Mid Hudson Chemist

ACS Local Section Mid-Hudson

THE OFFICIAL NEWSLETTER OF THE MID-HUDSON ACS

FALL 2026 | VOL. 11, NO. 2

MECHANISM OF THE MONTH
Chemiluminescence

Chemistry That Produces Light

Where chemistry glows.

A closer look at luminol and the chemistry behind its blue glow.

From the Editor

This fall issue of the Mid Hudson Chemist highlights the many ways chemistry connects our community—from the light-producing chemistry of chemiluminescence to undergraduate research, student achievement, education, and public outreach.

As we begin another academic year, we celebrate the students, educators, researchers, and volunteers who continue to strengthen the Mid-Hudson scientific community. I hope this issue gives you an opportunity to learn something new, recognize the accomplishments of our members, and discover another way to become involved with the section.

— Maryellen Sinclair
Editor / Publisher

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MECHANISM OF THE MONTH

Chemiluminescence: Chemistry That Produces Light

The luminol reactionturnschemicalenergydirectlyintoanelectronicallyexcitedproduct—and then into visible blue light.

Chemiluminescence occurs when a chemical reaction produces an electronically excited molecule. Instead of releasing all of its excess energy as heat, the excited molecule can return to its ground state by releasing that energy as a photon of visible light.

One of the best-known examples is the luminol reaction, famous for its intense blue glow. Under basic conditions, luminol is oxidized by hydrogen peroxide. The reaction proceeds through peroxide-containing intermediates and ultimately forms an excited-state 3-aminophthalate ion. As that excited product relaxes to its lower-energy ground state, it emits blue light near 425 nm.

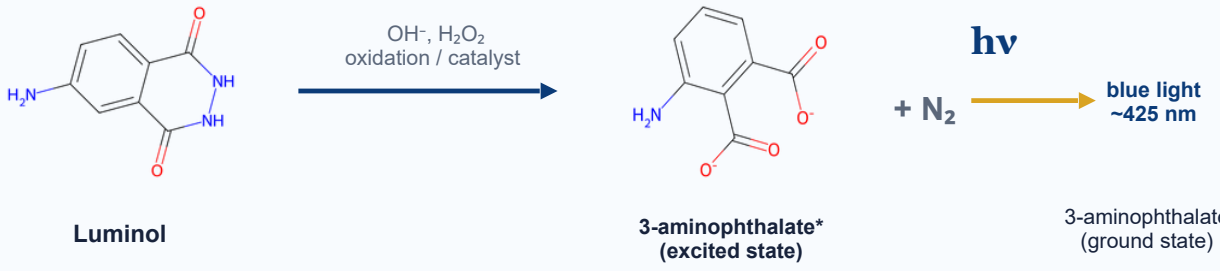
Chemiluminescence is useful far beyond demonstrations. It is used in analytical chemistry, biological assays, medical diagnostics, environmental testing, and forensic applications. Unlike fluorescence, which requires a molecule to absorb light first, chemiluminescence creates the excited state through the chemical reaction itself.

WHAT IS HAPPENING?

1. Luminol is activated inbasic solution.
2. Hydrogen peroxide oxidizes the luminol-derived species.
3. Excited 3-aminophthalate forms as nitrogen is released.
4. The excited product returns to its ground state and emits a blue photon.

TAKE-HOME IDEA:
Chemical reaction → excited molecule → photon → visible light

A Simplified Luminol Chemiluminescence Pathway



Simplified scheme: the complete aqueous mechanism includes pH-dependent peroxide/endoperoxide intermediates.

Sources: Giussani et al., Chemistry – A European Journal (2019), DOI 10.1002/chem.201805918; Yue et al., J. Phys. Chem. B (2020), DOI 10.1021/acs.jpcb.0c06301.

FROM THE CHAIR

A Semi-Annual Summary from the Chair

MichelleRissolo • Mid-HudsonSection,AmericanChemicalSociety

"It's been a unique year for the Mid-Hudson section as well as the National American Chemical Society."

