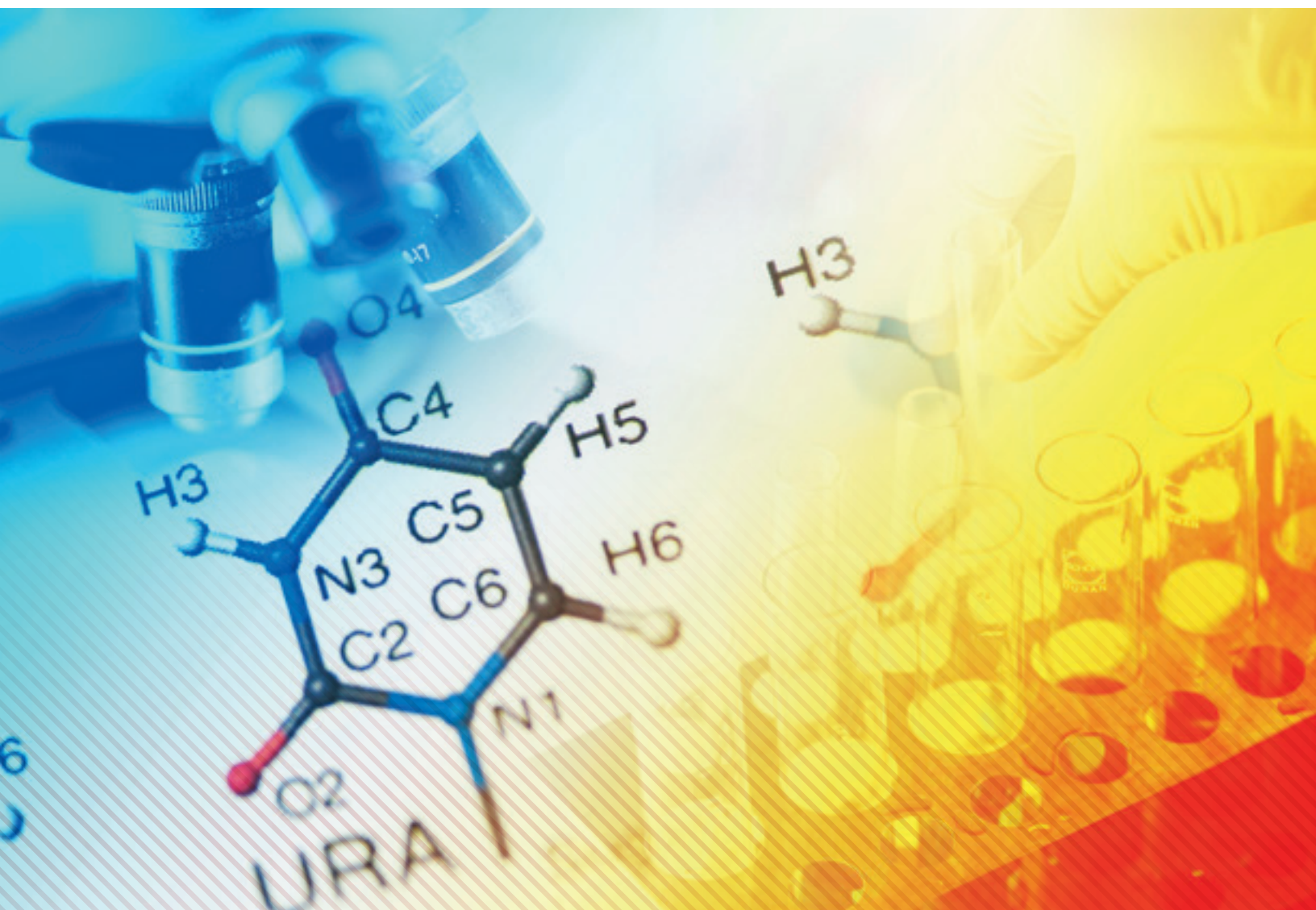


— *Department of* —
CHEMISTRY

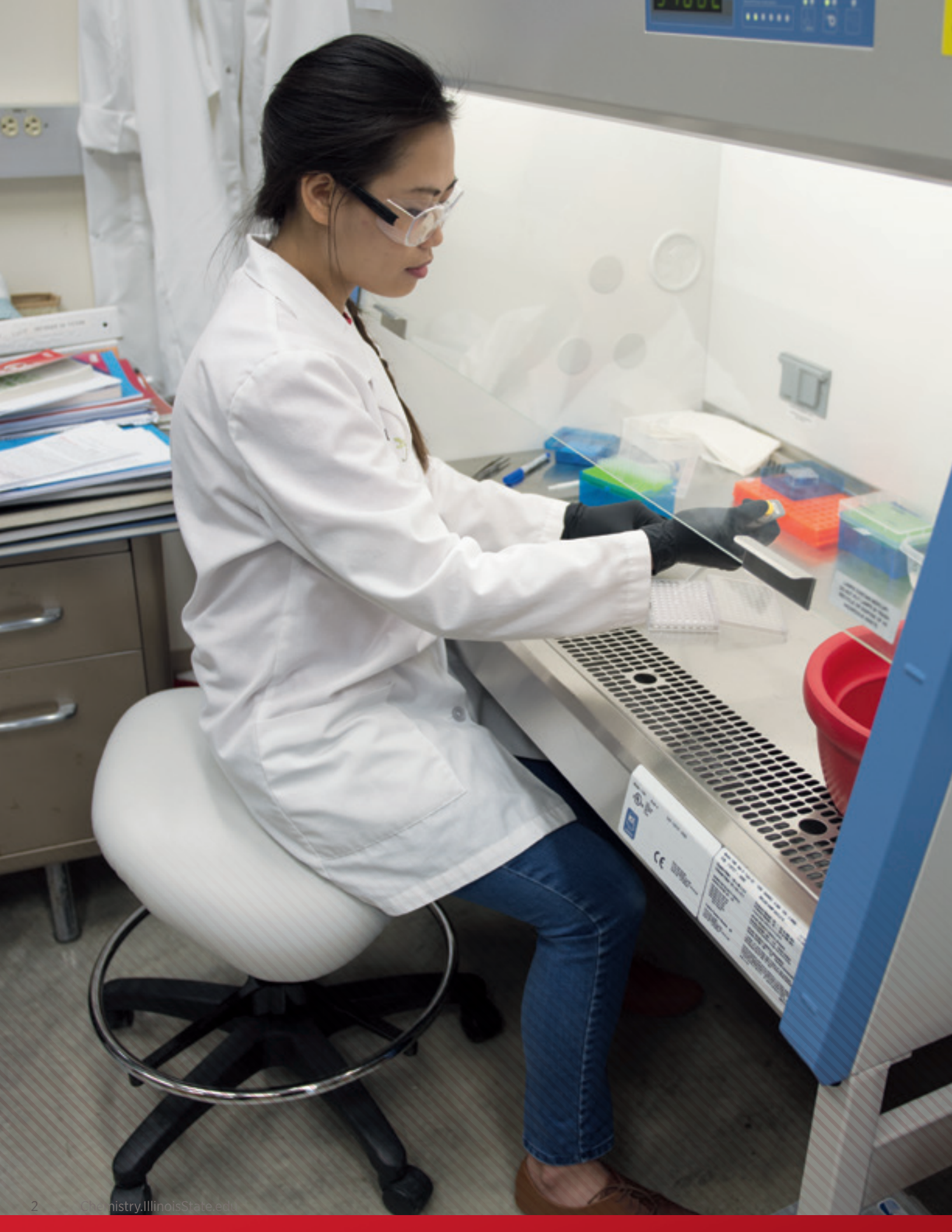
MASTER OF SCIENCE



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**ILLINOIS STATE
UNIVERSITY**
Illinois' first public university



Master of Science

Chemistry

ILLINOIS STATE UNIVERSITY is one of only a handful of institutions that offers a terminal thesis-based master's degree in chemistry. We are one of the largest producers of master's degrees in chemistry for institutions not offering a Ph.D.

A degree from Illinois State tells prospective employers and professional schools that earning the M.S. degree was your original goal because all graduate students enter the University seeking their master's. It broadens your knowledge and skills and enhances your employability. Frequently, employers are seeking candidates with experience beyond the bachelor's degree but without the level of specialization of a Ph.D. Recent salary surveys by the American Chemical Society have shown that M.S. chemists earn, on average, a 15 percent higher salary than a chemist with a bachelor's. Some of our students also use the M.S. degree as a stepping stone on their way to a more advanced degree.

