INVENTING THE FUTURE OF ENGINEERING.

The College of Engineering and Applied Sciences

Stony Brook University
Stony Brook is one of America’s most dynamic public universities and an internationally recognized research institution. Home to more than 26,000 students, the University offers more than 200 undergraduate programs and 140 graduate programs. It’s ranked among the top 100 universities in the nation and the top 40 public universities by U.S. News & World Report.

HONORS AND AWARDS
Army Research Office Young Investigator Program Award
Kedar Kirane, Mechanical Engineering
DARPA Young Faculty Award
Michalis Polychnakis, Computer Science
European Inventor Award
Esther Takeuchi, Materials Science and Chemical Engineering
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DEPARTMENTS
- Applied Mathematics and Statistics
- Biomedical Engineering
- Biomedical Informatics
- Civil Engineering
- Computer Science
- Electrical and Computer Engineering
- Materials Science and Chemical Engineering
- Mechanical Engineering
- Technology and Society

Faculty Highlights 2018-2019

Go further, faster.

stonybrook.edu/ceas

Beyond the Classroom

The College of Engineering and Applied Sciences

INVENTING THE FUTURE OF ENGINEERING.
A New Paradigm in Engineering Education

By the Numbers

TOP 30%
2020 U.S. News & World Report ranking of engineering graduate schools

TOP 20% OF PhD PROGRAMS IN ACADEMIC ANALYTICS
• Applied Mathematics and Statistics
• Biomedical Engineering
• Computer Science

ENROLLMENT 2019-2020
Undergraduate: 3,916 (8.7% growth over 10 years)
Graduate: 1,589 (15% growth over 10 years)

FRESHMAN CLASS PROFILE 2019-2020
Average High School GPA: 95.8
Average SAT Score, Math and EBRW*: 1,434
Average Score of SAT/ACT Converted: 1,442
*Science-Based Reading & Writing

FACULTY AND STAFF
Professors: 79
Associate Professors: 42
Assistant Professors: 46
Lecturers and Instructors: 63
Staff: 96

FACULTY DISTINCTIONS
• 2 National Medal Laureates
• 6 National Academy Members
• 1 National Inventors Hall of Fame Member
• 2 Presidential Early Career Awards for Scientists and Engineers (PECASE)
• 45 NSF Faculty Early CAREER Awards
• 44 Fellows of Prestigious Professional Societies

Research and Economic Development

More than $41 million in annual research expenditures (41% increase since 2015)
A major contributor to Stony Brook University’s $7.23 billion annual total economic impact

More than 20 centers and institutes, including:
• Institute for AI-Driven Discovery and Innovation
• Institute for Engineering-Driven Medicine
• Center for Clean Water Technology
• Institute for Engineering-Driven Medicine
• Center of Excellence in Wireless and Information Technology
• Advanced Energy and Research Technology Center
• Institute for AI-Driven Discovery and Innovation

Cross-cutting research initiatives in:
• Energy Systems for Sustainability
• Smart and Resilient Cities and Ecosystems
• Engineering-Driven Medicine
• Securing Cyber-Everything
• Engineering Education for Technology-Driven Society
• AI-Driven Discovery and Innovation

A Message from the Dean

In the College of Engineering and Applied Sciences, we are reinventing the future of engineering education with new paradigms designed to prepare students to work in the AI-driven economy of the future. Our innovative approaches are centered on new curricula and vertically integrated projects that bring together students from engineering, medicine, the arts and humanities, and other disciplines. Leveraging our new Institute for AI-Driven Discovery and Innovation and the Institute for Engineering-Driven Medicine, we are tackling some of the biggest challenges of our time.

We are firmly committed to diversity and inclusion among our 5,600 graduate and undergraduate students, who are passionate about solving global problems through technology innovation. We are proud to be the largest producer of bachelor’s degrees among undergraduate students, who are passionate about solving global problems through technology innovation.

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Research and Economic Development

- **RESEARCH FOCUS**
  - Simulation-based engineering science for fluid mechanics, problems in renewable energy, environmental, biological and cardiovascular applications

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Big Questions, Bold Solutions

- **TACKLING ALZHEIMER’S WITH AI**
  - Christine D’Amico, in the Department of Biomedical Engineering, is using AI and imaging to develop treatments that can potentially arrest and reverse memory loss in Alzheimer’s sufferers.

- **NANO-MATERIAL ENGINEERING**
  - Karen Chew-Wietas, in the Department of Materials Science and Chemical Engineering with a joint appointment at Brookhaven National Lab, is investigating cold-state interfacial degrading (SSID), enabling the design of materials with advanced functions in sensing, energy storage and more.

- **INVENTING BIOFUELS**
  - Sotirios Maralis, in the Department of Mechanical Engineering, is developing a new biofuel derived of loblolly pine to displace petroleum-based fuel and reduce greenhouse gas emissions from transportation and power generation.

- **LIFE-SAVING BATTERIES**
  - Esther Takeuchi, in the Department of Materials Science and Chemical Engineering, received the 2018 European Inventor Award for her compact batteries that power implantable cardiac defibrillators (ICDs), greatly reducing the incidence of heart attack by delivering life-savvy shocks.

- **COMPUTATIONAL DRUG DISCOVERY**
  - Dima Kozakov, in the Department of Computer Science, is developing protein mapping algorithms and alternative computational biology procedures to advance drug discovery and innovation.
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