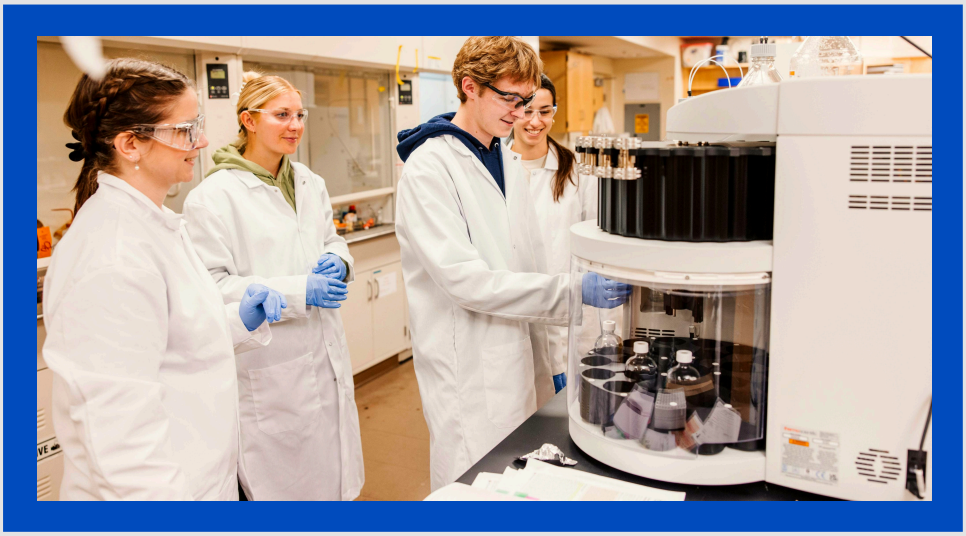
Periodic Trends

Summer 2026 Newsletter



Message from the Chair

Dear Friends of the Department,

It is my pleasure to introduce myself as the new chair of the Department of Chemistry and Biochemistry. I first want to thank Professor Ken Overly for his seven years of tremendous service to the department. Because of his leadership, the department is in an excellent position to embrace the opportunities and manage the challenges of the future.

As I reflect back on my first year as chair, I am reminded about what attracted me to come to PC as a young professor - the creativity, curiosity, and dedication of our students, faculty, staff, and alumni. The relationships that are built here by learning chemistry are what make this place so special. As chair for the past year, I've been given a unique glimpse into how those relationships are cultivated. They form during office hours with a student who might need extra help, in advising sessions with a student who is unsure what he/she wants to do after graduation, or in the research lab over the summer when students and faculty are working on solving real problems in chemistry. These examples show why I am so grateful to be part of a department that embraces undergraduate education.

We have much to celebrate over the past year, and we want to keep you updated and informed. This is why we are launching a new newsletter, *Periodic Trends*. We hope to publish this newsletter each summer to keep you connected to the great things that are happening in the department. This inaugural newsletter highlights the research, achievements, and experiences that make our department such a vibrant place to work and study.

Whether you are a current student, alumnus, or supporter, **thank you for being part of our community**. Your engagement and encouragement help us to continue to provide transformative educational experiences for our chemistry and biochemistry students. I invite you to stay connected as we continue to inspire the next generation of scientists.

Regards,
Seann Mulcahy, Chair

Jean Dreyfus Lectureship with Professor Leslie Sombers

Dr. Leslie Sombers, a professor of pharmacodynamics in the College of Pharmacy at the University of Florida, was our guest for the Jean Dreyfus Lectureship for Undergraduate Institutions. This lecture was made possible by a grant from the Camille and Henry Dreyfus Foundation awarded to the Department. An analytical chemist by training, Professor Sombers is an interdisciplinary scholar whose work lies at the interface of chemistry, biology, neuroscience, engineering, and physics. Dr. Sombers delivered two lectures in the chemical sciences; one for the general public, titled "Eavesdropping on Neurotransmission: from New Analytical Methods to New Insight", and a second technical talk for the Chemistry and Biochemistry majors, titled "Real-Time Monitoring of Multiple Neurochemicals at Single Recording Sites in Rat Striatum".

Dr. Tyler Stack Awarded NSF Grant and Academic Tenure

Dr. Tyler Stack, Assistant Professor of Chemistry, was recently awarded a National Science Foundation research grant of more than $240,000 over 2 years funded by the MPS-LEAPS (Launching Early-Career Academic Pathways) Program in the Division of Chemistry for his project "Specificity and Mechanism of Azoreductases Versus Nonenzymatic Hydrogen Sulfide Reduction of Azo Compounds Due to the Human Gut Microbiome." In this project, Professor Stack and his students will study the chemical breakdown of azo-containing small molecules in the human gut. Part of the grant is to develop the General Chemistry labs into a course-based undergraduate research experience.

Additionally, Dr. Stack was awarded tenure this spring and has been promoted to Associate Professor! We are very lucky for him to be a member of our department.