One of the hallmarks of the program is its broad-based approach. It is designed to prepare students for a wide variety of opportunities, ranging from further graduate or professional studies to careers in chemistry education, or positions in the chemical and pharmaceutical industries. It emphasizes research experience and the acquisition of a broad knowledge base through diverse coursework in the traditional sub-disciplines of chemistry:

- Analytical Chemistry
- Biochemistry
- Chemical Education
- Inorganic Chemistry
- Organic Chemistry
- Physical Chemistry

With cross-trained students, this approach leads to faculty members with research projects that bridge traditional disciplinary boundaries.

Program highlights

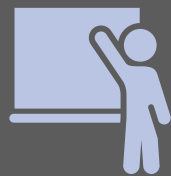
- Requires a thesis based on original research
- Broad-based coursework is designed to prepare graduates for a wide variety of career opportunities.
- Ideal for research-oriented students who are unsure about a 4- to 7-year commitment for a Ph.D.
- Typically a 2-2 ½-year program
- Competitive stipends with tuition waivers
- Student-to-faculty ratio ensures individualized attention with research advisor.



M.S. Program by the numbers:

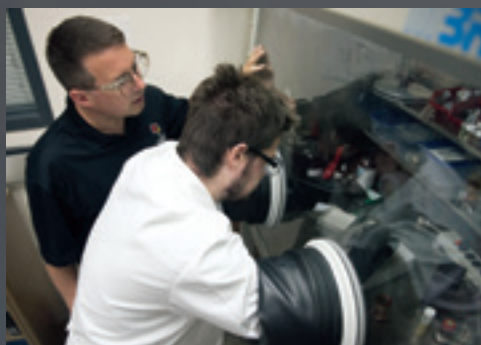
- 20 Faculty members
- 20-35 Graduate students
- 75 percent of incoming students complete their degree
- 25 percent of graduates decide to pursue more advanced degrees
- More than \$1.5 million in active research grants
- 19 Student research publications each year, on average
- 17 Student research presentations at national and regional conferences each year, on average





Examples of job titles for our employed alumni:

- Forensic chemist, United States Drug Enforcement Administration
- R&D scientist, Agilent
- Polymer chemist, Valspar
- Research scientist, Pfizer
- Dentist
- Chemist, Exxon-Mobil
- Medicinal chemist, Abbvie
- Research chemist, Abbott
- Scientist, Roche Molecular
- Physician
- Professor
- Vice President, Procter & Gamble
- Senior scientist, U.S. Army Research Laboratory



Academics

Faculty

With 20 faculty members, there are ample research opportunities for graduate students to choose from.

Grant support

Research and instrumentation are supported by external grants from the National Science Foundation, the National Institutes of Health, the National Institute of Justice, the Research Corporation, and the Petroleum Research Fund, among others. At any given time there are typically \$2 million-\$3 million in active research grants.

Instrumentation

Through the support of the University and National Science Foundation instrumentation awards, the department has acquired an extensive collection of modern chemical instrumentation for use in teaching and research. All of these instruments are used by students, and most are used for undergraduate instruction. Major equipment includes two NMR spectrometers (500 MHz and 400 MHz), an X-ray diffractometer, three GC-MS systems, an electrospray LC-MS, an ion trap mass spectrometer, an EDX-equipped SEM, a 128-core computing cluster, and an ICP spectrometer.

