

# CHEMISTRY & BIOCHEMISTRY NEWSLETTER



## Congratulations to our Class of 2025!

- Abby Costa, Chemistry BS
- Coral Cotteleer, Biochemistry BS
- Bailey Hamm, Biochemistry BS
- Ginny Illingworth, Biochemistry BS
- Lilly Johnson, Chemistry BS
- Daniel Larsen, Chemistry BS
- Kyler Lester, Chemistry BS
- Miles Wheaton, Chemistry BS

## Highlights

- Bill & Donna Bergmark Scholarship
- Student Awards & Scholarships
- Welcoming Nancy Pierce
- Alumni Highlights
- New Grant Awarded to Craig Lab



# A NOTE FROM THE



Spend a little time on the 3<sup>rd</sup> floor of CNS and you'll experience something our community knows well - there is a special "culture" in the Ithaca College Chemistry Department. It's easy to see: our staff and students are welcoming and vibrant; there is a shared dedication to learn chemistry and what it can reveal about the world around us; we have courses that challenge, equip, and inspire students to achieve more than expected; and of course, undergraduate research is front and center. Where did this defining "culture" come from? Well, in addition to the usual updates on student awards and accomplishments, alumni highlights, and news of new funding in the department, this newsletter touches on some of the roots of the IC Chemistry Department culture. Look below for a wonderful article written by Sloan MacRae about the recent donation by the estate of the late Bill and late Donna Bergmark to support the IC Chemistry Department. Professor Bill Bergmark, who passed in 2023 joined the IC Chemistry Department faculty in 1968. Along with his early faculty colleagues, Professor Bergmark was central in establishing our IC Chemistry Department culture. We are incredibly grateful for Professor Bergmark's contributions to what makes this department special and for the lasting support Bill and Donna Bergmark have established for the IC Chemistry Department and its students. If it's been a while since you experienced the vibe around here, we would love to have you stop by to catch up, give a seminar, meet with faculty and students, or just spend a little time immersed in the familiar culture knowing it continues even more strongly into the future. Keep in touch!



Andy Torelli

-Andy Torelli



## THE CHEMISTRY OF LEGACY

By Sloan MacRae, October 23, 2025

*Reprinted with permission*

**Bill and Donna Bergmark's \$4.6 million gift keeps mentorship, curiosity, and discovery at the heart of IC Chemistry.**

When Rishabh Sen '26 arrived at Ithaca College, he quickly found what he calls "a magical thing about Ithaca," the ability to work side by side with professors as both teachers and mentors. That closeness, he says, defines the culture in the Department of Chemistry.

"The chemistry department is such a tight-knit community," Sen said. "There are such strong alumni bonds. There is such a sense of family



Bill and Donna Bergmark in Perugia.



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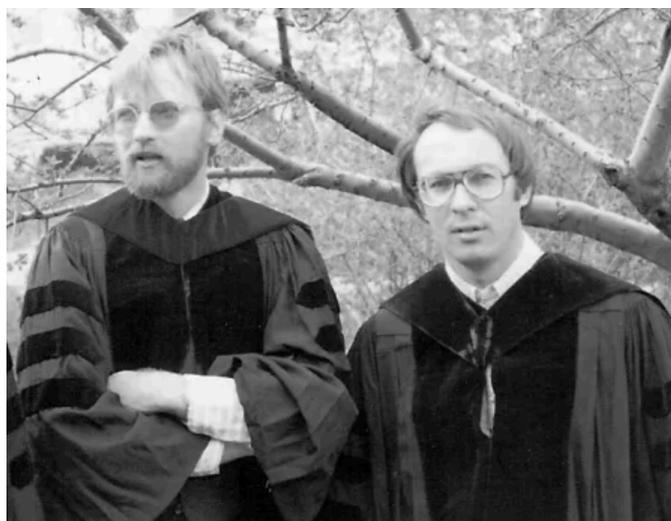
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here, and I think so much of that can be credited to faculty members from earlier generations who set the tone, including Dr. Bergmark.”

Sen—a chemistry major and president of the Student Governance Council—is one of this year’s recipients of the Bill and Donna Bergmark Scholarship, named for the late Bill and the late Donna Bergmark, which supports students who demonstrate academic excellence, leadership, and promise in research. Through an estate gift of roughly \$4.6 million from Professor Bergmark, the fund is endowed in perpetuity, bringing his lifetime giving to nearly \$5 million.

That legacy—scientific, personal, and profoundly human—continues to catalyze new generations of IC chemists.



Bergmark (left) and Vogel at Commencement in 1976 or 1977.

## The Teacher's Teacher

Professor emeritus Glenn Vogel looks back on the department’s earlier era as both collegial and irreverent. “It was a fun group of chemistry professors—friends and fun and jokes,” he said. Bergmark was central to that mix: deeply knowledgeable, quietly witty, and devoted to his students.

