ACS Local Section
Indiana

Accelerator

SPRING 2026

Newsletter at a Glance

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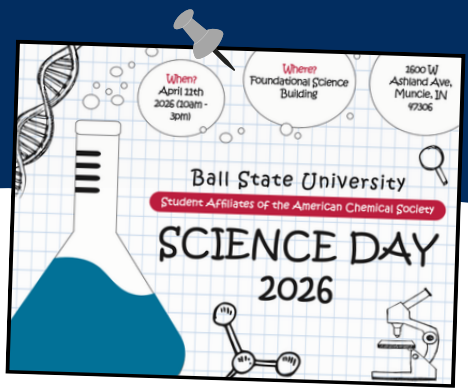
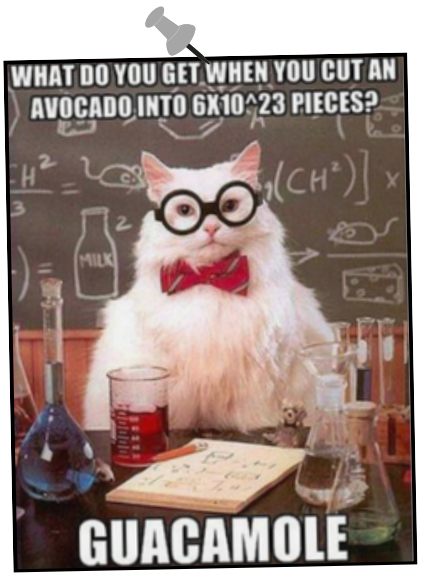
Upcoming Events



Don't miss out!

- April 11th : Science Day @ BSU
- April 21st : Earth Day Webinar
- April 30th – Chemistry of Cheese @ Mallow Run Winery
- June 8th – 10th : Project SEED Bootcamp @ IUI
- August – ACS/Eli Lilly and Company 150th Anniversary
- Fall – Think Like a Molecule @ BSU
- Fall – Promote Yourself
- Oct 5th – Circular Indiana Conference @ The Center
- Oct – National Chemistry Week
- Winter – Awards Night



Editor's Note:
Indiana Section Highlights (2020–2025)

By: Christine Skaggs, Alternate Councilor, with assistance from AI

If the past six years have proven anything, it's that Indiana chemists don't just talk about impact — we catalyze it. Since 2020, the Indiana Local Section has been busy building connections, growing a diverse and inclusive STEM workforce, and bringing chemistry into communities across the state.

By the Numbers (Because Chemists Love Data):

We as a volunteer organization have made tremendous strides towards supporting the community state-wide by providing:

- **Nearly 80 programs delivered statewide**
- **More than 41,000 people reached** through inclusive outreach and community engagement
- **Over 3,200 volunteer engagements** from members in industry, academia, and education
- **More than $540,000 invested locally** in science programming
- **Nearly $1 million in total impact resources mobilized**

Not bad for a volunteer-powered operation!

Growing Indiana's Next Generation of Scientists

From research experiences through Project SEED to career panels, networking events, and leadership opportunities, the Section continues to help students and early-career chemists from all backgrounds and experiences find their footing — and their future — in STEM. Undergraduate chapters and Younger Chemists are playing a bigger role than ever, helping design programs, lead outreach, and shape the Section's direction.

Taking Chemistry to the Community

Whether it's hands-on experiments at Celebrate Science Indiana, lively STEM Nights, or outreach events across the state, Indiana ACS members are making science visible, approachable, and exciting. Thousands of students and families are discovering that chemistry isn't just something in textbooks — it's powering healthcare breakthroughs, sustainable agriculture, advanced manufacturing, and clean energy solutions right here in Indiana.

Stronger Together

Technical programming, industry partnerships, and collaborative events continue to create spaces for learning, networking, and innovation. These connections strengthen Indiana's scientific ecosystem and help build a more resilient workforce.

What's Next?

The momentum isn't slowing down. The Section is heading into 2026 with one of its most ambitious program calendars yet — and member involvement will be key. If you've been thinking about volunteering, mentoring students, speaking at an event, or helping shape future programming, now is a great time to jump in.

After all, chemistry works best when we work together.

Leadership, Reflections, and Impact

A Message from 2025 ACS Indiana Local Section Past Chair

By: Denise Durham, Past Chair

Serving as Chair for the Indiana Local Section in 2025 was an amazing experience. It was a great privilege to be associated with a diverse mix of academic and industry professionals. In 2025, the section focused on a renewed strategic plan with the mission: "Creating a Sustainable Legacy Through Professional and Scientific Development, Membership Engagement and Outreach."

Some of the signature and key events in 2025 included community outreach and professional development activities such as:

- **Chemistry Day at the Indianapolis Children's Museum**: A flagship event featuring hands-on experiments for the public.
- **Think Like A Molecule**: A student member focused event aimed at highlighting local technical impact.
- **Promote Yourself**: An annual event (now in its 3rd year) specifically designed for students and non-Ph.D. industrial professionals to help them navigate rewarding careers in chemistry.
- **Illustrated Poem Contest**: Part of National Chemistry Week, the 2025 theme is "**The Hidden Life of Spices**," encouraging local children to blend art and science.