It's been a unique year for the Mid-Hudson section as well as the National American Chemical Society:

In April, the American Chemical Society celebrated their 150th anniversary as the largest scientific society in the world; and the mid-Hudson section has expanded into a county in Pennsylvania as well as another county in New York. The Mid-Hudson section hosted several events so far this year, the first one in March at the Ulster County Resource Recovery Agency located in Kingston, New York, which included a Tag Team speaking event by their director and recycling coordinator to introduce participants to the facility and the work they do. There were 15 participants. The speakers were followed by a tour of the facility and then a catered lunch with a think tank forum. This event was made possible by funding from the Mid-Hudson section. Also, in March, a Young Chemists Committee grant from National supplemented funding for a Tuthilltown whiskey distillery tour and tasting. There were 13 people participating. In April, the Mid-Hudson section hosted their 26th Undergraduate Research Symposium, which was attended by almost 200 guests at the poster session and about 100 guests for dinner. Scientific papers were submitted prior to the event for peer-review and the awards were noted at this event as well. The Mid-Hudson section celebrated their 50-year, 60-year, 70-year and 75-year members at the dinner. Also celebrated were the College Recognition Awards for our top chemists and their faculty mentors located within the section's boundaries. The guest speaker was Cathy Mulzer, Ph.D, who is an alum of Marist University and then set off on a road to change the technology world! Also, in April, was our traditional Earth Day hike. Several of the Mid-Hudson members were judges at the Dutchess County Science Fair. In July, we celebrated our past year's volunteers with a dinner in Newburgh at Beso Taco.

Thank you to all who attend our monthly remote meetings to plan and execute all of these great events! I look forward to the many events scheduled for October and November- please be sure to join us!

Kind Regards,
Michelle A. Rissolo

COMING THIS FALL

- SCC at the Culinary Institute of America cooking demonstrations and tastings/ luncheon
- WCC at Mount Saint Mary College Girl Scout Badge Day
- National Chemistry Week events
- Americium The Beautiful Archery and dinner MEET event
- Kids Chemistry Night in Orange County
- Mid-Hudson Board elections (come join the fun and pay it forward!)
- Details are on the Mid-Hudson website and in this newsletter.

MEMBER STORY

Paying It Forward

ThefullstoryofMichelleRissolo - education,opportunity, and giving back

This is the story of a little girl who dreamed big and worked hard to escape poverty.

She was born in 1964 to a mother who was 17 years and 12 days old and a father who was 21 years old. They lived in an attic apartment with no heat and no air-conditioning. It was the third floor of a house with an external wooden staircase to the kitchen door. Laundry was done in the bathtub and hung out to dry on the clothesline through a window in the bathroom attached to a big old maple tree.

The mother was able to finish high school during pregnancy and became a housewife - and gave up her dreams of going to college and being a nurse. He took on a full-time job as a sheet-metal mechanic. Another baby came 23 months later. Life was a struggle to put food on the table and clothes on the children's backs.

After five years, marriage bliss was gone and divorce proceedings started. The mother became a single parent and worked part-time jobs whenever she could. Visitation with the father was every other weekend, but he was rarely present because he wanted to be with his friends.

By the time the little girl was seven years old, she knew what being poor was, and her mother said the only way out was a good education and attending college. Earn a living to support yourself and don't depend on anyone to help. Be independent and be driven. The little girl studied and excelled - so grateful along the way for a scholarship here and there during her university attendance!

Now almost half a century later, she knew in her heart that she must pay it forward. This year she awarded a $2,500 scholarship to a graduating senior with financial needs who has been accepted into a university and will major in a chemistry field. The award went to Addison Hamrick of Webster County in West Virginia. She is attending the University of WV. Webster County High School is one of the poorest counties in the state - half the students live below the poverty line and of those half are homeless and living with non-parents.

The award was presented to her in May at a local restaurant with her parents, brother and grandparents in attendance. Additionally, she was awarded a membership to ACS.

Throughout the summer, Addison met on FaceTime each week for an hour and discussed various chemistry topics and applications. This mentorship grew a friendship as well and they keep in contact. To date, Addison scored 98% on her first chemistry test!

The little girl born in 1964 was me, Michelle Rissolo.

I am so happy that I decided to pay it forward - you can too by contacting your local high school guidance counselor and proposing
a scholarship as I did. Or if you want to join forces, let me know.

To make an impact on young adults - especially women - and watch her follow her dreams is life changing for me and brings back the memories of some of the best times of my life - in the lab, studying, working with other students who have similar goals.