“He’d pack a lot into a class,” Vogel said. “Students would sit there in the lectures and think it’s not like he did a whole lot, and then they went back and looked at their notes, and they said, ‘Wow, he just packed all that in one lecture.’”

Mike Haaf ’94, now a professor in that department, was one of those students. “After Glenn roped me into the chemistry major, it was really Bill Bergmark’s class that turned the corner for me,” Haaf said. “I just loved it. I loved his teaching style. He had a very dry sense of humor and would catch us off guard with some of his anecdotes.”

Bergmark’s approach blended clarity and storytelling. “He was a natural storyteller,” Haaf said. Instead of just teaching us how carbon double bonds undergo reactions, he made a point of connecting them to biology and saying, ‘You know, vision is based on reactions of double bonds.’ He made it real.”

After taking his class, Haaf joined Bergmark’s research lab, which focused on photo-induced electron transfer chemistry—reactions activated by light. “Thanks to him, I got to go to my first national conference and presented at a regional conference,” Haaf said. “He’s a big reason why I’m back in Ithaca doing what he did.”

Vogel, laughing, put it more directly to Haaf: “You took his job.”

## Life Beyond the Lab

Those who knew Bill and his wife, Donna, recall a couple who carried the same curiosity and joy beyond the classroom. They skied, traveled widely, and were fixtures at concerts and plays. “Donna was a better skier,” Vogel said. “She was more daring.”



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In their early days at the college, Bill, who held a pilot's license, would fly with Glenn to visit high schools to recruit students for the chemistry department. The Bergmarks and Vogels traveled extensively together, enjoying food, wine, and scenery. On these trips Bill would hold forth on classical composers. "He knew everything about classical music, from the Baroque up until the 20th century," Vogel said. "Unbelievable details."

Haaf remembered learning more than chemistry from him. "He also taught me how to cross-country ski for the first time," he said. "That was very much the department culture."

Bergmark's scholarship fund now mirrors that ethos, supporting students who combine intellectual rigor with curiosity about the wider world.



The Bergmarks enjoying good wine.

## Lessons that Last

Mike Meador '78 began working in Bergmark's lab as a first-year student and stayed for four years. "Bill was a very patient guy," Meador said. "The project I was working on—I had absolutely no prior background in doing organic synthesis, and it was a tricky molecule to make. He taught me a lot. I think that's the biggest thing I got from Bill—learning how to do research."

That foundation carried Meador through a 36-year career with NASA and the federal government, including a two-year detail (2014-16) at the White House's Office of Science and Technology Policy as director of the National Nanotechnology Coordination Office.

"When I went to Michigan State for grad school, the lab was not strange to me," he said. "It was a welcoming place because I had worked for Bill Bergmark for four years. He was a great teacher."

Bergmark's influence extended well beyond academics. Meador recalled lunches where they discussed graduate school options and career paths. "He was a good teacher, a good mentor, and a good friend," he said.



Bergmark (at left) with high school chemistry teachers.

That sense of mentorship continues to shape the department's culture.

## The Continuum of Mentorship

In the summer of 2024, Sen worked at the University of Minnesota in the lab of Professor William Pomerantz '02, one of Bergmark's former students. The connection was immediate.

"I was actually working in an IC alum's lab, which I think is pretty cool," Sen said. "He is now a full professor at the University of Minnesota, and I just fell in love with the research there and decided to bring it back to Ithaca College."

With Haaf's support, Sen continued that collaboration on South Hill, investigating small molecule therapeutics designed to selectively degrade proteins implicated in neuroblastoma cancer. "It really speaks to my love of both biology and synthetic chemistry," Sen said. "It speaks to my love for translational science."

That opportunity—to extend undergraduate research into advanced, real-world science—is exactly what Bergmark envisioned. "He cared deeply about the undergraduate experience and wanted to inspire the next generation of scientists," Haaf said. "You're not just learning chemistry. You're learning how to be a chemist."

The Bergmark Scholarship also illustrates another truth about Ithaca College: that philanthropy here takes many forms.

"Philanthropy can be as individual as the people who give," said Laine Norton, vice president for advancement at Ithaca College. "Like Bill and Donna, you can shape your legacy around what you love—your discipline, your passions, your community. Gifts of every size and kind make a lasting difference in the lives of our students."

## A Foundation that Endures

Valerie Ross '84, now a physician who received her medical degree from Johns Hopkins, remembers Bergmark as "quiet, but with a wry sense of humor." His lectures, she said, were clear and logical, his labs fun, and his support constant. "He was enthusiastic, and his love for science rubbed off on us ... He was a big part of the reason I loved Ithaca College."

For Sen, that legacy is still tangible. "I can interact on the daily with my professors, not just as faculty members but as mentors," he said. "It really shows me how special a place Dr. Bergmark helped create." The Bergmark Scholarship sustains that spark: in the rigor students learn, the mentors they become, and the discoveries they will claim as their own.



