

# IOWA STATE UNIVERSITY

## Department of Chemical and Biological Engineering

# Welcome to CBE!



# IOWA STATE UNIVERSITY

Department of Chemical and Biological Engineering

## Department Leadership



Dr. Andrew Hillier  
Professor, Reginald R.  
Baxter Endowed  
Department Chair



Dr. R. Dennis Vigil  
Associate Chair



Dr. Nigel Reuel  
Director of  
Graduate Education



Dr. Jennifer Heinen  
Director of Undergraduate  
Education



Dr. Yue Wu  
Director of Research



# IOWA STATE UNIVERSITY

Department of Chemical and Biological Engineering

## Professors & University Professors



Dr. Eric Cochran



Dr. Rodney Fox



Dr. Kurt Hebert



Dr. Andrew Hillier



Dr. Laura Jarboe



Dr. Surya Mallapragada



Dr. Balaji Narasimhan



Dr. Derrick Rollins



Dr. Brent Shanks



Dr. Jacqueline Shanks



Dr. R. Dennis Vigil

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## Associate Professors



Dr. Rizia Bardhan



Dr. Kaitlin Bratlie



Dr. Monica Lamm



Dr. Wenzhen Li



Dr. Matthew Panthani



Dr. Nigel Reuel



Dr. Ian Schneider



Dr. Zengyi Shao



Dr. Jean-Philippe Tessonier



Dr. Yue Wu



## Assistant Professors



Dr. Thomas  
Mansell



Dr. Tanya Prozorov  
(Adjunct)



Dr. Luke Roling



Dr. Qun Wang  
(Adjunct)

## Department Teaching Faculty



Dr. Karen Burt  
Associate Teaching  
Professor



Dr. Jennifer Heinen  
Teaching Professor



John Kaiser,  
Professor of Practice



Dr. Stephanie Loveland,  
Teaching Professor



Dr. T.J. Paskach  
Professor of Practice

## Faculty – Courtesy Appointments

Robert Brown (Mechanical, Ag & Biosystems Engineering)

Chris Cornelius (Materials Science and Engineering)

Liang Dong (Electrical & Computer Engineering)

Theodore Heindel (Mechanical Engineering)

Duane Johnson (Materials Science & Engineering)

Michael Olsen (Mechanical Engineering)

Alberto Passalacqua (Mechanical Engineering)



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**[ONLINE.IASTATE.EDU/WINTER](https://online.iastate.edu/winter)**

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## CBE Staff – Student Services



**Matthew Brown**  
Student Services  
Specialist



**Nicole Prentice**  
Academic Adviser



**Mackenzie Schwartz**  
Academic Adviser

# IOWA STATE UNIVERSITY

Department of Chemical and Biological Engineering

## CBE Staff – Support



**Michelle Stotts**

Operations Manager



**Elaine Smuck**

Events & Business  
Coordinator



**John Burnett-Larkins**

Communication Specialist



## CBE Staff – Support



**Sarah Beckman**  
Laboratory Supervisor



**Ryan Arndorfer**  
Laboratory Supervisor



**Colin Richey**  
Systems Analyst

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**CARE**



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ENCOURAGED**



# IOWA STATE UNIVERSITY

Department of Chemical and Biological Engineering

## At a Glance - Students

- 487 undergraduate students, Fall 2021
- 79 ChE graduate students (Fall 2021)
- Highest proportion of female undergraduates in College of Engineering: 36% (Fall 2021)



## CBE Undergraduates

- 487 undergraduate students, Fall 2021
- 36% female undergraduates, Fall 2021  
(highest in College of Engineering)
- 121 B.S. degrees, 2020-21





## CBE Graduate Students

- 79 graduate students, Fall 2021
- 15 graduate degrees (2020-21)
- Advanced laboratories and equipment
- CEGSO student organization open to all graduate students



