We conduct **RESEARCH** with courage—willing to step outside the box and try something new.

We approach **EDUCATION** with curiosity—because sometimes questions are more important than answers.

We pursue **GREATNESS** with passion—confident that together we can achieve extraordinary things.

Building on a rich history of achievement, we aspire to an even brighter future. **WITH YOU. WITH ILLINOIS.**

Visit www.chemistry.illinois.edu to learn more.

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**2018-19 HIGHLIGHTS**

- **First round of Chemistry Discovery Fund projects** (August 2018)
- **Prof. Lisa Olshansky joins faculty in the inorganic chemistry area** (August 2018)
- **Prof. Marty Burke co-founds Ambys Medicines to pioneer regenerative medicine therapies for serious liver disease** (August 2018)
- **Alumnus Qing Cao (PhD, ’09) joins U of I faculty, with affiliation in chemistry** (August 2018)
- **Prof. Chad Rienstra invested as the John Witt Professor of Chemistry** (November 2018)
- **Prof. Zaida (Zan) Luthey-Schulten invested as the Murchison-Mallory Endowed Chair in Chemistry** (March 2019)
- **Prof. Liviu Mirica joins faculty in the inorganic and chemical biology areas** (January 2019)
- **Prof. Catherine J. Murphy inducted into American Academy of Arts and Sciences** (April 2019)
- **Dedication of an ACS National Historic Chemical Landmark in honor of alumnus St. Elmo Brady** (February 2019)
- **Alumni Reception at ACS Orlando** (March 2019)
- **Alumni Reception at Nalco Water, Naperville, IL** (May 2019)
- **Alumni Career Panel Discussion, Urbana, IL** (May 2019)
- **Convocation, with speakers May Lee (MS ’74, PhD ’76) and Ving Lee (MS ’73, PhD ’75)** (May 2019)
- **Alumni Reception at ACS Orlando** (March 2019)
- **Prof. John (PhD, ’61) and Margaret Witt receive the 2018 LAS Dean’s Quadrangle Award** (October 2018)
### TOP 5 U.S. STATES FOR ALUMNI

<table>
<thead>
<tr>
<th>State</th>
<th>#</th>
<th>% of US total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois</td>
<td>3322</td>
<td>36%</td>
</tr>
<tr>
<td>California</td>
<td>817</td>
<td>9%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>330</td>
<td>4%</td>
</tr>
<tr>
<td>Texas</td>
<td>317</td>
<td>3%</td>
</tr>
<tr>
<td>Michigan</td>
<td>264</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total of Top 5</strong></td>
<td><strong>5050</strong></td>
<td><strong>55%</strong></td>
</tr>
</tbody>
</table>

### FROM 53 COUNTRIES

- United States: 9103
- Republic of Korea: 91
- China: 61
- Canada: 52
- Taiwan, Republic of China: 26
- India: 21
- All other countries: 159

### GET TO KNOW OUR NEWEST ALUMNI

- **225 2018-19 GRADS**
- **9513 ALUMNI**

### UNDERGRADUATE ALUMNI SUCCESS

#### CLASS OVERVIEW
- Secured First Destination: 90%
- Employed: 60%
- Continuing Education: 30%
- Volunteer/Service: 0%
- Seeking: 10%
- Other: 0%

#### FULL TIME EMPLOYED SALARY
- Average Salary: $68,195.00
- 25th Percentile: $60,000.00
- 50th Percentile: $70,000.00
- 75th Percentile: $74,000.00

Graduate success data is self-reported and represents a 74% response rate (254 of 343) from those who received an undergraduate degree in 2017-18 from the School of Chemical Sciences (Department of Chemistry and Department of Chemical and Biomolecular Engineering). Visit illinisuccess.illinois.edu for more information.
2018-19 RESEARCH ACHIEVEMENTS

- 24 Disclosures
- 2 Startups
- 22 US Patents issued
- 6 Licenses & Options
- 55 US Patent Applications
- $19.4 million in Research Expenditures

NEW RESEARCH FUNDING

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Proposals Funded</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASA</td>
<td>1</td>
<td>$45,000</td>
</tr>
<tr>
<td>National Institutes of Health</td>
<td>14</td>
<td>$13,762,845</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>5</td>
<td>$2,250,915</td>
</tr>
<tr>
<td>Private Fund</td>
<td>14</td>
<td>$2,151,437</td>
</tr>
<tr>
<td>U.S. Department of Defense</td>
<td>3</td>
<td>$2,217,624</td>
</tr>
<tr>
<td>U.S. Department of Energy</td>
<td>6</td>
<td>$695,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
<td><strong>$21,122,821</strong></td>
</tr>
</tbody>
</table>