Notably in 2025, the Indiana Section won five ChemLuminary Awards for its outstanding performance. Some of those awards included:

- **Best Activity Highlighting ACS Strategic Planning**: Awarded for their first Juneteenth Celebration & Chemistry of Fireworks event, which advanced inclusion and diversity within the chemical community.
- **2025 Volunteer of the Year**: Awarded to Dr. Alexandra Tamerius of Marian University for her exceptional work in science education and student mentorship.

It is great to be part of a local section where our mission is to focus on "Inspiring a Caring Community Through Chemistry." I look forward to continuing my support of the Indiana Local Section in 2026 and beyond. This local section's innovation and ingenuity continue to be top-notched.

Rooted in Science, Growing Together: Corteva and Indiana ACS

By: Josh Armstrong, Integrated Discovery & Bioprocess Leader at Corteva Agriscience

Corteva Agriscience is proud to support the Indiana Local Section of the American Chemical Society as a sponsor. This sponsorship reflects both our deep appreciation for the ACS's role in advancing the chemical sciences and our long-standing commitment to the scientific community here in Indiana.

Chemistry sits at the heart of Corteva's mission. Our scientists and engineers are trained across a remarkably diverse set of chemical disciplines, including organic and analytical chemistry, materials science, physical chemistry, chemical engineering, biochemistry, and green and sustainable chemistry. These skills are applied daily to some of the most pressing challenges in agriculture—protecting crops, improving sustainability, and enabling farmers to produce more food while using fewer resources. The interdisciplinary nature of our work mirrors the strength of the ACS community, where collaboration across specialties is essential to meaningful scientific progress.

Indiana has long been an important hub for chemical innovation, and many of Corteva's scientists are active members of the Indiana ACS Local Section—as volunteers, speakers, mentors, and leaders. We strongly believe that a vibrant local professional society benefits not only individual chemists, but also industry, academia, and students by fostering technical exchange, professional development, and outreach to the broader community. Supporting the Indiana ACS is therefore an investment in the ecosystem that helps attract, develop, and retain scientific talent in our region.

Our sponsorship also reflects Corteva's commitment to scientific excellence. We strive to uphold the highest standards of rigor, integrity, and curiosity in our research, and we value organizations like the ACS that champion these same principles. By supporting ACS programming—whether technical symposia, educational outreach, or career development activities—we aim to help ensure that chemistry continues to thrive as a dynamic and impactful profession. We appreciate the leadership and dedication of the Indiana ACS Local Section and look forward to continued engagement and partnership. Together, we can strengthen the chemical sciences and their positive impact on society.

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How PUI Students Power Community-Centered Research

By: Kamila Deavers, Marian University

Why I Became Interested in Lead Exposure.

My interest in lead exposure research began not in a laboratory, but in my home. In 2009, when my daughter was very young, her routine blood screening test (finger pricking) revealed elevated lead levels. As an environmental chemist, I believed I understood the major sources of exposure: legacy lead paint, contaminated soil, dust, and industrial residues. We had repainted with lead-free paint, checked the pipes, and tested the soil. I felt confident that we had minimized risk. What I had not considered and what came as an unexpected variable was that her toys could be the source.

Most of the toys in our home were brightly painted wood or plastic, well-used, and well-loved. When I began searching the scientific literature, I discovered that lead in toy coatings was still an issue globally, even as U.S. regulations were evolving. That same year, the Consumer Product Safety Improvement Act (CPSIA) came into full effect. While CPSIA provided important protections, I realized that many parents, including myself at the time, had little understanding of how to identify risks. This experience led me to the realization of how easily exposure can hide in everyday objects, and how little guidance families often receive.

This personal turning point reshaped my entire research agenda. My earlier work had centered on phytoremediation and the fate of organic contaminants, but after my daughter's diagnosis, I began partnering with nonprofits to address lead contamination in urban soils and gardens, first in New York and later in Indianapolis. When I joined Marian University, I was able to build a dedicated research team and identify community partners who shared our lead poisoning issue [KD1] and passion. Our longest-running collaboration is with Flanner Farm in Indianapolis. Over the course of two seasons, through careful soil management and phytoremediation, we have successfully reduced lead concentrations in some plots of the urban garden by nearly 200 ppm, an achievement that demonstrates what can happen when science and community work together.

As our outreach expanded, community members began asking for educational workshops. Although I had not originally envisioned myself in public education, I quickly learned how essential it was. Lead is often called a "silent threat", not because the science is silent, but because the symptoms of exposure emerge only after prolonged accumulation. Many families simply do not know where risks originate. I also learned that children absorb information differently from adults. To reach families effectively, we redesigned our workshops to focus on school visits, offering four 30-minute lessons covering: "What is lead?", "Where does it come from?", "How do we prevent exposure?", and "How do scientists remediate it?" Supported by an IAS grant, these sessions are aligned with Indiana Science Standards and have already reached roughly 600 students. For families who opt in, we provide free XRF soil screening, enabling them to understand and manage risks in their own yards.