(Photo by Adam Baker)

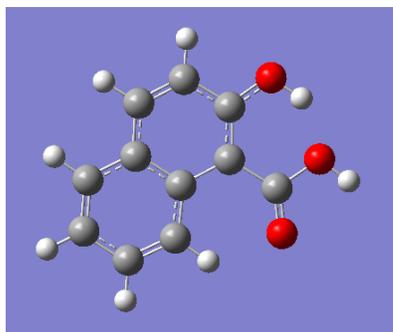
Rishabh Sen '26, one of the recipients of the Bill and Donna Bergmark Scholarship, in the lab.

# THANK YOU!

From visiting IC and engaging with current students, helping fund student research and travel, to making unique experiences possible, there is a broad community that helps make IC Chemistry special. **Thank You!**



Rishabh Sen secured a competitive *Lifespan Research Institute Summer-Scholars* research position in the lab of Dr. Michael Snyder, Stanford School of Medicine at Stanford University. A supplemental *Chemistry Summer Research Fellowship* award, made possible through endowed funds to the Chemistry Department helped cover expenses to make Rishabh's experience possible.



A current version of Gaussian was purchased to support research in the Craig lab looking into reactions involving polycyclic aromatic hydrocarbons (PAH) in the atmosphere. The Gaussian software helps with validation by allowing the Craig lab to compare their experimental Raman Spectroscopy measurements to calculated spectra for target molecules. Purchase of Gaussian was made possible through the *Chemistry Alumni Student Research Fund*.



Thanks to the *Heinz & Judith Koch Fund*, *Dr. Glenn C. Vogel & Dr. Marjorie R. Chelly '94 Chemistry Education Fund*, the *Local Chapter of the American Chemical Society*, as well as the *IC Humanities & Sciences Dean's Office*, seven chemistry and biochemistry students traveled to the American Chemical Society national meeting in San Diego, CA to present their own research! Pictured above from left: Kyler Lester, Maddy Kim, Mariia Grebenkina, Abby Costa, Ginny Illingworth, Katya Kelly, Miles Wheaton, and Professor Bryan Ferlez.



Trinity Bellamy and Rayna Wallens, working in the Hunting Lab, were supported through the *IC School of Humanities & Sciences Summer Scholars Program* as well as the *Heinz & Judith Koch Fund* during the 2025 summer term.



Esteban Baltodano Jimenez received support from the *Local Chapter of the American Chemical Society* and the *IC School of Humanities & Sciences Summer Scholars Program*, which allowed him to to conduct research in the Lo Lab over the 2025 summer.



Lucia Moix and Ella Carbray conducted research at the Center for Conservation and Restoration La Venaria de Reale in Turn, Italy over the 2025 summer (*read more below!*). Funding for the trip came from a donation to the Chemistry Department by an anonymous member of the alumni, as well as support from the *Local Chapter of the American Chemical Society* and the *Heinz & Judith Koch Fund*.



Professor Mike Haaf's *Chemistry and Art* class traveled to NY city in April, 2025 to visit the Science and Conservation Departments at the Metropolitan Museum of Art! Students also interacted with a local fiber artist and explored the synthesis and analysis of dyes. This course brings together Art History and Chemistry students and is supported by *Grant Cunningham '96 and Family* for its focus on activities bridging the chemistry and art disciplines.



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# CHEMISTRY & BIOCHEMISTRY STUDENT SCHOLARSHIPS & AWARDS

## Chemistry Alumni Book Award

Kelly Kilbourn '28



## Russell Drago Chemistry Award

Mariia Grebenkina '26



Rishabh Sen '26



## Bill and Donna Bergmark Chemistry Scholarship

Rishabh Sen '26

Joelle Kernan '27

## Larry Metzger Memorial Scholarship

Rayna Wallens '26



## Glenn Vogel and Marjorie Chelly Chemistry Education Fund Award

Mariia Grebenkina '26



**2025 Shirley Hockett Presidential  
Scholar Award** – *honors outstanding  
academic performance combined  
with exceptional depth and breadth  
of interest and outstanding  
community service*

- **Rishabh Sen, Chemistry '26**
- **Nominating Faculty: Mike Haaf,  
Professor, Chemistry '94**



**Multiple Chemistry majors and minors  
were awarded 2025 Peggy Ryan  
Williams Awards for Academic and  
Community Leadership!**

- **Rishabh Sen '26** Chemistry, Computer Science minor
- **Shania Alexander '25** Health Sciences, Biology and Chemistry minors
- **Maddy Kim '26** Chemistry, Clinical Health Sciences dual major
- **Catherine Papa '25** Health Sciences, Chemistry and Health Policy & Management dual minors

## 2025 Sigma Xi Inductees



From left: Rishabh Sen, Chemistry '26  
Mariia Grebenkina, Biochemistry '26  
Lauren Bruck  
Emma Heinze  
Amelia Meneses  
Bailey Hamm, Biochemistry '25  
Ginny Illingworth, Biochemistry '25  
Not Pictured: Abigail Costa, Chemistry '25  
Nicole Sutera  
Miles Wheaton, Chemistry '25

# Fall 2025 Alumni Seminars



## Jake Perkins '24

Associate Scientist,  
IQVIA Laboratories

October 7<sup>th</sup>, 2025

*"Pills, Profits, and the Pipeline: How  
Pharma Products Reach the Market"*



## Eric Choi '22

Medical student, SUNY Upstate  
Medical University

November 18<sup>th</sup>, 2025

*"Life After Ithaca and Journey to  
Medical School"*

We love having  
chemistry and  
biochemistry alumni  
visit for talks!

