Whiting School of Engineering
Interdisciplinary Centers and Institutes

Education. Research. Translation.
THE WHITING SCHOOL OF ENGINEERING’S highly focused and interdisciplinary centers and institutes harness the intellectual power and diverse strengths offered by experts across Johns Hopkins divisions, as well as by partners at other universities, non-profits, and within government and industry, to find solutions to some of the world’s most complex and pressing problems. Approximately half of the Whiting School’s $121 million in annual research expenditures comes through these centers and institutes.

**Advanced Mammalian Biomanufacturing Innovation Center**
The Advanced Mammalian Biomanufacturing Innovation Center (AMBIC) is an industrial-academic-government partnership that facilitates improvements in the manufacture of biopharmaceuticals used to treat cancer and other chronic and life-threatening diseases, such as Alzheimer’s.

ambic.org

**Center for Bioengineering Innovation and Design**
At the Center for Bioengineering Innovation and Design (CBID), students work side by side with world-renowned clinicians and engineers to conceive, design, prototype, and develop real-world solutions to important global health care problems.

cbid.bme.jhu.edu

**Center for Educational Outreach**
The Center for Educational Outreach (CEO) is a team of engineers, scientists, and educators dedicated to inspiring and preparing elementary, middle, and high school students for exciting science, technology, engineering and mathematics college majors and meaningful, high-paying STEM careers. An estimated 3,500 K-12 students and teachers benefit from CEO activities annually.

engineering.jhu.edu/outreach
Center for Environmental and Applied Fluid Mechanics
The mission of the Center for Environmental and Applied Fluid Mechanics (CEAFM) is to understand and harness the power of fluids for the benefit of humankind. World leaders in the area of fluid mechanics, CEAFM faculty study the motion of liquids and gases to develop solutions to many critical problems, from global climate change and energy production to propulsion in man-made devices.

pages.jh.edu/~ceafm

Center for Imaging Science
The Center for Imaging Science (CIS) sits at the intersection of mathematics, computer science, biomedical engineering, and electrical engineering. Its members are dedicated to extracting patterns, meaning, and information from the vast reams of images collected and available today, with the goal of improving everything from diagnosis and treatment of heart disease to facial recognition software systems to vision-based navigation systems used in self-driving cars and robots.

cis.jhu.edu

Center for Integrated Structure-Materials Modeling and Simulation
The Center for Integrated Structure-Materials Modeling and Simulation (CISMMS) creates three-dimensional and computerized models and simulations to study and improve the design of materials used for a variety of purposes, from automobiles and aircraft to biomaterials and electronics.

cismms.jhu.edu

Center for Leadership Education
The Center for Leadership Education (CLE) offers coursework, minors, graduate programs, internships, hands-on experience, and networking opportunities to prepare students for leadership roles.

engineering.jhu.edu/cle
Center for Language and Speech Processing

The Center for Language and Speech Processing (CLSP) is one of the largest and most influential academic research centers of its kind in the world. Its experts focus on the science and technology of language and speech, and work to improve everything from our nation’s safety and security to the capabilities of our computers, smartphones, and personal digital assistants.

clsp.jhu.edu

Energetics Research Group

The Energetics Research Group (ERG) specializes in applied research on propulsion for rockets, missiles, and space systems, as well as on the safety and handling of explosive devices.

erg.jhu.edu

Environment, Energy, Sustainability and Health Institute

The Environment, Energy, Sustainability and Health Institute (E2SHI) fosters leadership and strategies for integrative approaches to global environmental change, sustainability, and their related health challenges.

e2shi.jhu.edu

Hopkins Extreme Materials Institute

The mission of the Hopkins Extreme Materials (HEMI) Institute is to protect people, structures, and our planet by delving into the basic science—down to the atomic level—of what happens to metals, ceramics, polymers, and other materials subjected to extreme conditions, such as blasts, crashes, earthquakes, and combat. HEMI is home to the Center for Materials in Extreme Dynamic Environments (CMEDE), funded by the U.S. Army Research Laboratory and dedicated to designing materials to protect members of our armed forces.