AN INTERDISCIPLINARY APPROACH

*Only research partners within the University of Illinois with a minimum of 20 collaborations are included. Data is from calendar years 2018 and 2019 and may be incomplete. Visit experts.illinois.edu to learn more about our collaborative research output.*
GET TO KNOW OUR INCOMING STUDENTS

**INCOMING UNDERGRADUATE STUDENTS**

- 110 students
- 69 Illinois
- 4 non-resident
- 17 transfer Illinois
- 2 transfer non-resident
- 25 URM* undergraduate students | 23% of total

*Underrepresented Minority

**INCOMING GRADUATE STUDENTS**

- 68 students
- 37 male
- 31 female
- 6 URM* Male : 9% of total | 4 URM* Female : 6% of total

**Funding**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Assistantship</td>
<td>148</td>
</tr>
<tr>
<td>Teaching Assistantship</td>
<td>91</td>
</tr>
<tr>
<td>Full Fellowship</td>
<td>46</td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
</tr>
</tbody>
</table>

**Fellowships (full & partial)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental/Donor-Funded</td>
<td>144</td>
</tr>
<tr>
<td>External - NSF</td>
<td>24</td>
</tr>
<tr>
<td>External - Other</td>
<td>14</td>
</tr>
<tr>
<td>Campus</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>196</td>
</tr>
</tbody>
</table>

This data is for our newest class of students—incoming in 2019-20.

107 (19%) participated in research
39 (7%) received a departmental/donor-funded scholarship
$158,000 awarded in departmental/donor-funded scholarships
We are grateful to our alumni and friends for their consistent support of our faculty, students, and programs. Thank you for making 2018-19 another successful year. Your generosity and partnership truly make a difference.
Melinda Sindoro (Steve Granick group)  
This is a scanning electron micrograph image of weakly ferromagnetic hematite crystals in the shape of peanuts. The highly asymmetric morphology is obtained by aging the particle in sodium sulfate to modulate its facets.

Meredith Rickard (Martin Gruebele and Taras Pogorelov groups)  
Proteins stick to one another in the cytoplasm of living cells, and also crowd one another, using up room needed for proteins to fluctuate and move around for their function. The image (similar to the cover featured on a recent issue of Chemical Reviews) highlights both proteins, as well as small metabolite molecules and ions that define the intracellular environment.

Jinyun Liu (Paul Braun group)  
This is a scanning electron microscope image of a three-dimensionally graphene-sandwiched secondary battery cathode. The fabricated cathode, consisting of an electrically conductive 4-10 layer thick graphene sheet (green) embedded within electrochemically active vanadium pentoxide (purple), exhibits a high electrochemical performance including high capacity and long cycling life (>2000 cycles).

Elizabeth Murphy (Paul Braun group)  
Proteins have tremendous potential as biological pharmaceuticals and drug targets, assuming their stability can be maintained. This research demonstrated that zwitterionic poly(sulfobetaine) (pSB) chains in solution can interact with proteins directly and affect their stability. Displayed is an inspection light microscope image of pSB in solution.

Li Huey Tan (Yi Lu group)  
Hexagonal rods form from DNA-directed colloidal reduction of silver on gold plates. The outer image, obtained via scanning electron microscopy, shows the overall morphology of the particle. This image is torn back, uncovering a scanning transmission electron micrograph of the same particles, revealing the gold plates (bright regions) hidden inside.

Melinda Sindoro (Steve Granick group)  
This is a scanning electron micrograph image of weakly ferromagnetic hematite crystals in the shape of peanuts. The highly asymmetric morphology is obtained by aging the particle in sodium sulfate to modulate its facets.

On the cover:
Andres Arango (Emad Tajkhorshid Group)  
Cytochrome P450s (CYPs) are responsible for the metabolism of many exogenous and endogenous biomolecules. This image depicts the molecular dynamics simulations of vireodhamine, an endogenous inhibitor of CYP2J2, the predominant CYP in heart tissue.

The science images appearing in this report were created by students, faculty, and postdoctoral researchers in the Department of Chemistry.

* Undergraduate Winner, Beckman Institute 2019 Research Image Contest