Interested?  
Please email  
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Visits by alumni to give seminars are a perennial favorite. We were fortunate to have two alumni return to give popular talks in the fall. Jake Perkins '24 spoke about his experience securing and advancing in his current position at IQVIA Laboratories, a local contract research organization supporting the pharmaceutical industry. Eric Choi '22 shared his experiences as a 2<sup>nd</sup>-year medical student at SUNY Upstate Medical University and his path to get there. Jake and Eric spoke as part of the CHEM 48700 *Chemistry Seminar* course and had lunch with students to further discuss their experiences. Thank you for visiting!

 ITHACA COLLEGE

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# THANK YOU PAULA!

Paula Larsen joined the Chemistry Department at the beginning of the 2016-2017 academic year having moved from her previous role with IC Facilities. Anyone passing through the Department of Chemistry knows Paula as a welcoming person who is always willing to help out with a smile. Students, staff, and faculty relied on Paula for a multitude of roles ranging from helping manage the departmental budget, ordering, travel and logistics, coordinating events, supporting course scheduling and activities, and managing work orders (to name a few). Paula was also an important ambassador for the department, which could be seen with the many students who would stop in to say hi. We were very happy for Paula when she announced her retirement, effective January 2025 to spend more time with family (especially new grandchildren). However, Paula's presence is often missed! Fortunately, she is close enough to visit periodically, and even has plans (firm commitments) to visit during graduation for a few more current students! Thank you Paula! We wish you the best!

## A FAMILIAR FACE IN CNS – NOW IN THE CHEMISTRY DEPARTMENT

Nancy Pierce has been supporting people in the *Center for Natural Sciences* building for 25 years working as the administrative assistant to Biology and Biochemistry. When Paula Larsen retired, Nancy graciously offered to take on the Chemistry Department's administrative assistant role. She is happy to have her connections extended to more faculty, staff, and students. Outside of IC, Nancy greatly enjoys time with her family and friends. In addition, her foremost hobby is traveling near and far to see family and friends, as well as taking scenic motorcycle/jeep rides, kayaking, and other outdoor activities. Welcome to the Chemistry Department Nancy!



# ALUMNI HIGHLIGHTS

## KAITLYN CROBAR '18



Kaitlyn Crobar '18

**Could you offer a brief update on what you've been up to since you graduated? What roles, positions, accomplishments were most notable?**

**Kaitlyn:** *After graduating from IC, I earned my J.D. from Syracuse University College of Law and built a career in technology commercialization and intellectual property (IP). I'm now the Intellectual Property & Licensing Officer and Associate Director of Digital Health & Creative Works at the Zucker Institute for Innovation Commercialization, part of the Medical University of South Carolina (MUSC). I help advance innovations, particularly digital health, AI, and educational technologies, from idea to market. I began my career managing parts of MUSC's biopharma and therapeutics portfolio, which aligned closely with my chemistry background, and moved into other areas as the organization evolved. Over this time, I also became licensed to practice law in both New York and South Carolina, which has been important in shaping my work in IP strategy and technology licensing.*

**How has your chemistry background influenced your career – even in unexpected ways?**

**Kaitlyn:** *Even though I don't work in a traditional chemistry role anymore, my chemistry background pops up in my career all the time. It helped me start out managing biopharma technologies and gave me both the technical foundation and the mindset to move into an interdisciplinary, nontraditional career path that I really enjoy. When I look back on my time at IC, I see an unexpected connection between my undergraduate research and what I do now. I worked in the Torelli lab using infrared imaging tools to teach enzyme kinetics. At the time it just felt like a cool project, but now I spend a lot of my time helping forge paths for new digital tools and educational technologies to make it to market. The research I did at IC, while not directly applicable to my current role, definitely sparked my interest in the education space and utilizing digital tools to enhance how we learn science.*

**What advice would you give current students trying to find their place after graduation?**

**Kaitlyn:** *Don't stress if don't know your path yet or if you feel drawn to something non-traditional. A chemistry degree gives you a set of skills that can translate into so many different careers, like the ability to figure things out when nothing is working and communicating technical ideas in a clear way. I ended up in a role that mixes science and law, which I never would've predicted as an undergraduate student. So stay curious, follow the things that genuinely interest you, and don't feel boxed in by what you think you're "supposed" to do with a chemistry degree. You have more options than you realize.*

