

# Ph.D. in Chemistry and Biochemistry



Bayer School of Natural  
and Environmental Sciences



## Achieve more.

Take your science background to the next level with a Duquesne Ph.D. in Chemistry and Biochemistry.

Our graduate program in chemistry and biochemistry combines chemistry's traditional technical applications with strengths in biomolecular and environmental chemistry to provide you with an unparalleled education that will help set you apart from others in your field.

### Special features of our Ph.D. in Chemistry and Biochemistry program include:

- Two semester-long **research experiences** to help you start your graduate education
- A three-semester course in **scientific communication** in which you'll learn to draft scientific manuscripts, prepare fellowship proposals
- A three-semester course in **scientific ethics** during which you'll mentor Duquesne undergraduate students on ethics assignments
- **Knowledge courses** determined by your advisor and dissertation committee

Go to [duq.edu/chemistry-PhD](https://duq.edu/chemistry-PhD) for additional details about coursework and our assistantship program.

---

Federal agencies and private foundations including the **National Science Foundation, U.S. Department of Energy, H.J. Heinz Endowments** and **R.K. Mellon Foundation** have invested in updating and expanding the Bayer School's research facilities.

---



## **Student Certificate of University Teaching**

Get a teaching certificate through Duquesne's Center for Teaching Excellence. You'll attend seminars and get helpful feedback from seasoned faculty to hone your teaching techniques. Visit [duq.edu/teaching-certificate](https://duq.edu/teaching-certificate)



**Matthew Srnec, Ph.D. Graduate '17**  
**Assistant Professor of Physics**  
**Franciscan University of Steubenville**

*"Duquesne's Department of Chemistry and Biochemistry prepared me extremely well for my future career in academia. The balanced experience of hands-on research and classroom/laboratory teaching positioned me for a life as a college professor."*

# Collaborate with some of chemistry's best.

You'll learn from award-winning scientists who are experts in their fields.

Duquesne's chemistry faculty members are Bright Scholars and researchers, frequently honored for teaching, scholarship and service. Our instructors are ready to serve as mentors as you conduct your own groundbreaking research:

## **Dr. Jennifer Aitken**

Professor

*Research area:  
Elucidation of new crystal structures, synthesis and study of novel solid state materials*

## **Dr. Bruce Beaver**

Professor

*Research area:  
Reactions of molecular oxygen with indole and carbazole derivatives*

## **Dr. Aaron Bloomfield**

Associate Professor

*Research area:  
Homogeneous catalysis and green chemistry*

## **Dr. Michael Cascio**

Associate Professor

*Research area:  
Biochemical characterization of channels/transporters*

## **Dr. Jeffrey Evanseck**

Professor

Lambert F. Minucci Endowed Chair in Engineering and Computational Sciences  
*Research area:  
Theoretical biophysical and physical organic chemistry*

## **Dr. Ellen Gawalt**

Department Chair and Hillman Distinguished Professor

*Research area:  
Chemical modification of metal oxide surfaces used in biomaterials*

## **Dr. Paul Johnson**

Assistant Professor

*Research area:  
Chemical education*

## **Dr. Shahed Khan**

Associate Professor

*Research area:  
Electrochemistry*



**Venkata Pakkala, Ph.D. Graduate '12**  
**Senior Data Scientist, Algorithm Development**  
**Samsung Electronics America, Inc**

*“Duquesne prepared me for my job by providing access to world-class faculty, cutting-edge technology, and rigorous training in a fun-filled environment.”*

**Dr. H.M. (Skip) Kingston**

Professor

*Research area:*  
*Environmental analysis using ICP-MS*

**Dr. Thomas Montgomery**

Associate Professor

*Research area: Novel methods for synthesis of bio-relevant compounds*

**Dr. Rita Mihailescu**

Professor

*Research area:*  
*Protein-nucleic acid interactions; NMR spectroscopy*

**Dr. Alicia Paterno Parsi**

Assistant Professor

*Research area:*  
*Chemical education*

**Dr. Tomislav Pintauer**

Professor

*Research area:*  
*Inorganic, organometallic and polymer chemistry*

**Dr. David Seybert**

Professor

*Research area:*  
*Regulation of enzymes involved in steroid hormone biosynthesis*

**Dr. Michael Van Stipdonk**

Associate Professor

*Research area: Mass spectrometry and gas-phase ion chemistry*

**Dr. Stephanie Wetzel**


Assistant Professor

*Research area:*  
*Analytical and forensic chemistry*



Want to continue in a specific research area?  
Learn more about our faculty's interests:

[duq.edu/chemistry/faculty](http://duq.edu/chemistry/faculty)



Duquesne  
has been  
designated as  
a top school  
in educating  
STEM talent by  
*STEM Jobs*  
magazine.