While soil and dust remain the most common legacy sources of exposure, emerging concerns in consumer products have demanded attention. In 2020, increasing national reports began identifying lead in fast-fashion clothing. These garments are inexpensive and widely used, often by the same communities already burdened by environmental inequities. My team began examining children's clothes from affordable brands. We used aggressive acid digestion consistent with landfill leaching tests to measure total lead content. Every garment we tested exceeded the CPSC limit of 100 ppm.

But total lead content only tells part of the story. Young children often mouth or chew on clothing, especially during teething. I wanted to know how much lead was actually bioaccessible, how much could be released into a child's body. Using glycine solution and simulated gastric fluid, we conducted extractions and compared results to the (Food and Drug Administration) FDA's lead ingestion limit of 2.2 µg/day. To my surprise, some clothing items exceeded this limit with just 1 mL of gastrointestinal (GI) fluid. Children can produce between 500 and 2,000 mL of saliva daily. Even assuming only partial ingestion, a child who mouths contaminated fabric could approach or exceed FDA ingestion levels and inherently Center for Disease and Control (CDC) reference blood lead thresholds as they are tied up together. We are now working toward developing a physiologically relevant saliva-based extraction method to better model mouthing behavior.

This is where the power of PUI research truly shines. My undergraduate students, many of whom are pre-medical or pre-health, are the engine behind this work. Because they can immediately see the public health relevance, they are driven, motivated, and deeply committed. They help to design experiments, collect and analyze data, present at regional and national conferences, and engage directly in community education. Although PUIs have limited instrumentation, we overcome this through collaboration with nearby institutions such as the University of Indianapolis. Working across campuses strengthens our scientific capacity and builds a network of mutual support among small universities.

Mentoring these students is one of the most rewarding aspects of my work. I set high expectations, but they rise to meet them because they understand that their research matters, not only to the scientific community, but to parents, children, and neighborhoods seeking answers. We hope that by sharing our findings and engaging directly with families, we can help prevent exposures before they happen and ensure that every child, regardless of background, has access to a safe environment as stated by the Environmental Protection Agency (EPA).

From Indiana to National Impact:
Find Your Place in ACS Leadership

By: Brian Mathes, Councilor

The National Committee on Committees, ConC, is excited to share that the online preference form is open to all ACS members until July 6! If you're eager to get involved and help shape the future of our Society at the National Level, I encourage you to visit CMTE.acs.org and submit your committee preferences for 2027. As Helen Keller once said, 'Alone we can do so little; together we can do so much.' Your participation truly makes a difference. I have the pleasure of serving as the Chair on that committee and I am lucky to have a broad overview of the ACS National Volunteer needs. I would love to help you find your place. Right now, the Indiana Section has 2 National Committee Chairs, 4 additional folks serving on National level committees and the President Elect! The Indiana Section is at the perfect spot to help shape the vision and mission of the ACS society. If you are interested in serving at this level, reach out to me at bmathes@elanco.com and I would be thrilled to speak to you about how it works and what we can do to get you positioned to impact the Society. Looking forward to your volunteerism!

From Kitchen to Chemistry:
Exploring the Science of Spices with ACS

By: Katelyn Caric, Webmaster

The American Chemical Society (ACS) booth at the Celebrate Science Indiana event offered an engaging, hands-on introduction to chemistry for learners of all ages. Designed to spark curiosity and excitement, the booth featured interactive demonstrations and activities that highlighted how chemistry connects to everyday life. Our booth featured “The Chemistry of Spices” inspired by the ACS National Chemistry Week (NCW) theme. We demonstrated acid-base chemistry using common household materials and explained the science behind it. Kids received a mini-gift bag containing pH paper to continue similar experiments at home (with instructions), a toy, and ACS stickers. Visitors were encouraged to ask questions, explore materials, and think like scientists as they participated in simple experiments and discussions.

ACS Indiana Supports 2025 Circular Indiana Conference, Advancing Statewide Circularity Efforts

By: Linda Osborn, Senior Chemists Committee Chair

The ACS Indiana Section played a meaningful supporting role in the 2025 Circular Indiana Conference, held September 8 at the Indiana Government Center in Indianapolis. As a $1,000 event sponsor, ACS helped strengthen statewide dialogue on sustainability and encouraged members to attend, engage, and contribute scientific expertise to this growing circularity movement.

Now in its third year, the conference brought together 176 attendees, including policymakers, industry leaders, scientists, educators, and circularity practitioners. This year's program centered on Extended Producer Responsibility (EPR)—a major policy priority for Indiana—and explored how EPR could reshape recycling, materials management, and economic opportunity across the state.

The day featured insights from state legislators, regional innovators, and organizations working to transform waste streams into valuable resources.