**Then & now: If you could revisit the I.C. Chemistry Department today, what would you be most curious to see?**

**Kaitlyn:** *I'd love to see how the department has evolved. So much has changed in science and technology since I was there, and I'd love to see what how AI is shaping the way chemistry is taught and explored. I see daily how AI is influencing research and clinical practice for an academic healthcare system, and am curious how AI is being integrated into the undergraduate classroom and the lab experience.*



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# ALUMNI HIGHLIGHTS

## ERIC CHOI '22

**Could you offer a brief update on what you've been up to since you graduated? What roles, positions, accomplishments were most notable?**

**Eric:** After graduating from Ithaca College in 2022, I moved to Boston where I worked in the emergency department at Boston Children's Hospital while studying to retake the MCAT. After about a year, I also began working in an ophthalmology office, where I quickly fell in love with the field and developed a strong interest in pursuing it further. I am now a third-year medical student at SUNY Upstate Medical University and have really enjoyed my time here. Medical school has allowed me to expand on the foundational knowledge I learned at Ithaca College and begin applying it to real clinical cases. Even with the demanding schedule of medical school, I am still able to continue doing something I love, traveling. Over the past two years, I've been fortunate enough to travel to Spain, Thailand, Vietnam, Indonesia, and Iceland.

**What were some of the most important or unexpected concepts, courses, or experiences you had at Ithaca College that helped you get to where you are?**

**Eric:** One of the most important experiences I've had at Ithaca College is to keep an open mind and have conversations with people about different career paths. I was originally in the six-year DPT program, but after talking with multiple professors and students in the department, I began reconsidering my path. These initial talks led me to pursue medical school and opened up many opportunities, both in research and clinical experiences. Looking back, I would not be where I am without those conversations.

**Considering what you've learned during your gap years, experience applying to medical school, and your early medical student years, what advice would you give students that would have been helpful to know earlier?**

**Eric:** From my two gap years working in healthcare and now being halfway through my medical training at Upstate, one piece of advice I would give students preparing for careers in the health professions is to pursue what you're genuinely passionate about, whether it's medically related or not. One common theme I have constantly heard from physicians and older students is "quality over quantity." Not only does this help you prevent burnout, but it also makes the journey more enjoyable, makes you stand out, and helps you become a more thoughtful and well-rounded future provider.



Eric Choi '22



# IN REMEMBRANCE

Stephan (Steve) Stranick was a graduate of Ithaca College who earned his B.S. degree in Chemistry in 1989 and unfortunately passed away in early 2024. On January 23, 2026, the National Institute of Standards and Technology (NIST) held a ceremony honoring the 2025 *Gallery of Distinguished NIST Alumni* ([link to video of the ceremony](#) and [link to the ceremony program](#)). Steve was specifically recognized *"For world leadership in the execution of innovative microscopy techniques, programmatic leadership in other agency partnerships significant to national security, and a prodigious record of mentorship"*

Steve was also well known to those around him as a committed and loving father and husband, a generous friend, and simply, a good person. As Glenn Vogel put it, *"Steve was a very talented scientist and a great human being."* We wanted to share news of this honor and Steve's other contributions to the scientific community.



Stephan Stranick, PhD '89

Over the course of his career with NIST from 1996 - 2024, Steve earned a reputation for building innovative microscopy and spectroscopy tools rooted in the science of measurement. Steve's work is broadly recognized as having advanced capabilities in the accuracy and types of measurements applied to materials including polymers and soft matter.

Being honored as a member of the *2025 Distinguished NIST Alumni* was the latest in an impressive list of honors including:

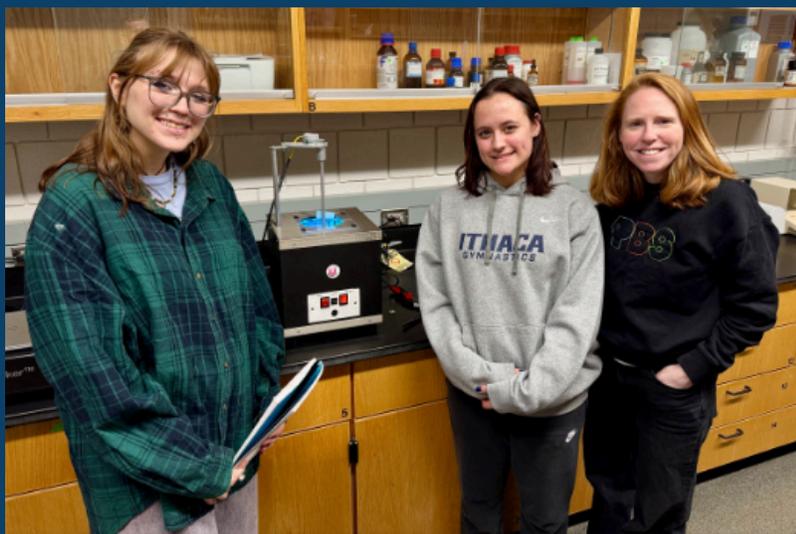
- 1996 - *American Chemical Society Nobel Laureate Signature Award for Graduate Education in Chemistry* "To recognize an outstanding graduate student and their preceptor(s) in the field of chemistry, broadly defined."
- 2002 *NIST Samuel Wesley Stratton Award* for "An unusually significant research contribution to science or engineering that merits the acclaim of the scientific world and supports NIST's mission objectives."
- 2002 - *NIST Bronze Medal*
- 2003 - *American Chemical Society Division of Analytical Chemistry Arthur F. Findeis Award for Achievements by a Young Analytical Scientist*
- 2004 - *NIST Bronze Medal*
- 2008 - *Arthur S. Flemming Award* for "Innovations in chemical imaging microscopy techniques below the diffraction limit of light."
- 2023 - *U.S. Department of Commerce Gold Medal*
- Steve also contributed as an author to over 90 publications and 7 patents.