# IOWA STATE UNIVERSITY

## Department of Chemical and Biological Engineering

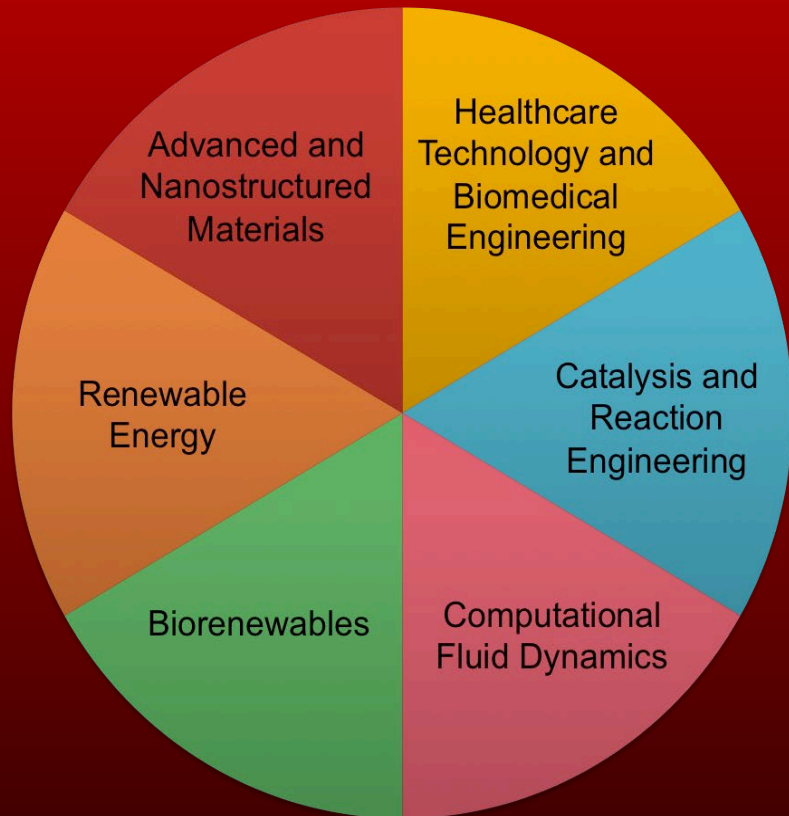
### CBE Research

Total research expenditures:  
\$8M (2020-21)

Average Faculty Research  
Expenditure: \$338,000 (2020-21)

Faculty Publications: 166  
(2020-21)

Citations: 12,920 (2020-21)





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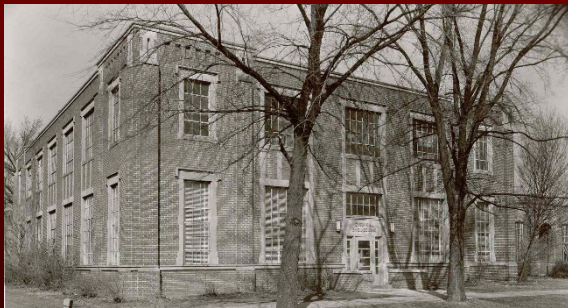
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## CBE Facilities: Sweeney Hall

- Total allocated space: 47,255 sq. ft.  
Research Labs: 21,641 sq. ft.  
Student Collaboration: 1,624 sq. ft.  
Computer Labs: 2,641 sq. ft.  
Teaching Space: 9,235 sq. ft.  
Office Space: 8,968 sq. ft.  
Conference Space: 1,316 sq. ft.



Chemical Engineering Bldg., 1927



Sweeney Hall constructed, 1964



Addition with teaching labs, 1994

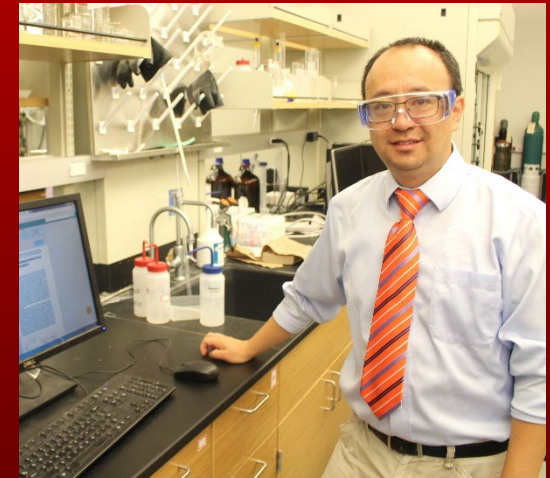




## CBE Facilities: Center for Biorenewable Chemicals

### CBiRC

Opened in 2008, CBiRC is housed in the Biorenewables Complex, a groundbreaking center for research and education in cutting-edge biorenewables and alternative fuels and chemicals.