New Faculty - Dr. Yae In Cho

Dr. Yae In Cho joined PC as an Assistant Professor of Chemistry in Fall 2025, bringing expertise at the intersection of biochemistry and inorganic chemistry. With training from Pusan National University, UT Austin, and postdoctoral work at Haverford College, she studies how custom designed molecules and metal complexes can illuminate biological processes and support solutions ranging from therapeutics to environmental remediation.

In the CHO Lab (Curiosity, Hypothesis, Opportunity), Dr. Cho and her students explore topics such as siderophore biosynthesis and the development of selective G quadruplex–binding metal complexes with anticancer potential. Outside of the lab, she enjoys art museums, nurturing indoor plants, collecting niche perfumes, photographing the sky, and discovering new restaurants in the Providence area.

Summer Research 2026

This summer, we have 15 students performing undergraduate research in the laboratory under the direction of a PC faculty member. These 8-10 week experiences are transformative for students in developing critical thinking and problem solving skills that make them competitive for jobs and advanced study after graduation. Student projects range from the synthesis of new organic and inorganic molecules for applications in medicine and climate change, to understanding the biochemistry of the pharmaceutical metabolism, to measuring organic pollutants in the air above Providence, and more.

Many of these students are able to have this experience due to generous support from the National Science Foundation, National Institutes of Health, the RI-INBRE program, and the Walsh Undergraduate Research Fellowship. In addition, we are grateful to Dr. Ralph Spohn, '65, who provided generous funding to allow our students to stay in the residence halls this summer for the duration of their experience.

New Publications

Congratulations to the following faculty and students (*) for publishing new research over the past year in the following journals:

Annie Gathof,* Leart Jahaj,* Savannah Patalano,* Adelaide E. Clark. Spatioseasonal Variability and Correlations of Particle-Bound Organophosphate Esters in Providence, Rhode Island. *ACS Omega*, **2025**, *10* (50), 61596-61606.

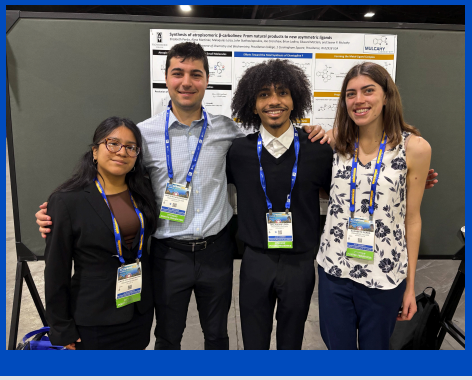
Mason Krawczynski,* Kathleen Cornely. Successful Lysogen Formation for Cluster K4 Phage, Kraw. *HHMI Science Education Alliance (SEA) Faculty Group, QUBES Educational Resources*, **2026**. DOI:10.25334/CMND-7P40.

Sean Coyne,* Robert Ghergurovich,* Francis Sacco,* Francesca Lombardi,* Kailey Paar,* Jackson DeMartino,* Annick A. Kenfack,* Tyler M. M. Stack. Gut Bacterial 20-Hydroxysteroid Dehydrogenases Modify Endogenous Glucocorticoids and Corticosteroid Drugs. *Biochemistry*, **2026**, DOI: 10.1021/acs.biochem.5c00661.

Student Highlight: Leart Jahaj, '27

We are proud to share that Leart Jahaj '27, a chemistry major and member of Dr. Adelaide Clark's research group, received a 2026 Goldwater Scholarship, the most prestigious undergraduate scholarship in the US in the fields of engineering, mathematics, and natural sciences. In addition to the honor, Leart will receive a tuition scholarship totaling $7,500. Leart was also accepted to the NASA Student Airborne Research Program (SARP) this summer, where he will spend eight weeks getting hands on research experience in the field with NASA's Airborne Science Program. After graduation, Leart plans on attending graduate school in chemistry.

Congratulations, Leart!



National Meeting Attendance

Congratulations to the 14 chemistry and biochemistry students who presented their research at the American Chemical Society National Meeting in Atlanta, GA and the American Society for Biochemistry and Molecular Biology Annual Meeting in Washington, D.C. this spring. Representing the labs of Drs. Maria Carroll, Addie Clark, Tyler Stack, Kathleen Cornely, and Seann Mulcahy, they had the opportunity to share their data and network with others in the field of chemistry.

Anna E. Lavoie Lectureship and *Visionary Voices* - Ann Houston '92

As part of the on-going series *Visionary Voices* in the School of Arts and Sciences, PC alumna Ann Houston '92 came to campus to delivered this year's Anna E. Lavoie Memorial Lectureship. Her talk was entitled "From Discovery to Impact: Lessons from the Field in Pharma and Biotech." Ann discussed her path from Providence College through several different positions in the pharmaceutical industry. She also discussed her latest adventure as the owner of Stonington Vineyards in CT, even commenting how her background and training in chemistry helped her lead and manage the three independent parts of the business. During her time on campus, she visited Chemistry and Biochemistry lectures and labs, spoke with students and faculty, and even stopped by the annual Celebration of Student Scholarship and Creativity poster session to see our students present their research projects. Thank you, Ann, for visiting us!