# CRAIG LAB AWARDED EXTERNAL GRANT

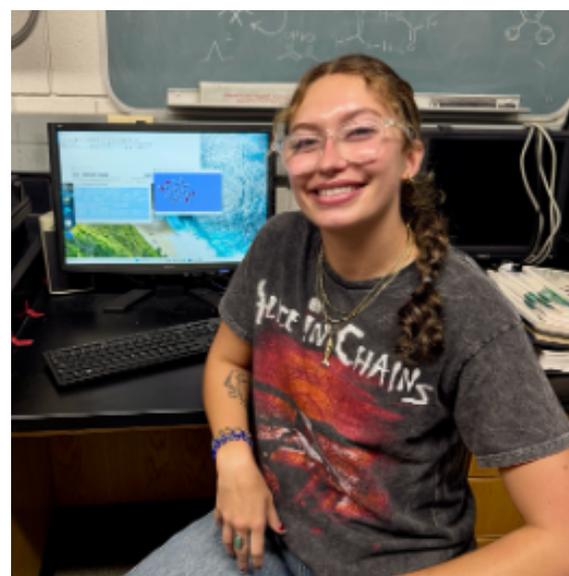
Professor Becky Craig was awarded a 2-year, \$55,000 *Petroleum Research Fund (PRF) Undergraduate New Investigator (UNI) Grant* through the American Chemical Society (ACS). The grant will support undergraduate students in the Craig Lab performing novel chemistry research investigating reaction kinetics and products of hydroxyl radical oxidation of naphthalene-derived compounds. Naphthalene is an abundant polycyclic aromatic hydrocarbon (PAH) implicated in key processes of aerosol formation and cloud chemistry. This work will improve understanding of the stability and reactivity of naphthalene-derived compounds and their role in atmospheric processes.

Student researchers will learn a range of experimental techniques, develop critical thinking skills in a research laboratory setting, and have the opportunity to present their work to the broader scientific community at conferences.

The first students to work on this project are: Ava Gough, Chemistry '26; Anya Kraenzel, Chemistry '27; Zachary Frank, Chemistry '29; and James Rahman, Chemistry '29. Ava will present her work studying 1,4-naphthalenedicarboxylic acid at the ACS National Meeting in Atlanta, GA in March 2026.



Katya Kelly, Chemistry '26, Anya Kraenzel, Chemistry '27, and Professor Becky Craig with their Rayonet photoreactor used to simulate UV radiation and induce photochemical reactions.



Ava Gough, Chemistry '26 with Gaussian software used to predict vibrational modes of molecules used to compare and identify compounds from experimental spectra.

# STUDENT RESEARCH IN ITALY

**Ella Carbray '27 and Lucia Moix '27 shared a bit about their summer 2025 experience participating in research in Turin, Italy.**

We had the amazing opportunity and privilege to work at the Center for Conservation and Restoration La Venaria de Reale in Turin, Italy. At the center we were immersed in the world of art conservation while also studying the kinetic formation of metal soaps in alkyd resin. Through studying metal soaps, we learned a variety of techniques and new instrumentation which we can now apply back in Ithaca! We got to work with FTIR microscopy, IR spectroscopy, XRF, and SEM. Besides our research project we got to observe and even participate in the study of various cultural heritage objects. From 4,000 year old Egyptian textiles to the Savoy family's boat, we saw a myriad of objects. The best part was getting to engage with the Masters students and learn about their theses and objects of study. It was truly fascinating. Overall, we had an amazing experience and deeply appreciate the financial support from our anonymous Chemistry Alumni Benefactor, the IC Chemistry Department, and the Center for Conservation for making this possible!