The conference featured a powerful keynote address by Chad Pregracke, founder of Living Lands & Waters, whose energizing, heartfelt, and deeply motivating stories of persistence, river restoration, and community-powered action reminded attendees that bold environmental change is possible when passion meets perseverance. Throughout the day, participants explored a hands-on Circularity Fair showcasing technologies, materials, and community initiatives, enjoyed a zero-waste lunch provided by Richland Farms that demonstrated practical circularity in action, and concluded the event with a networking reception at the Indiana State Museum, where new partnerships and collaborations continued to take shape.

Sponsored by Circular Indiana, other partners besides ACS included the Indiana Department of Environmental Management, Cirba Solutions, Envita Solutions, Sibelco, Surgere, Rumpke Waste & Recycling, Schott Design, The White River Alliance, and Richland Farms.

Attendees praised the conference for uniting diverse sectors around a shared vision for Indiana's circular future. The focus on EPR elevated understanding of how policy, science, and industry can work together to modernize the state's recycling and materials systems. The zero-waste lunch and composting efforts were especially well-received, reinforcing the event's commitment to modeling sustainable practices.

ACS Indiana is proud to champion Circular Indiana's mission to spark education, collaboration, and real-world solutions that move our state toward a more resilient and truly circular economy.

As part of our Earth Week celebration, we're thrilled to host a dynamic webinar—**"AI and its Role in a Circular Economy"**—on **April 21 at 1:00 PM EST**. Stay tuned—registration details are on the way soon!

Save the Date

2026 Circular Indiana Conference
October 5, 2026 @ The Center

Big ideas and bold conversations await.

C&EN Quarterly Snapshot:
What Everyday Scientists Should Know

By: Christine Skaggs, Alternate Councilor, with assistance from AI

What's Happening in Chemistry Right Now

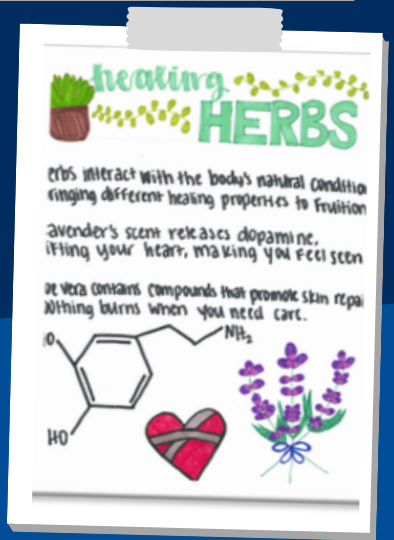
Chemistry careers are gradually shifting from pure bench specialization toward tech-enabled, systems-aware scientific work.

- Energy chemistry is becoming real-world work
  - More projects tied to hydrogen, carbon capture, sustainable fuels, and electrified manufacturing. Expect growing demand for skills in electrochemistry, catalysis, and process scale-up.
- Pharma and biotech remain active but more selective
  - Continued excitement around biologics and metabolic disease drugs, alongside layoffs and pipeline shifts. Scientists may see changing project priorities and more cross-functional work.
- AI and automation are entering daily lab workflows
  - Tools for data analysis, reaction prediction, and automated experimentation are becoming more common. Learning data literacy and digital lab tools will be increasingly valuable.
- Sustainability is affecting routine decisions
  - Greener solvents, waste reduction, lifecycle thinking, and regulatory awareness are influencing method development and process choices.
- Global supply chains still shape research timelines
  - Raw material availability, regional manufacturing strategies, and geopolitical factors may impact reagent sourcing, timelines, and budgets.

Condensed Skills to Future-Proof Your Career

For most working scientists, the biggest changes are not new chemistry concepts — but how chemistry gets done. Success this year will increasingly involve being comfortable with:

- Data & digital fluency: basic coding, advanced data analysis, electronic lab systems
- Process awareness: scale-up thinking, flow chemistry concepts, robustness mindset
- Sustainability literacy: green chemistry principles and regulatory awareness
- Systems problem-solving: integrating multiple techniques and interpreting complex datasets
- Adaptability & collaboration: cross-functional communication and flexible project ownership



A Dash of Chemistry: Celebrating the 2025 NCW Illustrated Poem Contest

By: Linda Osborn, Senior Chemists Committee Chair

From August 16 through October 24, 2025, the ACS Indiana Section invited K–12 students across central Indiana to trade their lab coats for paintbrushes. Our annual National Chemistry Week (NCW) Illustrated Poem Contest challenged young minds to explore the intersection of art, literacy, and molecular science.

The Theme: "The Hidden Life of Spices"

This year's theme proved to be one of our most popular yet. Students delved into the "hidden" side of the spice rack, uncovering the chemical compounds responsible for the heat of a chili pepper, the aroma of cinnamon, and the preservative power of salt. Teachers noted that the theme provided a unique bridge between chemistry, culture, and culinary arts, resulting in some of the most vibrant and researched submissions we've seen in years.