hemi.jhu.edu
Institute for Computational Medicine

Researchers at the Institute for Computational Medicine (ICM)—the first and largest research institute of its kind in the world—harness the power of big data and today’s extraordinary advances in modeling and computing to improve the diagnosis and treatment of disease, as well as to more accurately predict those at risk for becoming ill.

icm.jhu.edu

Institute for Data-Intensive Engineering and Science

At the Institute for Data-Intensive Engineering and Science (IDIES), engineers, astronomers, biologists, and other domain experts team up with computer scientists, applied mathematicians, and statisticians to develop smarter, faster, and better ways to extract vital information and create new knowledge from the massive amounts of data being created today.

idies.jhu.edu

Institute for NanoBioTechnology

The Institute for NanoBioTechnology (INBT) is an exceptionally diverse, multidisciplinary team of faculty, researchers, and student experts uncovering new knowledge and creating innovative technologies at the interface of nanoscience, engineering, and medicine. Its unique research model fosters a collaborative environment that encourages engineers, scientists, and clinicians to pioneer new ways to solve some of the most complex challenges in healthcare and the environment.

inbt.jhu.edu

Johns Hopkins Center for Additive Manufacturing and Architected Materials

The Johns Hopkins Center for Additive Manufacturing and Architected Materials (JAM²) brings together Johns Hopkins faculty, students, and postdocs to conduct cross-cutting research in the design, manufacturing, and characterization of architected materials. Their goal is to revolutionize material performance for a broad array of engineering applications, including automotive, aviation, defense, energy, health care, medicine, and space.

jam2.jhu.edu
**Johns Hopkins University Information Security Institute**

Johns Hopkins University Information Security Institute (JHUISI) is home to world-class interdisciplinary experts whose research is dedicated to protecting the nation’s vast online systems, infrastructure, and data from increasingly frequent attacks that threaten the safety and security of our highly interconnected world. JHUISI faculty members are leading a multi-university team advancing the state-of-the-art in healthcare security and practice.

[isi.jhu.edu](http://isi.jhu.edu)

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**Kavli Neuroscience Discovery Institute at Johns Hopkins**

The Kavli Neuroscience Discovery Institute brings together some of the world’s top experts in engineering, neuroscience, and data science—three of Johns Hopkins University’s greatest strengths—to advance our understanding of the human brain, as well as its relationship to behavior. The institute’s work has potential applications for disorders ranging from depression and ADHD to autism and Alzheimer’s disease.

[kavlifoundation.org/johns-hopkins-university](http://kavlifoundation.org/johns-hopkins-university)

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**Laboratory for Computational Sensing and Robotics**

The Laboratory for Computational Sensing and Robotics (LCSR) is one of the largest and most advanced robotics research centers in the world. Its researchers stand at the forefront of technological innovation in robotics, and its faculty and students are advancing discoveries that are revolutionizing fields ranging from medicine and manufacturing to national security.

[lcsr.jhu.edu](http://lcsr.jhu.edu)

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**Malone Center for Engineering in Healthcare**

The Malone Center for Engineering in Healthcare brings together engineers, clinicians, and healthcare providers to develop research-based innovations that will enhance the efficiency and effectiveness of healthcare.

[malonecenter.jhu.edu](http://malonecenter.jhu.edu)

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**Mathematical Institute for Data Science**

The mission of the Mathematical Institute for Data Science (MINDS) is to lead the establishment of the fundamental mathematical, statistical and computational principles behind the analysis and interpretation of massive amounts of complex high-dimensional data, and to lead the creation of new undergraduate and graduate curricula on the theoretical foundations of data science.

[www.minds.jhu.edu](http://www.minds.jhu.edu)
How you can partner with us

- Faculty and Student Support
- Industry Collaborations
- Sponsored Research
- Individual Project Support
- Philanthropy
- Talent Pipeline

Why Hopkins

The nation’s first research university, Johns Hopkins was established in 1876 with one guiding principle: to make the world a better place by pursuing answers to big questions and sharing what we learn. At the Whiting School of Engineering, we believe in translating the knowledge we create into innovative solutions to challenging problems—locally and around the globe.

Connect with us

Interested in supporting our work or collaborating with us? Contact us at 410-516-8723 or engineering@jhu.edu to discuss the next steps.