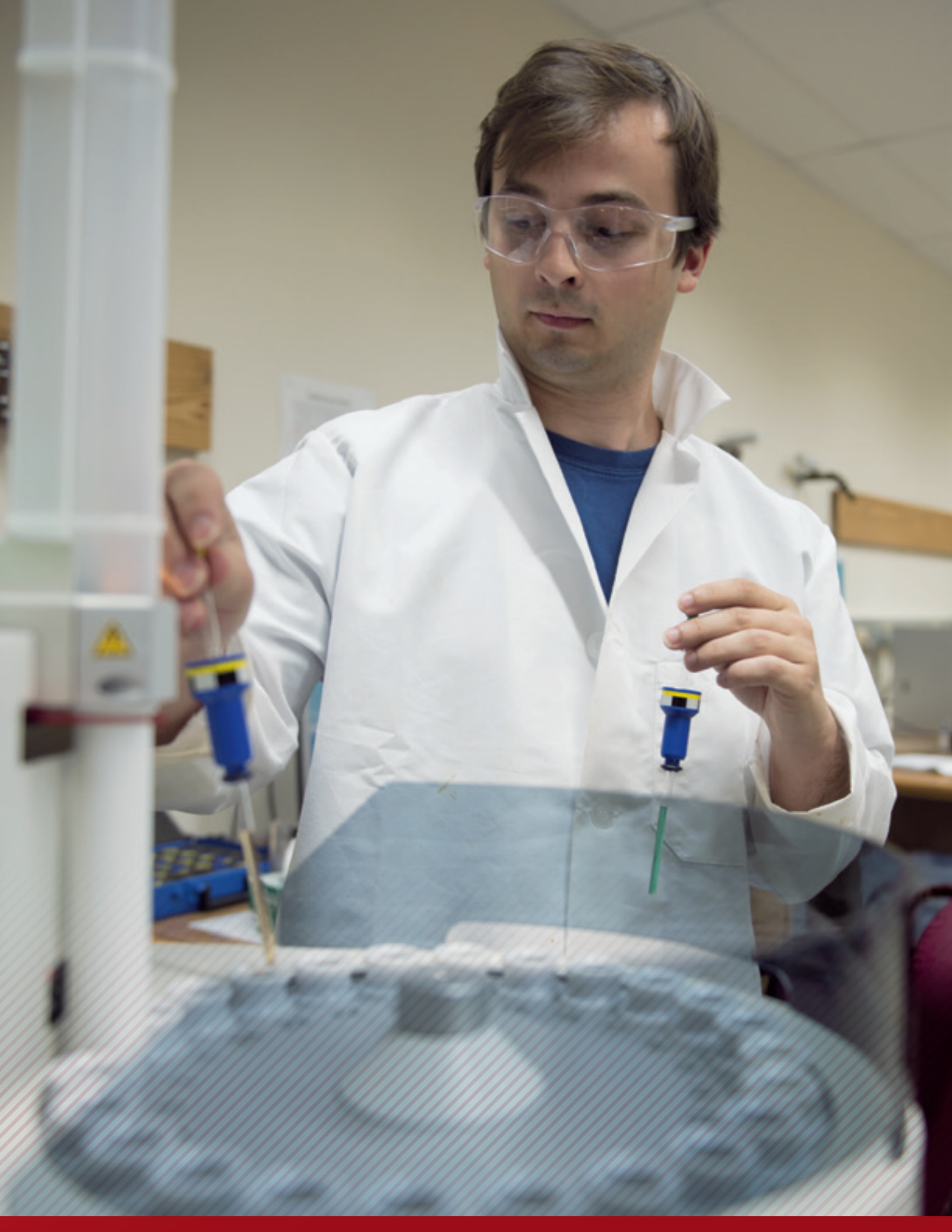
Facilities

The Science Laboratory Building, a \$36-million facility dedicated in the fall of 1997, contains teaching and research labs, an extensive chemical storeroom, and an expansive atrium. Administrative offices, classrooms, and computational chemistry laboratories are located in Julian Hall, which was renovated in the early 2000s.

Courses

Most graduate programs have course requirements that focus on one sub-discipline. In contrast, this program requires coursework in at least four sub-disciplines. This breadth of study distinguishes the program from many other master's programs and from almost every Ph.D. program in chemistry. A wide variety of graduate courses are offered, including:

Atmospheric Chemistry	Lipids	Physical Methods in
Biological Catalysts	Mass Spectrometry	Inorganic Chemistry
Computational Chemistry	Mechanisms in Organic	Proteins
Coordination Chemistry	Chemistry	Solid-state and Materials
Heterocycles	Membrane Dynamics	Chemistry
Homogeneous Catalysts	Nanomaterials	Structural Determination
Inorganic Biochemistry	Nucleic Acids	Quantum Chemistry
Kinetics and Dynamics	Organic Synthesis	X-ray Diffraction
Laser spectroscopy	Organometallic Chemistry	





Financial support

Graduate teaching assistantships are available to incoming students with a minimum GPA of 3.0 on a 4.0 scale for the last 60 hours of undergraduate course work. The assistantships are renewable for up to five semesters for students in good academic standing, GPA of 3.0 or higher. A limited number of research assistantships are available in some research groups. Both types of assistantships come with a full tuition waiver.