2025 Contest Winners: The competition was fierce, with entries representing **Garden City Elementary, Southport 6th Grade Academy, Lynhurst 7th & 8th Grade Center, and Roncalli High School.**

- **1st place winners**: Moriana @ Garden City (Gr. 3-5), Olivia @ Southport (Gr. 6-8) and Sophia @ Roncalli (Gr. 9-12)
- **2nd place winners**: Ruiz @ Garden City (Gr. 3-5), and Myah @ Lynhurst 7th & 8th (Gr. 6-8)
- **3rd place winner**: Giron @ Garden City (Gr. 3-5)

Looking Toward 2026: How You Can Help

As we look forward to the 2026 contest, our goal is to expand our reach even further. We want to meet teachers where they are—whether that's through district newsletters, social media, or direct curriculum coordination.

Do you know a K–12 teacher? If you know an educator who would love to involve their students in future ACS Indiana Section contests or STEM outreach, please encourage them to connect with us.

Contact: Linda Osborn [lindavosborn@gmail.com]

NCW 2026

October 18-24, 2026
Topic: Construction
Theme: Chemistry Under Construction
En Español: La Química Bajo Construcción

Executive Research Dashboard:
JACS Latest Issue

By: Christine Skaggs, Alternate Councilor, with assistance from AI

30-Second Read | What's Emerging in Frontier Chemistry & Why It Matters for R&D

Key Scientific Signals

- Catalysis is shifting toward interface engineering and electrified processes
  - Performance gains now come from tuning electronic structure and reactor integration, not just new metals.
- Carbon utilization and hydrogen chemistry remain dominant innovation areas
  - More durable reforming catalysts and hybrid electrochemical systems are moving closer to real-world deployment.
- Molecular programming is expanding beyond biomolecules
  - Predictable folding in synthetic polymers and supramolecular systems is enabling next-gen drug delivery, sensing, and materials design.
- Synthesis is becoming bio-integrated and sustainability-driven
  - Chemoenzymatic routes, cascades, and scalable processes are redefining how complex molecules are manufactured.
- Dynamic chemical systems are emerging as a new frontier
  - Fueled assemblies and transient compartments point toward adaptive materials and synthetic biology interfaces.

What This Means for R&D Strategy

- Develop surface science, electrochemistry, and operando characterization capabilities to stay competitive in catalysis and energy applications.
- Invest in computational design + supramolecular chemistry to unlock programmable molecular function.
- Integrate biocatalysis, flow chemistry, and process intensification earlier in development pipelines.
- Explore innovation spaces in responsive formulations, smart materials, and systems-level product design.

Executive Takeaway

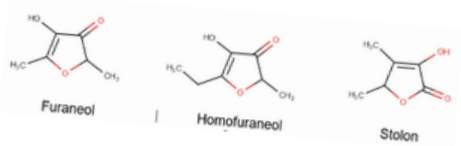
Chemistry innovation is transitioning from molecule discovery → function optimization → adaptive system engineering. Organizations that align R&D around integrated catalytic platforms, molecular programming, and scalable sustainable synthesis will shape the next generation of chemical technologies.

Demystifying Chemistry:
Bringing Science to Life Through STEM Circles

By Linda Hicks, Women & Hi Tech Chemistry Circle Co-chair

For those of us who practice chemistry, it seems quite natural, but for most people, it seems complicated and down-right scary. This reality led Christine Skaggs and Linda Hicks 3-years ago to form a Women & Hi Tech Chemistry STEM Circle in collaboration with the ACS. Our goal was to break down the perception that chemistry is too difficult or only for experts. We wanted to demonstrate in engaging and practical ways how chemistry and chemicals are all around us and make it understandable and relevant to everyday life.

Women & Hi Tech's membership is made up of women STEM professionals covering broad industries, career paths and skills. Women & Hi Tech created STEM Circles to provide a forum for like-minded members to share more in-depth discussions and programming specifically focused on their exact area of expertise. Linda and Christine believed combining the knowledge and resources of Women & Hi Tech and the ACS by forming the first STEM Circle focused on Chemistry, would provide a foundation for better member outreach and at the same time demystify chemistry making it more relatable and accessible to non-practitioners.



Events center around the theme the "Chemistry of ___" and bring together approximately 100 members to share an evening of learning, networking, and fun. Our past two events have been a huge success. In our first event, we learned about the chemistry of bourbon, enjoyed a special bourbon cocktail and took home a bottle of West Fork Bourbon. In year two, we focused on the chemistry of cosmetics, gaining appreciation from regional cosmetic chemists how cosmetic formulations are developed and the criteria that drive chemical selection. Attendees were able to make our own soap formulation and enjoyed a goodie bag of cosmetic samples.

This year we will focus on the Chemistry of Cheese, April 24th from 6:30-8:30 pm at Mallow Run Winery. Keeping with our highly engaging, interactive and creative programming, we will have a cheese lecture by PhD Maria Alvim-Gaston, coupled with a cheese making demonstration, wine and cheese pairing suggestions, raffles and networking.

