



An Overview

University of Illinois Urbana-Champaign Campus and the Department of Chemistry

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I ILLINOIS

Chemistry

SCHOOL OF CHEMICAL SCIENCES

chemistry.illinois.edu

University of Illinois at Urbana-Champaign

Website: illinois.edu

UIUC is a world leader in research, teaching, and public engagement, distinguished by the breadth of its programs, broad academic excellence, and internationally renowned faculty. The campus offers rich experiences beyond the classroom, from the best performing arts to Big Ten sports.

A talented and highly respected faculty is the University's most significant resource. Many are recognized for exceptional scholarship with memberships in such organizations as the American Academy of Arts and Sciences, the National Academy of Sciences, and the National Academy of Engineering. Our faculty have been awarded Nobel Prizes, Pulitzer Prizes, and the Fields Medal in Mathematics. The success of our faculty is matched by that of our alumni: 23 are Nobel laureates and another 25 have won Pulitzer Prizes.¹



Academic resources on campus are among the finest in the world. The University Library is one of the largest public university collections in the world, housing more than 24 million items in the main library, including more than 12 million print volumes, and in the more than 20 departmental libraries and units. More than one million users worldwide access the online catalog each week.²

Students and scholars find the University an ideal place to conduct research. The Beckman Institute for Advanced Science and Technology is a model for interdisciplinary research, where 18 research groups from 16 University departments work within and across three broadly defined themes: integrative imaging, intelligent systems, and molecular and electronic nanostructures.³ The University is also home to the National Center for Supercomputing Applications (NCSA).⁴

The University enrolls over 15,000 graduate and professional students in more than 100 disciplines. It is among the top 15 universities in number of earned doctorates awarded annually in the United States.⁵

A major center for the arts, the campus attracts dozens of nationally and internationally renowned artists each year to its widely acclaimed Krannert Center for the Performing Arts. KCPA includes four theaters that seat about 4,000, an outdoor theater that seats almost about 600, and an indoor stage near the bar that can be for wine tastings, small band performances and many others.⁶ They annually host about 350 student and professional performances, as well as commencements, lectures, and other events, many of them free. The University also supports two major museums: Krannert Art Museum and Kinkead Pavilion⁷, and the Spurlock Museum, a museum of world history and culture.⁸ The Krannert Art Museum is currently the second largest art museum in the state of Illinois.⁹

Other major facilities include the multipurpose State Farm Center (formerly known as Assembly Hall) (~16,000 seats), the third largest Illinois arena¹⁰, hosting concerts, Broadway shows, campus events, and men's and women's basketball games; Memorial Stadium (~70,000 seats)¹¹, site of Big Ten Conference football games; and the Activities and Recreation Center (ARC), one of the largest recreational facilities of its kind on a university campus.¹²

Quick Facts about UIUC

History

1867: Year the University of Illinois at Urbana-Champaign began. Chartered as the Illinois Industrial University, the University opened with its current name in 1868 as one of the original 37 public land-grant institutions created after Abraham Lincoln signed the Morrill Act in 1862.^{13, 14}

Location

40°06'36.88"N 88°13'38.13"W Longitude/latitude of the Quad. The University is in the twin cities of Champaign and Urbana (total population 103,000) in east-central Illinois, situated about 140 miles south of Chicago, 125 miles west of Indianapolis, and 180 miles northeast of St. Louis.¹⁵

*15 Colleges & Instructional Units*¹⁶

- College of Agricultural, Consumer and Environmental Sciences
- College of Applied Life Studies
- College of Business
- College of Education
- College of Engineering
- College of Fine and Applied Arts
- Graduate College
- Institute of Labor and Industrial Relations
- College of Law
- College of Liberal Arts and Sciences
- School of Information Sciences
- College of Media
- College of Medicine at Urbana-Champaign
- School of Social Work
- College of Veterinary Medicine

*Academic resources*¹⁷

- One of the largest public university library collection in the world
 - 24,000,000+ materials, including maps, films, music scores, and manuscripts
 - 10,000,000+ volumes
- 40 departmental libraries²
- One of the largest U.S. engineering library's, state-of-the-art agricultural library, and Rare Books and Special Collections Library

Campus research^{17, 18}

- \$640,000,000 spent on research and development in science and engineering in 2015
- 15 buildings in Research Park, 100 companies, 594 student interns, 1,177 employees
- 750+ University-held patents

*Computing*¹⁷

- 360 buildings on-and-off campus have wireless access
- 100% of all classrooms have wireless access
- \$29.4 million initiative implementing increased community access to high-speed-fiber-optic Internet and developing community-wide Intranet with special federal and state funding

Facilities ¹⁷

- 353 main campus buildings, 2.8 square miles (1,783 acres)
- 647 total buildings, 7.1 square miles (4,552 acres)

Museums, Galleries, and Collections ¹⁷

- 9,000+ works of art at Krannert Art Museum and Kinkead Pavilion, host to high-caliber exhibitions and interdisciplinary programs
- 46,000 artifacts of global cultures at the Spurlock Museum
- 75% of existing Sousa materials at the John Philip Sousa Museum and Library

Sports and Recreation ¹⁷

- 10 men's and 11 women's (NCAA) teams with major facilities, including Memorial Stadium (62,000 seating), the State Farm Center (formerly Assembly Hall) (17,200 seating), Atkins Tennis Center, Huff Hall (4,000 seating), Illinois Field (3,000 seats for baseball), Eichelberger Field (1,500 seats for softball), the Illini Track and Soccer Stadium, and two 18-hole championship golf courses with driving range and the newly opened Demirjian Golf Practice Facility
- 470,000 square feet of rec space between two newly expanded campus recreation and wellness centers. Includes indoor tracks, leisure pool with slide, climbing walls, basketball and racquetball courts, indoor and outdoor 50-meter pools, and much more. Other rec centers include an ice arena, outdoor adventures center, inline skating rink, and several play fields
- 100,000 people visit the Robert Allerton Park and Conference Center (1,500-acre national landmark located 24 miles from campus) each year
- 16,000 daily visitors to the Illini Union have access to a hotel, banquet facility, food court, art gallery, and recreation room; Two ballrooms and 24 break-out rooms are available for conferences, meetings and events