Best Regards,
Michelle Rissolo

Addison Hamrick and Michelle Rissolo

Ways to Serve the Mid-Hudson ACS

Elected leadershippositionsandwhateachroleinvolves

Calling all ACS members in the Mid-Hudson section: To keep the value-added aspect of ACS going strong in the Hudson Valley, we need you! Have you thought about volunteering or nominating your colleague or yourself? We have wonderful opportunities to give an hour or two a month as well as longer commitments

CHAIR-ELECT *3-year term*

The Chair-Elect serves as program chair and has the principal responsibility for planning and arranging the section's meeting programs for the year during which he or she will be Chair. It is essential that the Chair-Elect chooses speakers of high caliber that reflect the needs and interests of the local membership. The Chair-Elect is invited each year to attend a Local Section Leadership Conference which provides ideas about programs and activities for new section leaders. During the second year, the position is called Chair; and third year the position is called Past Chair. Time commitment fluctuates throughout the 3-years with the second year averaging 4 hours a month. As a Chair-Elect, the section will pay for your travel and stay at the weekend mentorship program provided by national ACS (usually in Atlanta).

TREASURER *1-year term*

The Treasurer receives and disburses the section's operating funds and is responsible for accounting for all section moneys, including annual ACS allotments, local membership dues, and program revenues and expenses. The Treasurer is expected to maintain accurate financial records for the section and prepare monthly and annual reports on the section's fiscal condition for review by the Executive Committee. The Treasurer is also responsible for filing Internal Revenue Service forms. In order to receive the annual allocations of the members' national dues for the operation of local sections, the Treasurer must make a formal request to the National ACS for payment of funds. A formal request form indicating the allotment amount for the succeeding year will be sent to the Treasurer in mid-November. It is to be signed and returned to the National office by December 15. The annual financial report is to be prepared and returned to the national ACS office by February 15. The appropriate forms will be sent by national ACS in mid-November. This position requires on average 4 hours per month with April and May being 8 hours each.

SECRETARY *1-year term*

The most essential responsibility of the section Secretary is maintaining the membership list and other section records. On a monthly basis, the Secretary retrieves a section membership e-roster from the ACS, which includes a complete alphabetical list of members' names and addresses as well as a separate e-roster file detailing address changes, new members, and other section roster amendments to the previous edition. The Secretary shall prepare an election ballot on which shall appear the names, in order chosen by lot, of all candidates nominated. The Secretary shall then send each Member of the Section a list of candidates for each elective position together with a secret ballot. This election process can take place by paper ballot or can be conducted by electronic means as permitted by the ACS National guidelines. In either case, all results must be completed before December 1st. As soon as possible after section elections (and by December 1), the Secretary should notify the ACS Executive Director of newly elected local section officers and committee chairs appointments. Prompt reporting of the names and addresses of these individuals ensures that all official correspondence and other communications from the national office staff are directed to the proper local section personnel. On or before December 1 of each year, the Secretary must certify to the ACS Executive Director the names and terms of office of all section Councilors and Alternate Councilors [ACS Bylaw III, Section 1(a-4 and e-2)]. This certification is required for both newly elected Councilors and alternates and those continuing to serve unexpired terms. The December 1 deadline is necessary to ensure that the complete list of Councilors is available for consideration by the incoming ACS president in making committee appointments. The committee selection process is conducted in mid-December, and only certified Councilors are eligible for appointment to Council committees. The Secretary should submit biographies for re-elected and newly-elected Councilors to the national office along with the certification forms. Appropriate forms for certification and biographies are sent in October to each local section secretary. The ACS Records Office will supply additional forms upon request. The Secretary is also charged with certifying the credentials of Alternate Councilors and/or temporary substitute councilors chosen to represent the section at ACS Council meetings in the absence of the elected Councilor(s). Procedures for this certification are sent with the Council agenda to the Secretary approximately six weeks prior to each Council meeting. The Secretary is also the person who possesses documents of permanent importance such as the charter, list of original members, historic documents, and the certified copy of the local section bylaws. Minutes for all general membership and Executive Committee meetings, and regular section correspondence are also the responsibility of the Secretary. The Secretary receives a copy of all official correspondence from the ACS national office and ensures that copies are directed to the appropriate officers and committee chairs. This commitment averages 3 hours per month.