By working together, we are helping people appreciate that chemistry isn't just for us chemists and chemical engineers. We are highlighting the many ways that chemistry improves health, safety and quality of life. In addition, we're providing an opportunity for the members of both organizations to network with each other, building the local STEM community. Finally, we have been able to leverage our relationship in other community STEM initiatives such as hosting chemistry programming at a K-8 girls STEM charter school.

We welcome input on interesting topics for future events and hope to see you on April 24th!



Building the Future of STEM:
Inside the 2025 SEED/STEM Program

By: Vanessa Santana, Project SEED Coordinator

During the summer of 2025, 79 high school students from across Indiana dove into research through the CTSI SEED/STEM Program. Designed for students from all backgrounds, the program provides exposure to careers in medicine, dentistry, computer science, life sciences, chemistry, biomedical engineering, and more, while helping students develop practical research skills and gain firsthand experience in real research labs. Representing 33 schools across 9 counties, these students explored how scientists tackle problems and contribute to scientific discovery.

In partnership with the American Chemical Society's Project SEED, students explored STEM fields and career paths that they may not otherwise be exposed to in high school, such as working as a bench researcher, laboratory technician, or in clinical research. By gaining exposure to these roles, students better understand the variety of careers available and can make more informed choices about their future paths.

From week one, students were immersed in labs that aligned with their career aspirations, and research interests. Over eight weeks, students spent approximately 250 hours in local labs, including Eli Lilly, Purdue University Indianapolis, IU Indianapolis, and Marian University, a new partnership. Interns contributed to real research projects, practiced laboratory techniques, analyzed data, and gained firsthand insight into the roles and daily work of professionals. Projects included brain tumor imaging, extracting microplastics from pediatric tonsil samples, studying how social determinants impact health disparities in Indiana counties, optimizing protein extraction from 3D gels, investigating molecular regulation in liver fibrosis, and exploring the effect of carbon fiber on additively manufactured continuous fiber reinforced composites, giving students a sense of the diversity of scientific research.

The experience extended beyond each student's lab, as interns engaged with other areas of campus research. They explored Dr. Sandusky's Pathology Lab, toured the Anatomy and Physiology Laboratory, and visited the Laboratory Animal Resource Center (LARC). Each visit offered new opportunities to see connections across disciplines and encouraged creative thinking about how science is applied in practice.

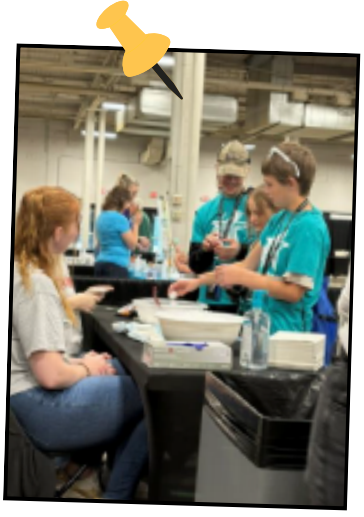
Weekly workshops added another layer of learning. Medical students, practitioners, and guest speakers led sessions ranging from research ethics to hands-on demonstrations of clinical and laboratory techniques. Workshops gave students a chance to share progress and connect with peers from other schools. Team-building activities, including a kickball tournament, a campus scavenger hunt, and an ice cream social, fostered community and collaboration across the summer cohort.

The program culminates in an annual poster symposium, where students present the research they conducted over the summer. Sharing their work with mentors, faculty, family, and peers, interns explain their findings, answer questions, and reflect on their experience. Presenting to more than 450 guests, students demonstrate what they have learned while building confidence and a sense of belonging in the scientific community.

By the end of the summer, students leave with hands-on research experience, a network of mentors and peers, new ideas about potential careers, and the confidence to pursue them. Building on last summer's success, the program will welcome a projected 100 students this year, inspiring the next generation of scientists, innovators, and leaders.

Building Community Through Chemistry at Ball State

By Kalie Adams,
Vice President of the Student Affiliates of the American Society Chapter at Ball State

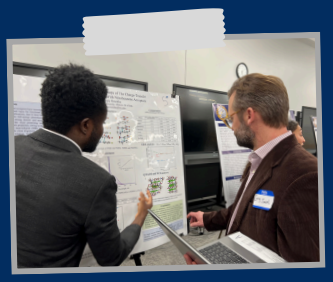


As a dual major in Pre-Medicine and Biology, I have seen firsthand how students pursuing STEM majors are often busy, balancing coursework and demanding schedules, leaving little time for connection outside the classroom. Yet clubs built around shared academic interests offer a space for students to come together, collaborate, and recharge. Ball State's Chapter of the Student Affiliates of the American Chemical Society (SAACS) is a place where upperclassmen can form a mentor relationship with underclassmen. These mentees can learn about opportunities such as research leading to presentations through both ACS and IAS, as well as connect with peers, have much-needed brain breaks, and engage with chemistry in a fun way.

