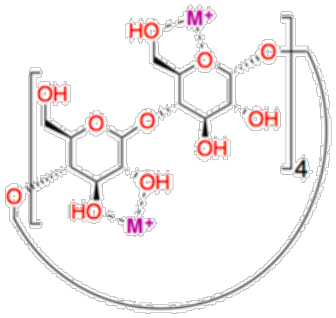
MOLECULAR MEETUP!

The Northern Division of NEACT is meeting this fall, hosted by the University of New Hampshire Department of Chemistry



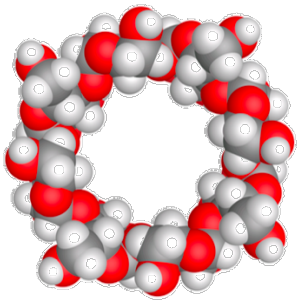
Parsons Hall, UNH Campus, Durham, NH

October 4, 2025 - SAVE THE DATE!

3-Hour Program – 11:00 AM to 2:00 PM

Program Goals

Join fellow New England chemistry educators at UNH for an exciting afternoon focused on chemistry research, innovative outreach, and hands-on learning. This program is designed to:



- Introduce current UNH Chemistry research projects and facilities
- Explore outreach and research opportunities for K–12 students and teachers at UNH
- Offer lab workshops and professional development
- Build community among chemistry educators across the region

Program Highlights

1. Faculty Research & Outreach Presentations (30 min. each) *Note: Coffee and pastries will be available at registration.*

Two Chemistry Professors will present current research and innovations in the field. One will showcase a lab specifically designed for high school students related to their research. This lab is offered as one of the workshops.

2. Tours Department of Chemistry and the University Instrumental Center and Workshops

• Tour of Parsons Hall including the University Instrumentation Center (UIC)
• Workshops listed at the end of this brochure

3. NEACT Reception & Networking

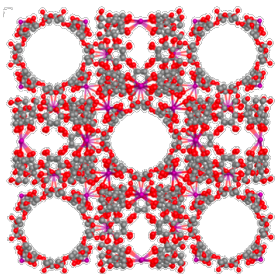
Enjoy a light lunch, refreshments and connect with other NEACT members and UNH Chemistry students, faculty and staff. Refreshments provided by NEACT.

4. Optional Workshops - an additional hour of workshops will be offered from 3 to 4 pm, if there's enough interest.

This program is free and only open to NEACT members. Registration is on the NEACT site

To join NEACT go to www.neact.org (It's $30.)

NOTE: A current NEACT member can sponsor one new member for one year.



Hosted by the Chemistry Department, UNH, Durham, NH (Questions? ray.sleeper@unh.edu)

We look forward to seeing you Saturday October 4th at UNH!

Workshops offered:(Some of the workshops have limited enrollment — After you've registered on the NEACT site please **sign up here** to secure your preferred spot**)**

An Introduction to Metal Organic Frameworks (MOF's)
This introductory session will highlight a MOF lab developed at UNH for High School labs that will be showcased earlier. Teachers will get a detailed explanation of the lab and go home with materials to use for the lab with their students.

An Introduction to Using Conditional Formatting in Spreadsheets to Create Engaging, Interactive Chemistry Lessons with Instant Feedback
This introductory session will be a showcase of dynamic spreadsheet chemistry lessons that provide instantaneous, differentiated feedback to students as they learn or practice new content independently or in small groups. This method amplifies confidence for students of all abilities and frees teachers to assist those most in need. In this introductory session, teachers will see the methodology of using spreadsheets and learn how to edit lessons of mine and make their own lessons. For more information on this process, reference this article on the American Association of Chemistry Teacher's website.
(https://teachchemistry.org/periodical/issues/march-2025/using-conditional-formatting-in-spreadsheets-to-create-engaging-interactive-lessons-with-instant-feedback)

Chemistry and the Arts: Exploring the Art/Science Relationship
In this workshop, participants will explore the parallels between the arts and sciences, examine the role of arts-based strategies in creative assessment, and translate scientific ideas into artistic forms. Science topics will be investigated through nonfiction texts and integrated with drama, poetry, and visual art—while moving through the scientific process.
The workshop will model Universal Design for Learning (UDL), offering multiple ways to access the curriculum and express understanding. Participants will experience a variety of approaches that honor choice, voice, and the diverse ways students learn. Assessment and documentation will serve as through-lines as we explore arts integration strategies to support meaningful learning.

From Bugs to Dye!
Carmine dye from Cochineal bugs was used in the Americas for coloring fabrics and became an important export good in the 16th century during the colonial period. Teachers will leave with the hands-on know-how to run a safe, NGSS-aligned *Bugs to Dye* lab, a full teacher pack (slides, handouts, rubric), and a classroom kit that contains enough cochineal bugs to run the activity for one full class (baseline = kit for 10 groups / ~15 teaspoons of dried cochineal bugs).

10 Demonstrations
10 demonstrations – luminol reaction, decomposition of chlorates, Stop light reaction, Briggs-Rauscher reaction, iodine clock, elephant toothpaste, Tollens's reaction, dry ice reactions, sodium acetate heat packs and liquid nitrogen demonstrations will be presented with Safety requirements, learning goals, sources for materials and notes.

Introduction to Pioreactors
A Pioreactor is an open-source, small-scale bioreactor built around a Raspberry Pi computer, allowing users to monitor and control microbial growth environments like temperature and media concentration. It provides hands-on experience for education, citizen science, and research, enabling experiments such as studying yeast growth, directed evolution, or investigating osmotic pressure. The platform's design allows for individual units or networked "clusters," and its modular nature, with components available as parts, supports customization, repair, and further development.