WAYS TO SERVE

Additional Leadership Opportunities

Member-at-Large • AlternateCouncilor • Howtonominate

MEMBER-AT-LARGE

3-year term

A Member-at-Large is elected for a 3-year term. The duties of a Member-at-Large shall include bringing before the Executive Committee such items of concern to members of the Section as shall have been brought to their attention, as well as to have a working knowledge of the National and Local Section Bylaws, so that they may act as counsel to the Executive Committee. The Member-at-Large can also be a committee chair. This commitment averages 2 hours per month with an additional expectation you will host at least one event coordinated by the Chair.

ALTERNATE COUNCILOR

3-year term

The Alternate-Councilor fills in for the Councilor if the Councilor is unable to attend various meetings or activities. Both Councilor and Alternate-Councilor are positions with 3-year terms. This commitment averages 2 hours per month and additional time would be needed if the Councilor cannot perform duties.

HOW TO NOMINATE

Please send your nominations and a short, three or four sentence bio before October 15, 2026, to our NominationCommittee:

Michelle Rissolo
RissoloM@outlook.com
Text: 845-399-1985

Naira Arrykova
NairaArrykova@gmail.com

Kind Regards,
Michelle A. Rissolo

CHEMISTRY IN ACTION

2026 U.S. National Chemistry Olympiad

Local students put their chemistry skills to the test at Vassar College

Twelve local high school students completed the 2026 USNCO exam at Vassar College.

During a weekend in April, twelve local high school students took the U.S. National Chemistry Olympiad exam at Vassar College. The exam included a multiple-choice test, a written problem-solving examination, and a hands-on laboratory practical. Congratulations to the students and teachers who made participation possible, and thank you to Dr. Tanski for administering the Olympiad for the Mid-Hudson ACS.

NEW REGIONAL X-RAY DIFFRACTION RESOURCE AT VASSAR

Vassar College has received NSF Major Research Instrumentation support to acquire a CPAD X-ray diffractometer for chemical and biochemical research and education. The instrument will determine the identity and three-dimensional structures of crystalline materials at the atomic level. The award describes increased detector sensitivity, a motorized track for adjusting crystal-to-detector distance, easier mounting of frozen samples, and more intense X-ray sources—capabilities especially useful for biological crystallography and tiny, weakly diffracting crystals. The facility is intended to strengthen research infrastructure for Vassar and neighboring Hudson Valley institutions.

NSF MRI Award 2510326 • Vassar College

2026 College Recognition Awards

Recognizingchemistryachievementandencouraging continuedstudy

The 2026 College Recognition Awards were presented during the Undergraduate Research Symposium held Friday, April 24 at Marist University. One student from each participating college in the Mid-Hudson Section received a monetary award recognizing achievement in chemistry and encouraging further study.

Educational Institution	Student	Student's Hometown	Advisor
Mount Saint Mary College	Luke Miller	Slate Hill, NY	Dr. Lynn Maelia
United States Military Academy	Chloe Sample	Foristell, MO	Dr. Eileen Kowalski
Bard College	Everest Oppenheimer	Verbank, NY	Dr. Craig Anderson
Vassar College	Eamon Smithsimon	Brooklyn, NY	Dr. Myles Drance
SUNY Orange	Olivia Loeven	Middletown, NY	Dr. Dustin McCall
Marist University	Cara Stefanik	Simsbury, CT	Dr. Neil Fitzgerald
SUNY New Paltz	Morgan Keuhn	Gilberstsville, NY	Dr. Pamela St. John

From left to right: Dr. Neil Fitzgerald, Cara Stefanik, Dr. Eileen Kowalski, Chloe Sample, Dr. Craig Anderson, Everest Oppenheimer, Morgan Keuhn, Dr. Pamela St. John, Luke Miller, Dr. Lynn Maelia, Olivia Loeven, Dr. Dustin McCall, Eamon Smithsimon, Dr. Myles Drance.

Photo Credit: Lynn Robinson

UNDERGRADUATE STUDENT RESEARCH

2026 Undergraduate Student Research Paper Awards

Congratulations to this year's Mid-Hudson ACS recipients

The Mid-Hudson Section of the American Chemical Society is pleased to announce the recipients of the 2026 Undergraduate Student Research Paper Awards. Outstanding papers submitted by student researchers who presented at the 2026 Undergraduate Research Symposium were selected, and each student received a monetary award.