This past year, SAACS at Ball State participated in Chemistry Day at the State Fairgrounds and the Indianapolis Children's Museum, and is currently planning Science Day for April. The Society of Physics Students hosted the Clash of Sciences with other STEM clubs on campus, such as Genetics and Astronomy, and SAACS. Our bi-weekly events included the Chemistry Olympics, Nitrogen Ice Cream, and Lava Lamp in a Bottle, to name a few favorites. Overall, the Student Affiliates of the American Chemical Society Chapter at Ball State strives to create a close-knit circle of students engaged in chemistry who are dedicated to serving the community and exposing younger generations to an interest in science.

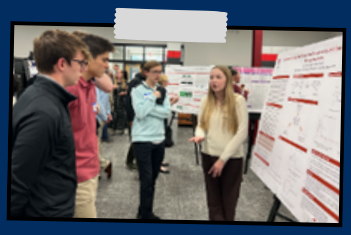
Celebrating Innovation: 2025 ACS Think Like a Molecule Poster Session

By: Linda Osborn, Senior Chemists Committee Chair



On November 6, 2025, the R.B. Annis Engineering Building at the University of Indianapolis came alive with scientific curiosity and community spirit as students, faculty, parents, friends, and professionals gathered for the annual American Chemical Society, Indiana Section "Think Like a Molecule" Poster Session. Hosted by UIndy and organized by Dr. David Styres-Barnett, the event was co-sponsored by the ACS Indiana Section, UIndy Chem Club, and the Rho Chapter of Sigma Zeta. Thanks to all of the UIndy student volunteers that helped us set up the stands and poster boards, register students and judges, and guide attendees throughout the evening with warmth and professionalism. From 4–7 p.m., attendees explored cutting-edge research spanning environmental chemistry, biomedical innovation, and molecular modeling. To encourage early engagement, two lucky pre-registrants each won a $50 drawing, adding a touch of excitement to the evening's scholarly atmosphere.

Poster Session Award Winners



ACS Chair's Award (Graduate or Undergraduate Students)

- 1st Place: Middy E. Benyah ($100) – Ball State University
  Designing Bismuth-Based Aurivillius/Pyrochlore Heterojunction Photocatalysts for the Visible Light-Activated Catalytic Degradation of Organic Pollutants
- 2nd Place: Doondeeshwar Patnala ($75) – Ball State University
  Paper-Based Microfluidic Devices for Multiplexed Colorimetric Detection of Disease Biomarkers
- 3rd Place: Anna Pritchett ($50) – Marian University
  Molecular Dynamics Simulations of Candidate Mutations Involved in Eggshell Malformation in Puerto Rican Parrots

Kurek Student Award (Undergraduate Students Only)

- 1st Place: Priscila Espinoza & Cristina Avello ($100) – Marian University
  Lead Contamination in Fast Fashion Children's Clothing
- 2nd Place: Donovan Doolittle ($75) – Marian University
  Utilizing Phytoextraction to Remove Lead From the Community Garden
- 3rd Place: Anastasia Faddis ($50) – Ball State University
  Synthesis of Asymmetrically Disubstituted Malononitriles Using 2-Amino-3-Cyano-4H Chromene Derivatives

Sigma Zeta Award (Graduate Students Only)

- 1st Place: Maddie Page ($100) – Indiana University Indianapolis
  Electrochemiluminescence in Droplets Towards Highly Sensitive Bacteria Detection
- 2nd Place: Patricia Tumfuo ($75) – Ball State University
  Design and Synthesis of α-cyanocinnamate Modified Open-Ring Analogs of Ipomoeassin F
- 3rd Place: Jannat Jannat ($50) – Indiana University Indianapolis
  Assembly and Characterization of Polymer Gel-Tethered Lipid Bilayer Inside Microfluidic System

Grand Prize Winner ($500)

- Nia I. Williams – Undergraduate Student, Butler University
  Sodium Variability in Dried Edible Seaweeds: Determination by Flame Atomic Absorption and Dietary Implications

This year's Think Like a Molecule Poster Session was a vibrant celebration of student research, mentorship, and community collaboration. Congratulations to all participants and winners—and thank you to everyone who made the event a success!

Honoring Our Judges and Hosts

This event would not have been possible without the generous support of our volunteer judges, who lent their time and expertise to evaluate the outstanding student presentations: Dr. Joe Burnell, PhD, Kamila Deavers, PhD, Kent Steele, PhD, Ross Poland, PhD, Dr. Sarah Langlais, PhD, Dr. Sarah Justice, PhD, Leandro Estrada, PhD, Dr. Dahbih Chulhai, PhD, Christine Skaggs, PhD, Kyle Hill, PhD, Greg Smith, PhD, Norm Sesi, PhD, Josh Robinson, PhD, and Kymeri Davis, PhD.

Special thanks to our ACS co-hosts Meghan McLeod, PhD, who has chaired this event for many years, and Heba Salim, PhD, her first year being involved with the event, whose leadership helped ensure a smooth and welcoming experience for all.