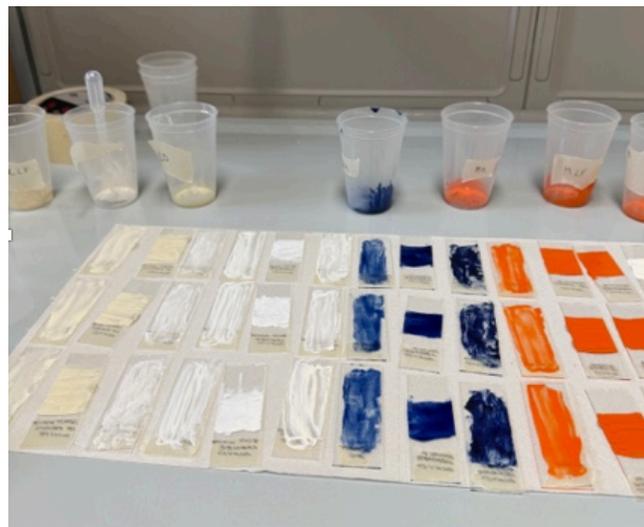
Lucia and Ella at dinner with CCR Staff



Lucia Moix '27



Ella Carbray '27



Paint samples prepared for IR testing

# THANK YOU FOR YOUR SERVICE!

After 35 years of mass appeal to the IC Chemistry community, the Department's "workhorse" GC-MS finally reached the end of its retention time in CNS. We're pretty broken up about this too, so we thought we'd include some fragmented memories and anecdotes from various alumni to help ease the separation anxiety...



The Hewlett-Packard Model 5890 Series II Gas Chromatograph was introduced circa 1989 and was produced until the mid-1990s. Our unit, purchased in the early 1990s, was paired with the HP 5972 Series Mass Selective Detector. This combination was widely recognized for "bulletproof" reliability, hence our ~35 years of use in the IC Chemistry Department!

## Ode to the Tan-Brown Box

*O faithful sentry of the IC Lab,  
In unassuming tanish-brown you stood –  
A box of secrets, quiet and drab,  
Yet parsing truth as best you could.*

*While Dr. Koch drew the atom's frame,  
You took my samples prepared just right;  
Through heated coils and ion flame,  
You brought the invisible into sight.*

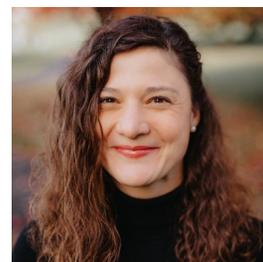
*A clear solution, a ghost-like trace,  
Passed through your column's long retreat,  
Until the peaks found time and space  
Upon the scrolling, numbered sheet.*

*You stripped the mask from every part,  
To show that matter is more than seen –  
The humble engine of my heart,  
The ghost within the tan machine.*

*Though global science owes you much,  
For me, the debt is closer still;  
You turned a student's hesitant touch  
To a scientist's curious and searching will.*

**Many have used this particular GC-MS over the years!  
We contacted a few who shared their memories below.**

*"The first summer I did research, there was a group of 4-5 of us and we crowded around the GC-MS as Heinz explained to us what we were doing and how to use the instrument. I remember being so overwhelmed in general and feeling like it was all so over my head, but I needed to just stick in there and learn anything I could. Believing that eventually it would all make sense – and it did. "*



Kristina Hugar, PhD '06

*"That GC was the workhorse in helping us analyze elimination products for assembling Arrhenius plots. That machine essentially led us to derive entropies/enthalpies of reaction and ultimately helped us understand the mechanism of stable carbanion formation via deprotonation in "E1cb"-type reactions. It was quite interesting to observe how nearby fluorine atoms can stabilize carbanions in such reactions, and that GC instrument was key in gathering the data to realize the kinetic parameters. It's probably not the most fascinating of memories I have, but to me it was an example of IC Chemistry's commitment to providing students with great equipment and to staff great professors like Heinz Koch to teach students great lessons and guide their research projects."*



Pasquale Iacono, PhD '07

*"Wow, that is an impressive legacy for that instrument. Many fond memories of sitting in that instrument room getting my kinetics for Heinz Koch off of the GC-MS (which was old when I was there!) Heinz truly embraced the make, measure, model paradigm of being a chemist, and gave so many of us an authentic and inspiring research experience."*



Erica Schlesinger, PhD  
Chemistry Student '03-'04



William Pomerantz, PhD '02

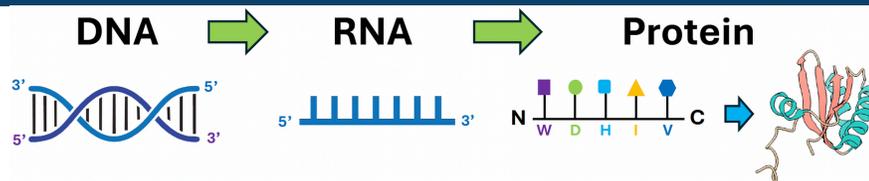
## BIOC 24000 – Experimental Biochemistry

This was the first offering of BIOC 24000, a new course taken by all biochemistry students in their 4<sup>th</sup> semester. It was created following a recommendation from our recent Program Review.