Eden Lanham
Vassar College

Synthesis of Group 4, 5, and 6 Transition MetalTetrahydrocarbazole Complexes

Advisor: Professor Joseph Tanski

Samuel D. Harvey
UnitedStatesMilitaryAcademy

Integration of TEMPO-Oxidized Cellulose Nanofibers into an HKUST-1 Metal-Organic Framework Monolith for Mechanical Durability and Form Factor

Advisor: Dr. Enoch Nagelli

Danielle S. Henderson
United States Military Academy

Machine Learning-Enhanced Electrochemical Analysis of Separator Modifications in Redox Flow Batteries

Advisor: Dr. Enoch Nagelli

From left to right (as identified in the source): Dr. Chi Nguyen, D. Anderson (USMA), Dr. Enoch Nagelli, S. Harvey (USMA), Dr. Joe Tanski, E. Lanham (Vassar College).

Photo Credit: Lynn Robinson.

"Chemistry Under Construction"

ACS

2026 NCW Illustrated Poem Contest
"Chemistry Under Construction"

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: October 23, 2026

Prizes: Gift Cards

Contact: Lynn Maelia at lynn.maelia@msmc.edu or 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 NCW theme, **"Chemistry Under Construction"**
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 the theme include:

- Chemical reaction
- Molecules
- Copper
- Rust
- Adhesive
- Concrete
- Cement
- Insulation
- Metal
- Polymers

Entries will be judged based upon:

- Artistic Merit - use of color, quality of drawing, design, and 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:

- All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, Limerick, Ode, ABC poem, Free verse, End rhyme, and Blank verse.
- Entries are judged based upon relevance to and incorporation of the yearly topic (the 2026 topic is Construction), the word choice and the imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.
- All entries must be original works without aid from others. Physical drawings may be scanned or captured via camera and submitted digitally. Illustrations may be created using crayons, watercolors, other types of paint, colored pencils, or markers.
- The illustration may also be electronically created by using a digital painting and drawing app on a computer, tablet, or mobile device. If the illustration is created using a digital painting or drawing app, the name of the program must be included on the entry form.
- Use of AI in any form (i.e. written or pictorial) is strictly prohibited.
- The text of the poem should be easy to read and may be typed before the hand-drawn or digital 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.
- No clipart or unoriginal images can be used.
- Only one entry per student will be accepted (without assistance from others).

Contest Rules & Student Submissions

Continuation of the official Mid-Hudson contest information

SPONSORSHIP

Students must be sponsored by a school or another sponsoring community group
(e.g., Homeschool Association, Boys and Girls Club, Scout Troop, 4-H, etc.).

PUBLICITY CONSENT

Acceptance of prizes constitutes consent to use winners' names, likenesses, and entries for editorial, advertising, and publicity purposes.

PARENT/GUARDIAN PERMISSION

Students must have parental/guardian permission and signature to enter the contest.

NO PURCHASE NECESSARY

No purchase necessary. Void where prohibited. Sponsored by the American Chemical Society. All rights reserved. Contest information may be updated or changed for future contests.

Student Submissions

K–12 students must submit their illustrated poems directly to the coordinators of their local contests. To contact your local coordinator, visit www.ncwlookup.acs.org.

If there is no nearby local section, or if the designated local section is not able to process submissions, entries may be directed to a neighboring local section.

SENIOR CHEMISTSCOMMITTEE

ACS 150 at the Culinary Institute of America

Tour • Chef-GuidedTasting • AmericanBountyLuncheon

Friday, October 16, 2026 • Assemble 10:00 AM • Hyde Park, NY

All Senior Chemists are invited - with a special invitation to members celebrating 40-70 years of ACS membership.

THE EXPERIENCE

- Guided walking tour of Roth Hall, including the Anthony Bourdain tribute and views into working kitchens.
- Theater tasting with the resident Senior Chef of Food Science - a chance to test whether you can "taste like a chef."
- Chef-prepared luncheon in the American Bounty Restaurant with non-alcoholic beverages and refills included.

AMERICAN BOUNTY MENU

ARUGULA SALAD
Roasted marinated baby beets, spicy pecans, poppy seed vinaigrette

SAUTÉED CHICKEN BREAST
Roasted garlic potato gratin, seasonal vegetables, chicken jus

WARM CHOCOLATE TART
Chantilly, caramel sauce, vanilla ice cream

VEGETARIAN ALTERNATE
Wild mushroom risotto with "Black Dirt" onions and spinach

$40 PER PERSON

REGISTER BY OCT. 1
midhudsonacs.org/senior-chemists-committee.html

1946 Campus Drive • Hyde Park, NY
RestaurantParking • AntonPlaza • 845-451-1544

Please indicate a vegetarian entrée choice with payment. After lunch, guests may visit the Bake Shop or Gift Shop.