From the Lab to the Gallery:
A Career in Cultural Heritage Science

By: Joan Walker

My career has been shaped by long-standing interests in both chemistry and the stories embedded in works of art. That dual interest has taken me from rural Indiana to my current role as a conservation scientist at the National Gallery of Art. At Indian Creek High School, I explored both disciplines, taking AP Chemistry as an independent study class and competing on the Fine Arts Academic Super Bowl Team. Even then, I knew I didn't want to choose between science and the humanities. Double-majoring in chemistry and art history at Washington University in St. Louis felt like a natural step, even before I knew exactly where it would lead.

My interest in museum work developed through early experiences. As a teenager, I worked in museum education through the Community Connections program at the Indianapolis Museum of Art (IMA). Later, I held internships at the National Center for Preservation Technology and Training and the Bruce Museum of Arts and Science. It was as a conservation technician at the Indiana Historical Society, however, that I saw how essential scientific insight is to the preservation of cultural materials. Conversations with conservators and scientists at this stage made it clear that deeper training in chemistry would allow me to contribute meaningfully to understanding cultural heritage.

That realization led me to Indiana University to pursue a PhD in chemistry. In Prof. Jeffrey Zaleski's lab, I studied how metallic nanoparticles interact with proteins under visible light. Although not directly tied to art, this work strengthened my ability to approach complex material systems. After graduating, an internship with Dr. Greg Smith at the IMA revealed how directly those skills could apply to conservation science.

In 2016, I joined the National Gallery of Art as part of a Mellon Foundation–supported project on historic photographic processes. Many early photographic systems rely on metallic nanostructures in protein matrices—a surprising resonance with my doctoral research. Today, my work spans a wide range of artists' materials. I specialize in non-invasive analytical techniques, including FTIR, Raman spectroscopy, XRF, and microfade testing, to study layered structures, identify materials, and address questions of stability, degradation, and artistic technique.

Conservation science allows chemistry to function as a storytelling tool. I collaborate closely with conservators, curators, and fellow scientists to interpret the histories embedded in pigments, fibers, coatings, paper, and photographic layers. Our analyses can guide treatment decisions, clarify an artwork's history, or reveal entirely new questions.

One of the most compelling aspects of this field is the demand for continual learning. Artists have long experimented with materials in ways that challenge expectations and create complex preservation needs. There is always another question to explore, and the work feels meaningful because it contributes to preserving our shared cultural heritage.

I am also committed to communicating the science behind our work. Whether speaking with students, museum professionals, or chemists considering non-traditional careers, I find that people are fascinated by how analytical chemistry can illuminate works of art. Demonstrating that science and the humanities enrich one another is one of the most rewarding aspects of my career.

Looking back, my path has been guided by a desire to understand the world through both material and cultural lenses. Following that curiosity and embracing interdisciplinary connections has led me to a deeply fulfilling career.

STEM Night at the Pacers Stadium

By: IU Chem Club

The Chemistry Club recently represented the School of Science at the Pacer's STEM Fest. The officers of the Chemistry Club and volunteers from our club helped set up and man the booths at the event. During the event there were children of various ages, and we got to explain our experiments to them. It was an amazing experience for us and the people who were there. We were ecstatic that the children were interested in our booths and enjoyed watching our experiments, such as blowing up a balloon without using our mouths. The kids were fully interested in the reactions that took place; for example, we talked to kids about the reaction in the balloon, which slowly segued us into talking about acid-base reactions. We were happy to see the children's curiosity and ask us the "why" behind the experiments. It reminded us of our childhood. Specifically, when we were young and did an experiment for school or on our own and wondered what was the science behind it. It reminded us of our wanderlust roots that we came from. This event helped us connect to the community of Indianapolis, and it gave us a chance to connect to a younger generation. We hope that this event will help foster young scientists that will hopefully remember their childhood wanderlust and continue this tradition of inspiring future generations to pursue a career in science.

CATALYST

By: Suraya Allie, Secretary of the CATALYST student organization

Navigating graduate school is much more than research and academic obligations. Graduate school is an opportunity to explore diverse career opportunities, establish connections, and build professional skills. As secretary of CATALYST, the graduate student chapter of ACS at IU Indianapolis, I have experienced the benefits of being a member CATALYST firsthand.

One of my favorite aspects of being a CATALYST member is the volunteer opportunities. It is such a fulfilling and humbling feeling to share our passion for science with others. Specifically, I find it incredibly rewarding to volunteer at youth science fairs and other educational events hosted by ACS where I can inspire the next generation of scientists. CATALYST coordinates groups of students to volunteer at these events, which has strengthened my relationships with fellow grad students.

In addition to volunteering, CATALYST provides opportunities for networking, mentorship, leadership, and career advancement. We have hosted seminars on developing professional topics, such as resume development and how to prepare for a career in chemical industry. I am incredibly grateful for the work that we do within CATALYST, and I invite students to take full advantage of the opportunities that are provided. I believe that building this foundation today is the best way to strengthen our scientific community tomorrow.

ACS Local Section
Indiana

"There are no actual failures in science; instead, there are experiments with unanticipated outcomes. These unexpected outcomes present an opportunity to learn something new"

– Dr. Carolyn Bertozzi

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