Degree requirements

Credit hours

A total of 31 semester hours are required for the M.S. degree; 21 in coursework, 2 in seminar, and 8 in research/thesis research.

Coursework

Twenty-one hours of courses at the 400- and/or 300-level are required in at least four different sub-disciplines of chemistry. A minimum of 12 credit hours must be at the 400 level, with at least one 400-level course in three sub-disciplines.

Teaching

Satisfactory performance as a teaching assistant for at least one semester is required.

Seminar

Each student is required to present a literature seminar and a research seminar to the faculty and students of the department.

Thesis committee

Students select a thesis/research advisor during the first semester in the program after interviewing several faculty members. After making a selection, the student writes a research proposal that must be approved by a three-member thesis committee chaired by the research advisor.

Thesis research

Each semester after selecting an advisor, students conduct independent research under the supervision of a faculty member. Eight credit hours of research and thesis research apply toward the degree. In order to finish in a timely manner, students should expect to make substantial research progress during the summer months.

Thesis defense

After completing all other requirements, the student writes a thesis and schedules a final oral exam administered by the thesis committee. The oral examination is a general examination that includes a defense of the thesis research.

Your place at Illinois State

Community

Students at Illinois State University live in one of the most highly-rated small cities in the United States. Located in Central Illinois, Bloomington-Normal is a community of about 125,000. It is less than a three-hour drive from Chicago, St. Louis, Indianapolis, and the Quad Cities. The Central Illinois Regional Airport in Bloomington offers free parking and daily flights to Atlanta, Chicago, Dallas-Ft. Worth, Detroit, and Minneapolis-St. Paul. Amtrak provides daily service to Chicago and St. Louis from a station two blocks from campus.

University

Illinois State University, founded in 1857, is a comprehensive Carnegie-intensive, doctoral-granting institution and residential university offering more than 160 fields of study in six colleges and 35 academic departments. The University has an enrollment of about 21,000 students and more than 1,000 full-time faculty.

Social life

Graduate and undergraduate students are members of the Chem Club, the Department's highly active student affiliate chapter of the American Chemical Society, and participate in numerous outreach events throughout the year.

The Chemistry Resource Room serves as a meeting point for studying and socializing. Within a block of the building, students can relax at a local coffee house, have lunch or dinner, and even see a movie at the Normal Theater.

How to apply



Admission requirements

- ☐ Bachelor's degree in chemistry and minimum GPA of 2.8/4.0 for last 60 hours
- ☐ Graduate Record Examination is not required but scores may be considered in the awarding of graduate teaching assistantships
- ☐ Students who haven't completed an ACS-certified bachelor's degree in chemistry will need to complete required coursework at Illinois State
- ☐ Students whose native language is not English and who have not received an undergraduate degree in the U.S. must have a minimum TOEFL score of 600 (paper-based test) or 100 (Internet-based test)