NATIONAL CHEMISTRYWEEK

National Chemistry Week 2026

October 18–24, 2026

2026 THEME

UNDER CONSTRUCTION

National Chemistry Week celebrates chemistry and its role in everyday life. This year's "Under Construction" theme connects naturally to the chemistry of materials, structures, energy, design, and the built world.

MID-HUDSON NCW EVENTS

- 2026 Illustrated Poem Contest
- Americium the Beautiful — MEET Event
- Kids Chemistry Night
- Girl Scout Badge Day / WCC activities
- Additional section events posted online

FIND THE LATEST

Check the Mid-Hudson ACS website for the latest local event postings, registration details, and schedule updates throughout the fall.

midhudsonacs.org

National Chemistry Week information: acs.org

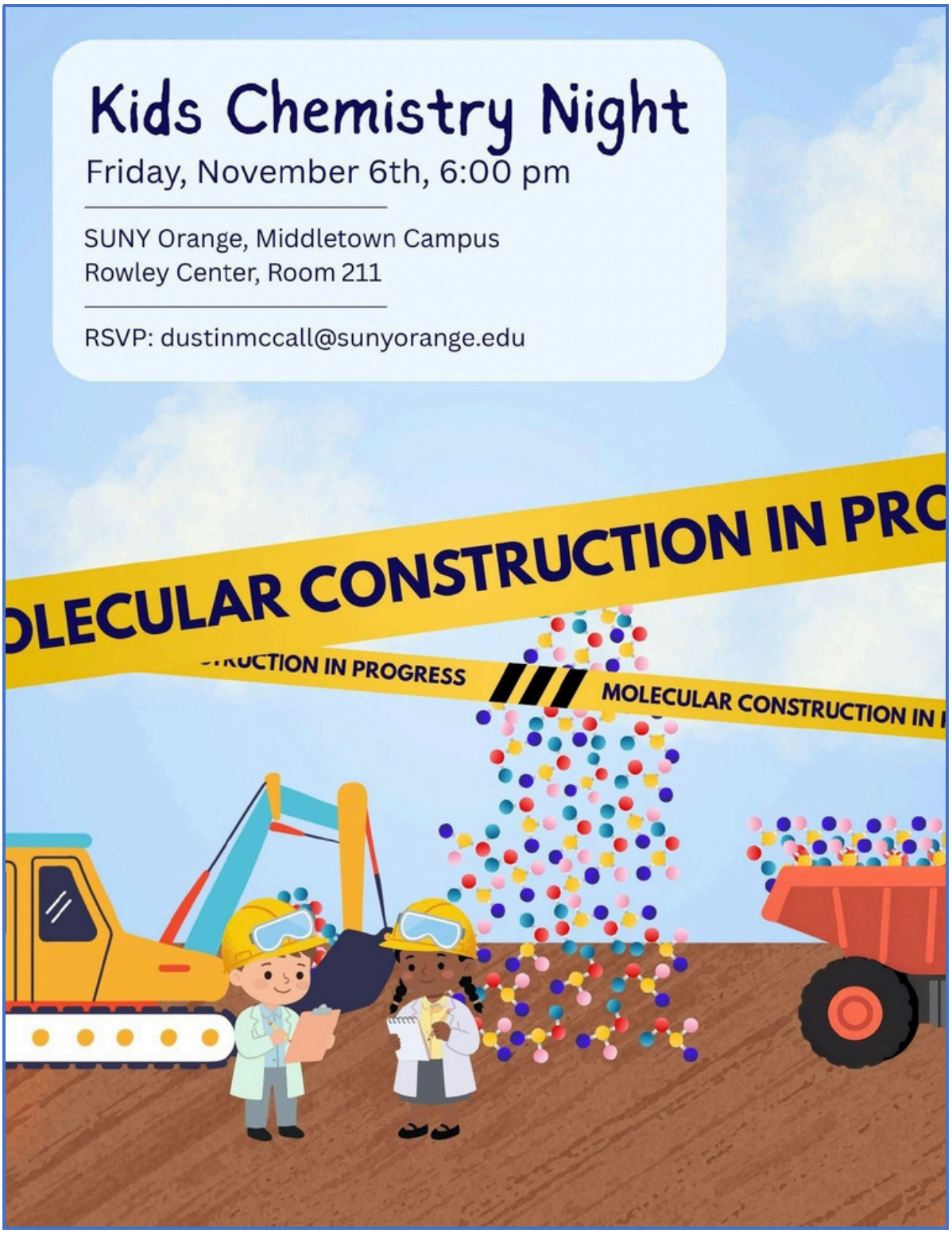
Celebrate chemistry • Attend an event • Invite a student • Share science with the community