## CBE Facilities: Nanovaccine Institute/ATRB

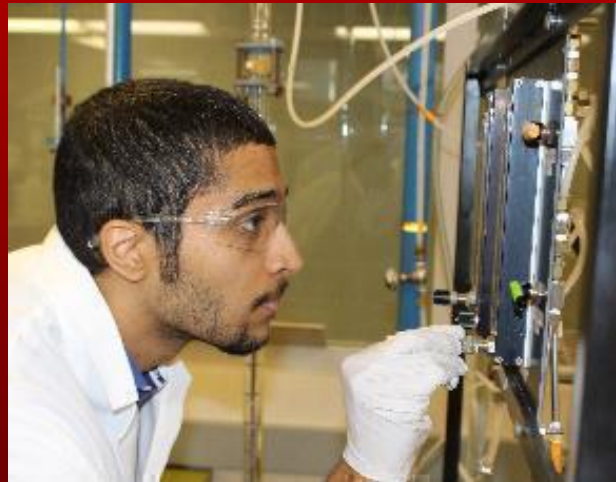


Occupying the fifth floor of the Advanced Teaching and Research Building (ATRB) the Nanovaccine Institute carries on work that is revolutionizing prevention and treatment of disease. Led by CBE's Anson Marston Distinguished Professor and Vlasta Klima Balloun Faculty Chair Balaji Narasimhan, the institute is composed of 78 researchers at 28 universities and offers research and employment opportunities to both CBE undergraduate and graduate students.



## Unique & Advanced Research Facilities

- Atomic force microscopy
- Biotechnical and protein separations
- Catalyst characterization
- Cell and tissue culture
- Chemical vapor desposition & reactive sputtering
- Gene delivery
- Particle imaging velocimetry
- Particle size analysis and light scattering
- Polymer characterization
- Small Angle X-Ray Scattering (SAXS) unit
- Spectroscopic techniques





## Unique Research Facilities: Keck Lab (Atom Probe)

LEAP (Local Electrode Atom Probe)

Combinatorial Sputtering System

Chemical Printer

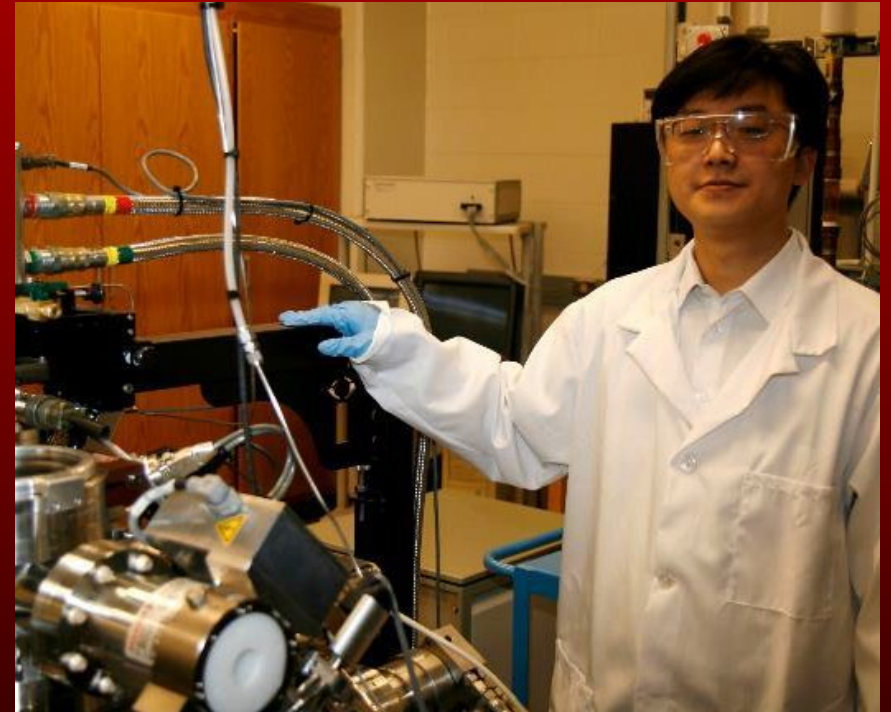
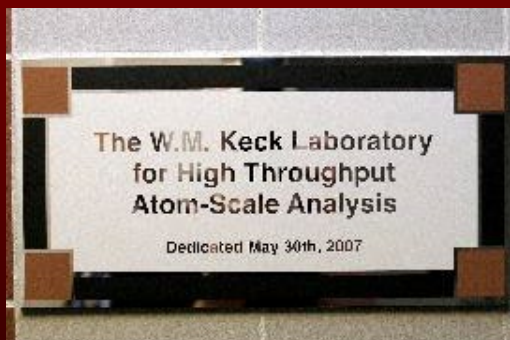
Gradient Coater

