students we will use Local ACS Section qualifying exams, which you will administer at your school, should you choose to participate. If you feel that your school has students who can compete in the Local Section Competition, please contact me. I will send you copies of the 2017 Local Section Exam which I ask you to keep in confidence until you give the exam in the time period from March 1-March 30, the days that the Local Section exam will be administered in the Mid-Hudson Section. These exams are to be returned to me for grading as soon as possible after administration, but no later than **March 30, 2017**. The 10 students who qualify for the National ACS exam from the Mid-Hudson Section will be contacted in early April.

According to the rules of the Olympiad, there is no limit to the number of students from each school who can take the local exam but there is a limit to the number of students per school who may take the National qualifying exam. Only **two** students per school will be allowed to participate in the **national** exam. Only citizens and legal, permanent residents of the United States (green card holders) will be eligible to take the U.S. national examination. More information about the Olympiad program can be found through the ACS website at: www.acs.org/olympiad. Links to Local Exams from previous years are at the web site and can be used to prepare your students.

Please let us know of your intention to participate as soon as possible and include the following information: name, school, email address, phone number, and approximate number of students participating in an email to: lynn.maelia@msmc.edu.



ACS
Chemistry for Life™

American Chemical Society Poem 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 2016 National Chemistry Week poetry contest with the theme "Solving Mysteries Through Chemistry". Students from four schools participated in the contest. First place winning posters in each category were submitted to the national competition for judging.

3-5

1st place: Sebastian Castro - Bishop Dunn Memorial School * NATIONAL WINNER 1ST PLACE

6-8

1st place: Sofia Castro. - Bishop Dunn Memorial School * NATIONAL WINNER 1ST PLACE

2nd place: Joshua Yough - Bishop Dunn Memorial School

3rd place: Michael McCullough - Bishop Dunn Memorial School

9-12

1st place: Jacob Bett - Brewster High School

2nd place: Miranda Beer - Red Hook High School

3rd place: Allie Budd - Red Hook High School





Life in 1942

As we celebrate our 75th anniversary year as the Mid-Hudson section, let's look back at what life was like in 1942 and what was going on in science and technology. – *Patti Cusatis*, MHACS Chair

The Cost of Living

- Average Cost of a new house: \$3,770.00
- Average wages per year: \$1,880.00
- Cost of a gallon of Gas: 15¢
- Average Cost for house rent: \$35.00 per month
- Bottle of Coca-Cola: 5¢
- Average Price for a new car: \$920.00

Some Significant Science and Technology Events in 1942

- Henry Ford patents a method of constructing plastic auto bodies.
- Cyanoacrylate adhesive is invented by Harry Coover of Eastman Kodak.
- Eastman Kodak first markets Kodacolor color negative film.
- Fraser Stoodart is born; he would go on to be one of the recipients of the 2016 Nobel Prize in Chemistry for the design and synthesis of molecular machines.
- Alfred Gliman, Louis S. Goodman and Frederick S. Philips first carry out trials of anti-cancer chemotherapy, using mechlorethamine.
- Chemical labs are working on a range of new technologies from new types of explosives to incendiary bombs.
- New materials and new uses for old materials begin to appear. Companies manufacturing consumer goods (such as silverware) converted to manufacturing military goods (such as surgical instruments). Automobile factories re-tool to make tanks and airplanes. These industrial modifications require rapid and creative engineering, transportation, and communications solutions.
- Because of the need to put most resources into the war effort, consumers at home experience shortages and rationing of many basic items such as rubber, gasoline, paper, and coffee. Consumers have to conserve, or just do without. New materials emerge to fill these void of items that are being rationed. Many had been invented just before the war but found wide use during World War II: plastic wrap (trademarked as Saran wrap) becomes a substitute for aluminum foil for covering food; cardboard milk and juice containers replace glass bottles; plywood emerges as a substitute for scarce metals. The look and feel of 1950s America – a “modern” world of molded plywood furniture, fiberglass, plastics, and polyester – had its roots in the materials innovations of World War II.
- The science of nutrition expands greatly during WWII. In the United States, scientists work to identify which vitamins and minerals are most essential to a healthy body and in what amounts.

Sources:

The science and technology of World War II, Dr. David Mindell

<http://www.onthisday.com/events/date/1942>

<http://www.thepeoplehistory.com/1942.html>