Contact information

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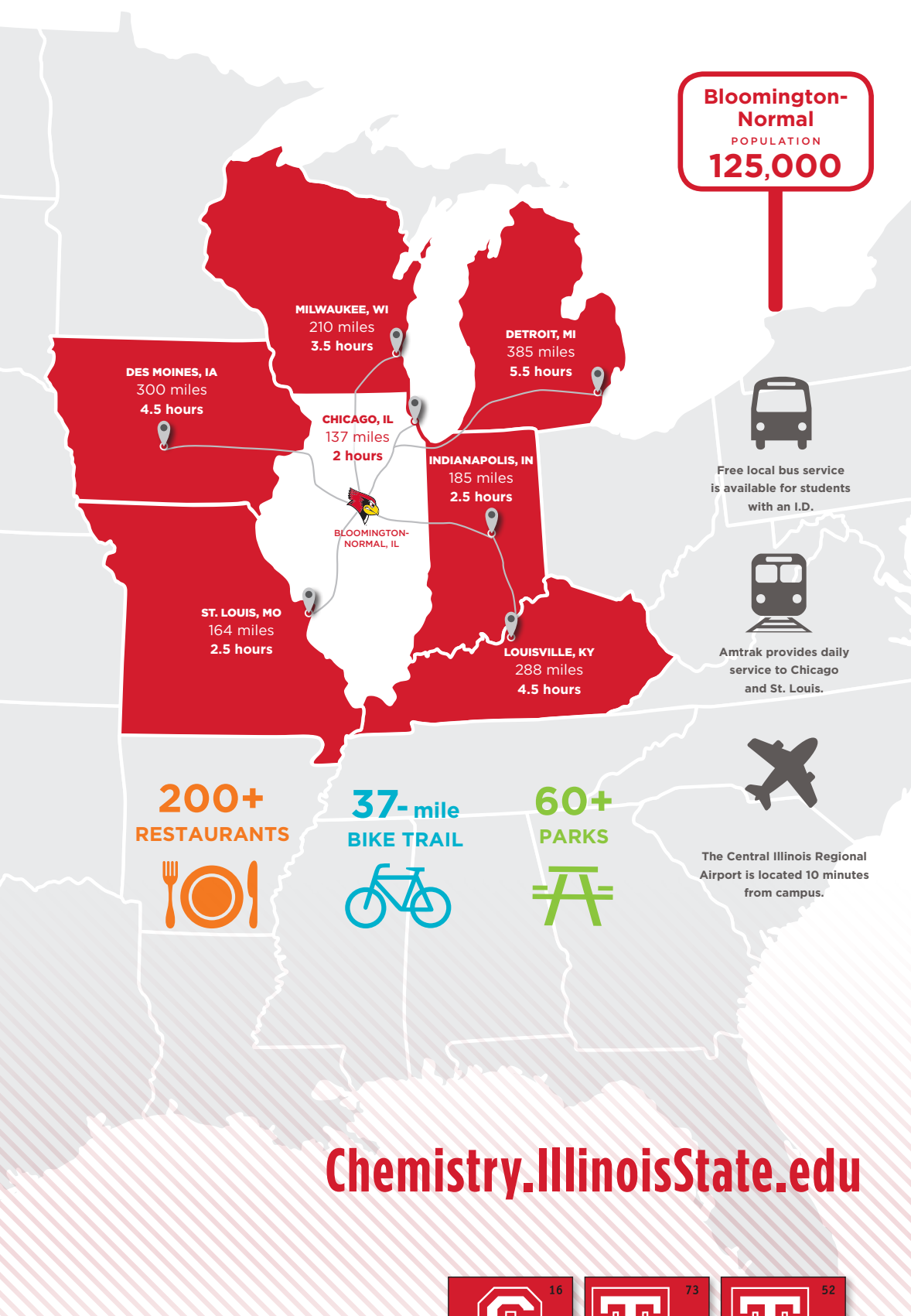


Our students come to us from all across the U.S. and world. Recent graduates have said of their experiences:

"The faculty are all very nice and willing to answer questions. I liked the mix of courses and research."

"My time at ISU made me very familiar and comfortable in a lab setting. I learned to take initiative and be a leader. The required coursework across disciplines is actually paying off in industry more than I thought it would!"





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YOUR ELEMENT.

Points of Pride

- The Department of Chemistry at Illinois State University is one of the nation's largest producers of ACS-certified Bachelor Degrees in Chemistry.
- Recent major instrument acquisitions include an LC-MS and SEM. These are in addition to two ultra-shielded NMR spectrometers, an X-ray diffractometer, and an ion-trap GC-MS (\$80,000) all acquired within the past 10 years.
- Julian Hall, home of the Department of Chemistry offices and classrooms, is named for Percy Lavon Julian, an eminent African-American chemist. Dr. Julian was a member of the National Academies of Sciences and was on the Illinois State University Board of Regents in the 1960s.
- Every teaching laboratory for Chemistry majors has two instructors: a faculty member and a teaching assistant.
- Support staff includes full-time stockroom worker, an instrument technician, two computer support specialists, a laboratory/business manager, and two office support staff.
- Stipends are competitive for M.S. institutions. Contact us at Chemistry@IllinoisState.edu for current stipend rates.
- In the past 25 years nearly 140 B.S. and M.S. alumni have gone on to earn Ph.D.s in Chemistry.