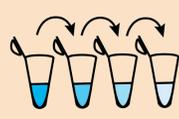
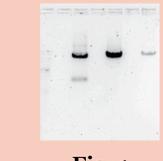
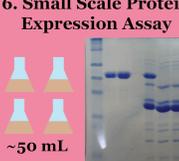
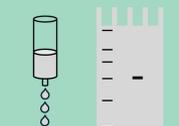
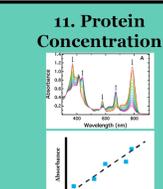
One overarching goal was to provide students with a truly engaging, hands-on, and early “cohort-building” biochemistry experience. In terms of learning outcomes, BIOC 24000 aims to reinforce skills relevant to all life sciences including:

- *Experimental design*
- *Data collection and analysis*
- *Discussing and presenting results*
- *Biochemistry lab skills & safety*
- *Teamwork*

Eleven students worked with Professor Bryan Ferlez to apply the Central Dogma to study the production and assembly of bacterial microcompartment proteins and shells – the focus of his research lab.



### Experimental Biochemistry BIOC 24000: applying the central dogma

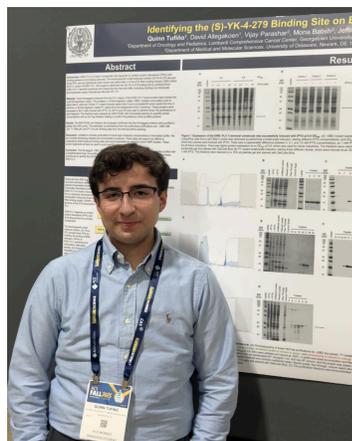
<b>1. Lab safety &amp; Pipettes</b>  	<b>2. Buffers &amp; Dilutions</b>  $C_1V_1 = C_2V_2$	<b>3. PCR &amp; DNA Gels</b>  <b>Fig. 1</b>	<b>4. DNA Gel Extraction &amp; Sterile Technique</b> 
<b>5. Bacterial Transformation &amp; Colony Screen</b>  <b>Fig. 2</b>	<b>6. Small Scale Protein Expression Assay</b>  ~50 mL <b>Fig. 3</b>	<b>7. Protein Solubility</b>  <b>Fig. 4</b>	<b>8. Data Analysis</b> <ul style="list-style-type: none"> <li>• Fig. 1</li> <li>• Fig. 2</li> <li>• Fig. 3</li> <li>• Fig. 4</li> </ul>
<b>9. Large Scale Protein Expression</b>  ~1 L	<b>10. Protein Purification</b>  <b>Fig. 5</b>	<b>11. Protein Concentration</b>  <b>Fig. 6</b>	<b>12. Protease Susceptibility</b>  <b>Fig. 6</b>
<b>13 - 14. In vitro assembly of bacterial microcompartment shells</b> <ul style="list-style-type: none"> <li>• Define the protein and solution composition of an in vitro reaction mixture that you will test for shell formation. Assay shell formation using affinity chromatography and SDS-PAGE techniques (Fig. 7).</li> <li>• A final report and presentation will include data analysis and presentation (Fig. 1-7), write up of the materials and methods for IV assembly, results, and conclusions.</li> </ul>			



# MOLECULAR MOMENTS

## Alumni sighting!

Quinn Tufino, Biochemistry '24 presenting a poster at the 2025 Fall ACS meeting in Washington, D.C.



The Chemistry Club stayed active with social events including fan-favorite "Brackets" such as this one to determine the most popular tea!

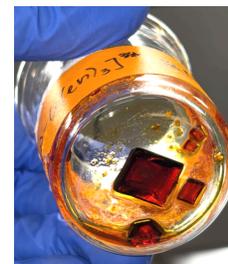
## 2025 Spooky Science



## 2025 Senior Celebration at Ithaca Beer



From left: Chun Li with Erya, Becky Craig with Cooper, Lilly Johnson, Mike Haaf, Abby Costa, Bryan Ferlez, Ginny Illingworth, Maddy Kim, Andy Torelli, Kyler Lester, Katherine Thompson, Miles Wheaton, Trinity Bellamy, Kristen Johnson, Rishabh Sen, Leo landolo, Akiko Fillinger



**Beautiful crystals grown by students in CHEM 34300 Inorganic Chemistry Lab**

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# JUST FOR FUN...



Joelle Kernen, Biochemistry '27

While working in the Ferlez Lab during the spring 2025 semester, Joelle Kernen posted a weekly comic featuring Alfred and Bertram *E. coli*. We looked forward each week for the updates on Alfred and Bertram's adventures, which you can see in their entirety below!



## Stay connected!



Prof. Mike Haaf '94, Rishabh Sen '26, Lilly Johnson '25, Abby Costa '25

Our QR codes for more department info:



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