Scanning Electro-Chemical Microscope

Atom Force Microscope/Scanning

Tunneling Microscope

Infrared Microscope

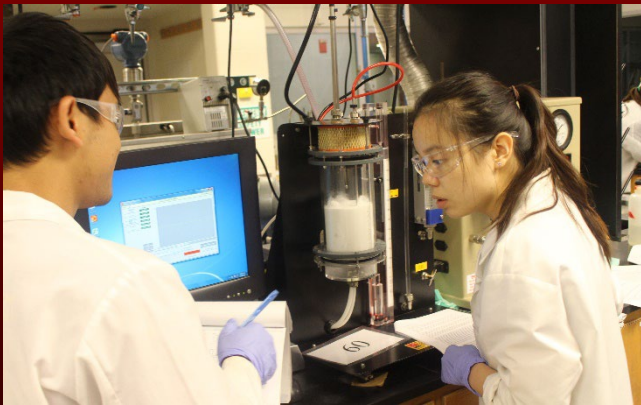




## Unique & Advanced Research Facilities: Experimental Fluid Mechanics

Flow diagnostic laboratory with

- Stereo and high-speed Particle Image Velocimetry (PIV)
- Reactive Planar Laser-Induced Fluorescence (PLIF)
- Laser Doppler Velocimetry (LDV)



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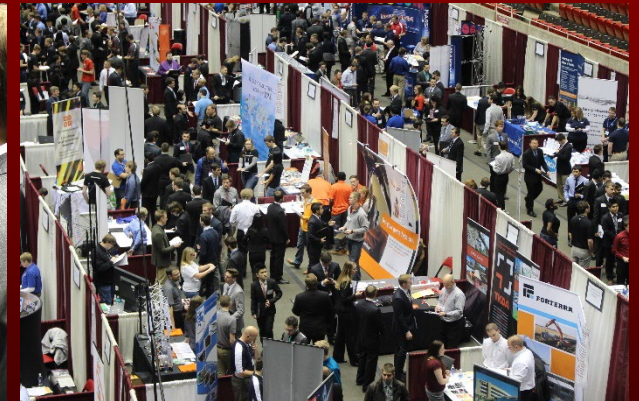




## Engineering Career Services

It's not just for seniors! Serving you throughout your ISU engineering undergraduate experience!

- Career Development Seminars: Resumes, Networking, Interviewing, Social Media
- Career Advising Specialists
- Career Fairs: Ranked among the nation's best!
- Internships & Co-ops



[www.iastate.edu/ecs/](http://www.iastate.edu/ecs/)



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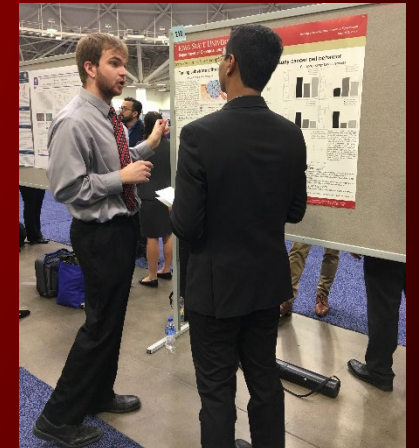


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## Undergraduate Student Organizations



American Institute of Chemical Engineers supplements the education of chemical engineers through an interface with industry, graduate study information and the development of leadership skills. The student chapter of Iowa State University is highly visible and active. Membership can provide valuable early credentials in the chemical engineering industry while a student is still in school. Contact Prof. Stephanie Loveland, [prairie@iastate.edu](mailto:prairie@iastate.edu)



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**National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE)** promotes development and retention of all, and especially, underrepresented and multicultural students in STEM-related curricula. Contact: Prof. Derrick Rollins, [drollins@iastate.edu](mailto:drollins@iastate.edu)



**National Society of Black Engineers (NSBE)** promotes STEM-related curricula to all minority students, especially underrepresented minorities. Contact: Lequetia Ancar, [lancar@iastate.edu](mailto:lancar@iastate.edu)



**Society of Hispanic Professional Engineers & Latinos in Science and Engineering** strives to enhance the personal and professional development of Hispanic engineers and scientists. [iowastate.shpemaes@gmail.com](mailto:iowastate.shpemaes@gmail.com)



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**Society of Women Engineers** helps women achieve full potential in careers as engineers and leaders and expands the image of the engineering profession. Contact Prof. Kaitlin Bratlie, [kbratlie@iastate.edu](mailto:kbratlie@iastate.edu)



**Chemical Engineering Graduate Student Organization** is open to all CBE graduate students. The club fosters community and professional development for all chemical engineering graduate students. Contact Prof. Zengyi Shao, [zyshao@iastate.edu](mailto:zyshao@iastate.edu)

# CBE Student Organizations!

Share with us and we'll  
share with the world!

Send/Tag/Share your news  
to [johnbl@iastate.edu](mailto:johnbl@iastate.edu)