COMMUNITY OUTREACH

Kids Chemistry Night

Friday,November6•6:00PM•SUNYOrange,Middletown Campus • Rowley Center, Room 211

RSVP: dustinmccall@sunyorange.edu



MID-HUDSON ACS MEMBEREVENT

Americium the Beautiful — MEET Grant Event

October 23, 2026 • 4:30–7:30PM • Ti Yogi Bowmen Archery Club, Hyde Park • $5 per person

Celebrate 150 years of the American Chemical Society with the Mid-Hudson Local Section. ACS members and prospective members are welcome; attendees must be 18 or older. The evening includes a buffet dinner, safety orientation, and an archery competition with prizes.

Mid Hudson Chemist

ACS Local Section
Mid-Hudson

THE OFFICIAL NEWSLETTER OF THE MID-HUDSON ACS | FALL 2026 | VOL. XX, NO. X

2026 Executive Board Members

The volunteers who help lead and support the Mid-Hudson chemistry community.

CHAIR
Michelle Rissolo

PAST CHAIR
Ken McDonald

SECRETARY
Naria Arrykova

ALTERNATE COUNCILOR
Dawn Riegner

AWARDS CHAIRS
Patti Cusatis

MEMBERSHIP CHAIR
Maryellen Sinclair

SCC CHAIR
Glenn Roy

USNCO CHAIR
Joe Tanski

EARTH DAY CHAIR
Joan Skinner

CHAIR-ELECT
Ashutosh Sharma

TREASURER
Joan Skinner

COUNCILOR
Lynn Robinson

MEMBERS-AT-LARGE
Lynn Maelia, Nicoline Kiwiet, Miles Drance

DCRSF
Nicoline Kiwiet

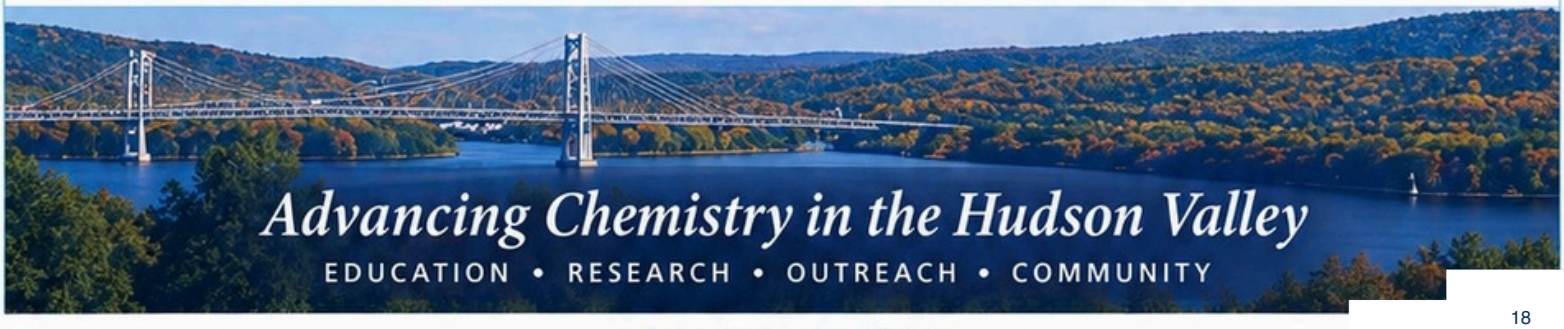
EARTH DAY HIKE
Butch Dery

NCW CHAIR
Chi Nguyen

PUBLICITY
Maryellen Sinclair

WCC CHAIR
Lynn Robinson

URS CHAIR
Jocelyn Nadeau

WEBMASTER
Patti Cusatis

YCC CHAIR
Ryan Gaynor