Positive External Review of our Programs

During the Fall 2025 semester, the Department participated in the College's Continuous Improvement Program (CIP) for the first time in 13 years. Two reviewers from Bowdoin College and Skidmore College came to campus to evaluate our programs and provide recommendations for improvements. The Department is happy to report a very positive outcome of this process. As the reviewers noted, "Providence College has much to celebrate regarding its growth and development since the last departmental review, marked by advances in infrastructure, faculty support, pedagogy, undergraduate research, and external funding. One of the most visible transformations has been the addition of a new building, which has had a positive impact on the department's research, teaching, and image." The reviewers also noted the growth in student engagement in research, the adoption of innovations in teaching pedagogy, increases in internal and external funding for scholarly work, and a welcoming and collaborative faculty.

In response to one of the recommendation in the report, the department spent the Spring 2026 semester conducting a curriculum review by benchmarking our program against 12 other institutions like us, and recommending changes to the curriculum. Late in the spring, a new B.S. Chemistry major curriculum was adopted by the Faculty Senate. Changes included discontinuation of the "majors-only" section of first-year chemistry, increasing the number and regularity of elective offerings, and reducing the 5-credit “Cheminar” sequence to senior-year only. Revisions to the other degree programs will continue into the new academic year.

Outstanding Research Awarded

Dr. Seann Mulcahy received this year's Outstanding Faculty Scholar Award at Providence College. This award recognizes a tenured faculty member at PC who demonstrates the highest standards in research, scholarship, and contributions to an academic field. Dr. Mulcahy was recognized for being "an exceptional teacher-scholar whose record of original, innovative research and sustained publications with undergraduates demonstrates a rare level of scholarly excellence."

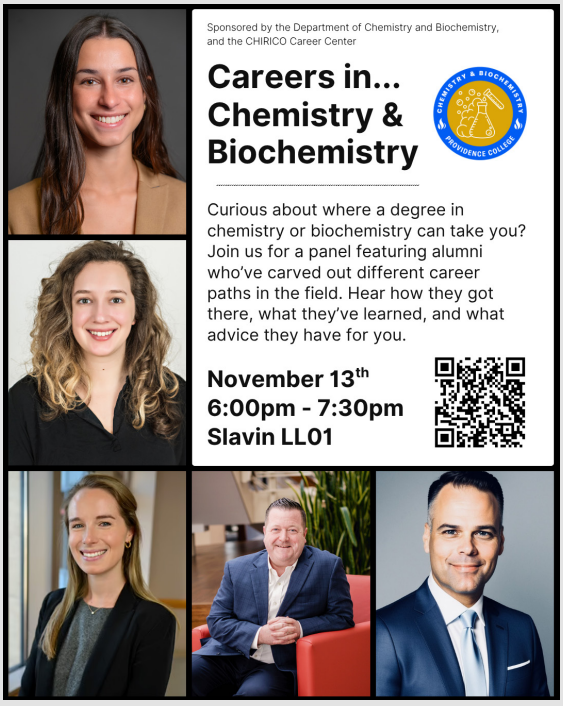
Students at the RI ACS Awards Dinner

Commencement 2026

Congratulations to the Class of 2026: Siena Brazier, Sean Coyne (Dec. '26), Stephanie Farrell, Anne Gathof, Robert Ghergurovich, Jenna Greene, Malaquias Loiza, Alma Martinez, Mallory Mongeon, Paige Papa, Eva Pastore, Sean Peloquin, Elizabeth Perda, Jacqueline Plante, Lily Raffauf, Paige Rossicone, John Stathoulopoulos, and Dimitrios Vamvouklis.

These students amassed many departmental and college awards, several of them earned Latin Honors, and most importantly many of them had job opportunities lined up or had already been accepted into graduate programs prior to walking across the stage. This is a true testament to the value of their degree and their hard work in earning it.

Eight students in the PC Class of 2026 finished at the top of their class with perfect 4.0 GPAs, the equivalent of an A in every class through eight semesters. We are proud that Siena Brazier, a chemistry and biology double-major and president of the Chemistry Club, was one of these students. Congrats!



"Careers in Chemistry and Biochemistry" Alumni Panel

In November 2025, the department sponsored a "Careers In Chemistry and Biochemistry" alumni networking event, featuring five PC graduates from all stages of their careers. The panelists represented a diverse set of careers, too, so it was very informative for current students to hear what opportunities exist after completing their degrees. The event was organized in a speed dating-style format, which our students found helpful in discussing their future plans with people who had been in their shoes. Thanks to Tess Bonanno, '24, Brianna Abbott, '17, Ellen Wheeler, '16, Greg Whitney, '00, and John Fennell '97 for their participation. We hope to make this an annual event, so if you are interested in being on this fall's panel, please email chemistry@providence.edu.

Your contributions are greatly appreciated and truly make a difference. PC is currently in the midst of the most ambitious fundraising effort in the college's history. **If you would like to contribute funds to help sustain department activities, please scan the QR code to the right**. When selecting your donation designation, select Other to enter the Department of Chemistry and Biochemistry. Thank you for your support and generosity!