## Access to top-notch resources that help you excel.

Conduct your chemistry work in Duquesne's  
30,000 square feet of modern work space and labs.

Stay at the forefront of innovative scientific research  
with the best instrumentation, all housed right here  
on campus. From **multinuclear NMR spectrometers**  
to **X-ray crystallography tools** to new **mass  
spectrometers**, our sophisticated technology will  
help make your ideas and experiments come alive.



Check out more details about  
our chemistry instrumentation:

[duq.edu/chemistry/instruments](https://duq.edu/chemistry/instruments)



**Gavin Buckholtz,  
Ph.D. Graduate '15  
Scientist, Micro-analytical Analysis  
Fluor Marine Propulsion**

*"My graduate work at Duquesne provided me with hands-on experience with a large array of analytical equipment that made me more desirable to employers."*



Our chemistry and biochemistry graduates work in private industry, government-funded research labs, and academic institutions, such as the **National Energy Technology Laboratory, PPG Industries, Alcoa, Center for Disease Control, Marshall University, Auburn University and Carnegie Mellon University.**



Visit [duq.edu/bayerschool/opportunities](https://duq.edu/bayerschool/opportunities) for more details.

## Explore opportunities outside the classroom.

Share your passion for science through the Bayer School's active seminar series.

Attend seminars and symposiums hosted by the department throughout the year, and learn about emerging technology and new breakthroughs in chemistry from guest speakers who are world leaders in science.

As a Ph.D. student, you will qualify for travel expense reimbursement as you present research results at major national scientific conferences and meetings, such as PittCon, ACS National Meeting and the Biophysical Society Meeting.





**Rathna Jyothi, Ph.D. Graduate '16**  
**Method Development Scientist, Pharmacokinetics**  
**Celerion**

*“My experiences at Duquesne are twofold. The cutting edge research at Duquesne taught me the skill-set to be employable and the networking events and conferences prepared me to carry myself with the right attitude in a professional environment.”*

---

Duquesne is consistently ranked among the best science schools for graduate chemistry programs by the *U.S. News & World Report*.

---

# A city where science and innovation thrive.

With an abundance of leading technology, research and medical companies, Duquesne's hometown of Pittsburgh is the perfect place to pursue a chemistry degree—and after graduation, your career.

Whether you aspire to conduct lab work at a world-renowned institution or teach at the college level, you'll have a distinct advantage while completing your degree. As a Duquesne graduate, you'll have access to established businesses, agencies, top universities and new science-related businesses eager for the talent and fresh ideas that you'll bring.

Check out more about what Pittsburgh offers at [duq.edu/graduate-pittsburgh](https://duq.edu/graduate-pittsburgh)

---

Each year the graduate student organization **Phi Lambda Upsilon** sponsors a conference where students present their work and host speakers. Annual graduate student awards are presented at this conference.



3

**BEST**

WalletHub ranks Pittsburgh among the **best U.S. cities for STEM jobs**, based on the number of job openings for STEM graduates, salary growth and projected demand for STEM professionals.





Get involved and meet other student scientists through Duquesne's **Alpha Chi Sigma** professional chemistry fraternity, **Phi Lambda Upsilon** chemistry honor society and the student chapter of the **Pittsburgh Analytical Societies**. Visit [duq.edu/student-organizations](https://duq.edu/student-organizations)

## Invest in your future.

A Ph.D. from Duquesne is more affordable than you might think.

All admitted Duquesne Ph.D. in Chemistry and Biochemistry students will receive a \$26,000 assistantship stipend.

---

### Specialized Science Centers

Collaborate on a variety of projects with faculty from other Duquesne departments, as well as outside scholars and scientists from different industries, in the Bayer School's **Agilent Center of Excellence in Mass Spectrometry** and **Center for Computational Sciences**

[duq.edu/science/centers](https://duq.edu/science/centers)

---

## About Duquesne

A nationally ranked Catholic university, Duquesne is recognized for its outstanding academic and research programs. The University has earned accolades from *U.S. News & World Report*, *Princeton Review*, and *Washington Monthly Magazine*. Situated in the heart of downtown Pittsburgh, Duquesne is home to nearly 9,500 students in 80 undergraduate and more than 90 master's, doctoral and professional programs across nine schools of study.



[duq.edu/chemistry](https://duq.edu/chemistry)

**Call us:** 412.396.6340

**Follow us:**

 /DuquesneScience

 @DuquesneScience

 @DuquesneScience