From humble beginnings...to a second century of research, education and outreach

Sweeney Hall
42,721 square feet of laboratory, office, meeting and classroom space

Center for Biorenewable Chemicals
18,853 sq. feet of research laboratory and office space

IOWA STATE UNIVERSITY
Department of Chemical and Biological Engineering

A culture of research & innovation

Unique and Advanced Research Facilities

Cutting-edge research projects at ISU CBE are supported by top-notch facilities, including:

- Small-angle X-ray scattering facility
- Atomic force microscopy
- Biotechnical and protein separations
- Catalyst characterization
- Cell and tissue culture
- Chemical vapor deposition and reactive sputtering
- Gene delivery
- Particle imaging velocimetry
- Particle size analysis and light scattering
- Polymer characterization

Web: www.cbe.iastate.edu
Faculty: www.cbe.iastate.edu/the-department/facultystaff/page/1
Faculty research: www.cbe.iastate.edu/research/faculty-research-pages/

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Since 1913, Iowa State University’s Department of Chemical and Biological Engineering has been home to passionate leaders impacting society with excellence in research. Today these dedicated scientists advance their causes in the fields of sustainability, energy, health science and more.

Department faculty works with an undergraduate and graduate student body of nearly 900 individuals who receive valuable classroom and laboratory experience. Graduates enter careers in biorenewables and bio-based products, food products, the chemical and petroleum industries, biomedical disciplines and much more. More than 6,000 students have graduated from the program.

Primary research areas include:

- **Biorenewables**
- **Renewable Energy**
- **Advanced & Nanostructured Materials**
- **Catalysis & Reaction Engineering**
- **Health Care Technology & Biomedical Engineering**
- **Computational Fluid Dynamics**

**Faculty Researchers and Primary Research Areas**

- **Kaitlin Bratlie**
  - Ph.D., Univ. of California-Berkeley
  - Biomaterials and drug delivery

- **Eric Cochran**
  - Ph.D., University of Minnesota
  - Self-assembled polymers

- **Rodney Fox**
  - Ph.D., Kansas State University
  - Computational fluid dynamics and reaction engineering

- **Kurt Hebert**
  - Ph.D., University of Illinois
  - Corrosion and electro-mechanical engineering

- **Andrew Hillier**
  - Ph.D., Univ. of Minnesota
  - Interfacial engineering and electrochemistry

- **Laura Jarboe**
  - Ph.D., Univ. of California-Los Angeles
  - Metabolic engineering of microbial biocatalysts

- **Monica H. Lamm**
  - Ph.D., North Carolina State University
  - Molecular simulation of advanced materials

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- **Wenzhen Li**
  - Ph.D., Dalian Institute of Chemical Physics, Chinese Academy of Sciences
  - Electrocatalysis, electrochemical energy, biorenewables

- **Derrick Rollins**
  - Ph.D., The Ohio State University
  - Statistical process control

- **Yue Wu**
  - Ph.D., Harvard University
  - Functional nanostructured materials for energy harvest, conversion and storage

- **Surya Mallapragada**
  - Ph.D., Purdue University
  - Biomaterials and bioinspired materials

- **Thomas Mansell**
  - Ph.D., Cornell University
  - Synthetic biology for microbial community engineering

- **Balaji Narasimhan**
  - Ph.D., Purdue University
  - Biomaterials and nanomedicine

- **Kurt Hebert**
  - Ph.D., University of Illinois
  - Corrosion and electro-mechanical engineering

- **Matthew Panthani**
  - Ph.D., The University of Texas-Austin
  - Nanoscience and renewable energy

- **R. Dennis Vigil**
  - Ph.D., University of Michigan
  - Transport phenomena and reaction engineering in multiphase systems

- **Jean-Philippe Tessonnier**
  - Ph.D., Universite de Strasbourg, France
  - Heterogeneous catalysis and biorenewables

- **Brent Shanks**
  - Ph.D., California Institute of Technology
  - Heterogeneous catalysis and biorenewables

- **Wenzhen Li**
  - Ph.D., Dalian Institute of Chemical Physics, Chinese Academy of Sciences
  - Electrocatalysis, electrochemical energy, biorenewables

- **Jacqueline Shanks**
  - Ph.D., University of California at Berkeley
  - Biomaterials and bioinspired materials

- **Nigel Reuel**
  - Ph.D., Massachusetts Institute of Technology
  - Optical & resonant biosensors, biomaterials, custom tools design

- **Luke Roling**
  - Ph.D., University of Wisconsin-Madison
  - Heterogeneous catalysis and alternative energy

- **Monica H. Lamm**
  - Ph.D., North Carolina State University
  - Molecular simulation of advanced materials

- **Matthew Panthani**
  - Ph.D., The University of Texas-Austin
  - Nanoscience and renewable energy

- **Jean-Philippe Tessonnier**
  - Ph.D., Universite de Strasbourg, France
  - Heterogeneous catalysis and biorenewables

- **Ian Schneider**
  - Ph.D., North Carolina State University
  - Engineering tumor micromovements

- **Grace Zhang**
  - Ph.D., University of California, Berkeley
  - Nanotechnology and drug delivery

- **Wenzhen Li**
  - Ph.D., Dalian Institute of Chemical Physics, Chinese Academy of Sciences
  - Electrocatalysis, electrochemical energy, biorenewables