Housing ¹⁷

- 2,000 single graduate students or students with families live in two University-owned apartment complexes; two residence halls are home for 720 graduate students

Student Organizations ¹⁷

- 1,000+ registered student organizations, coalitions, honorary societies, and teams

Programs/Services for People with Disabilities ¹⁷

- Rated one of the most "disability friendly" U.S. campuses
- First to provide students with disabilities access to all university services, curricula, and facilities; developed first architectural accessibility standards; instituted a wheelchair-accessible bus system; offers comprehensive wheelchair sports programs
- Developed the first transitional living facility for students with physical disabilities needing personal assistant support services. Students with physical disabilities who require personal assistant support services have an 87 percent graduation rate; nearly 60 percent obtain employment within a year of graduation, while another 32 percent enroll in graduate or professional schools

Graduate and Professional Education ¹⁷

- 11,024 graduate and professional students
- Among the top ten U.S. universities in number of earned doctorates awarded annually

People ¹⁷

- Students: 44,880 total: 33,467 undergraduate and 11,413 graduate and professional students
 - 54.4% men, 45.6% women; 5.0% African-American; 8.7% Latino/a; 14.7% Asian-American, 2.6% Multiracial; and 24.0% International
- Faculty: 2,738 members, 1,912 tenure/tenure track, & 826 visiting faculty & instructional staff
- Administrative and academic professional staff: 3,962 & 4,145 support staff

Alumni ¹⁷

- 450,000+ members of the University of Illinois Alumni Association, one of the largest U.S. alumni organizations

Campus/University Administration ¹⁷

- Timothy L. Killeen, President, University of Illinois
- Robert J. Jones, Chancellor and Vice President, University of Illinois, Urbana-Champaign
- Andreas Cangellaris, Vice Chancellor and Provost for Academic Affairs
- Barry Benson, Vice Chancellor for Institutional Advancement
- Danita Brown Young, Vice Chancellor for Student Affairs
- Susan Martinis, Vice Chancellor for Research

Department of Chemistry

Website: chemistry.illinois.edu

The Department of Chemistry has been part of the University of Illinois since the university's beginning in 1868. By 1893, a four-year B.S. degree program in Chemistry had been established, and the first Ph.D. in Chemistry was awarded in 1903. By the 1920s, the department was one of the largest in the United States in terms of facilities, faculty, and degrees granted. By the end of the twentieth century, more than 3,400 doctoral degrees had been awarded, making the Department of Chemistry at the UIUC the premier Ph.D.-producing chemistry program in the United States.¹⁴

The American Chemical Society, in a review of various programs, has called the School of Chemical Sciences at Illinois “a major force in chemical education” in the U.S., and national rankings of chemistry departments nationwide consistently put Illinois near the top among a select group. The UIUC Department of Chemistry has the highest average ranking of its chemistry programs of any chemistry department in the US, with all five areas being ranked in the top 10. It was again ranked 6th overall in the latest 2018 U.S. News and World Report America's Best Graduate Schools and second among public universities in the United States.¹⁹

- Analytical: 6th overall²⁰
- Inorganic: 8th overall²¹
- Organic: 8th overall²²
- Physical: 7th overall²³
- Theoretical: 10th overall²⁴

We are very proud that our faculty and alumni have played a vital role in shaping the chemical sciences in our nation. As a graduate student at Illinois, you will experience the thrill of working on the most challenging problems in the molecular sciences. After graduation, you will join one of the world's largest and most successful group of chemical sciences' alumni.

The School of Chemical Sciences counts 11 Nobel Prize winners among its faculty, graduates, and postdoctoral fellows. Notable accomplishments by members of the department over the past 130 years include the following:²⁵

- Discovery of the amino acid threonine and several fundamental vitamins (William Rose)
- Discovery of the artificial sweetener sodium cyclamate (Louis Audrieth and Michael Sveda)
- Discovery of improved platinum catalysts for catalytic hydrogenation (Roger Adams)
- Development of electron transfer theory (Rudy Marcus)
- Development of high resolution microwave techniques to study molecular bonding (Willis Flygare)
- Isolation of the first well-characterized cytochrome P450 and discovery of lipoic acid and pyridoxal phosphate (I. C. Gunsalus)
- Development of high-pressure and fluorescence spectroscopy to study protein structures (Gregorio Weber)
- Development of NMR spectroscopy as a tool for structural analysis (Herbert Gutowsky)
- First observation of NMR spin coupling (Herbert Gutowsky)
- Invention of an improved calorimeter for measuring the energy content of coal (Samuel Parr)
- Identification and synthesis of the polypeptide hormones oxytocin and vasopressin (Vincent du Vigneaud)
- Invention of the aerosol whipped cream product Instantwhip (G. Frederick Smith)
- Pioneering work in polymer synthesis (Carl “Speed” Marvel)

- Pioneering work in coordination chemistry (John Bailar, Jr.)
- Founding of Chemical Abstracts (William Noyes) and Organic Syntheses (Roger Adams)
- Invention of magnetic resonance imaging (Paul Lauterbur)

Sources

Website: <https://goo.gl/KLxBTh>

