NOTRE DAME

BIOENGINEERING & LIFE SCIENCES INITIATIVE

2025 YEAR-END UPDATE

The Bioengineering & Life Sciences Initiative at Notre Dame advances human health and wellness through interdisciplinary biomedical research and training — from fundamental discoveries through detection, prevention, and treatment of disease. Emphasizing accessible healthcare solutions, BELS brings together researchers across fields to create transformative solutions in bioengineering and life sciences.

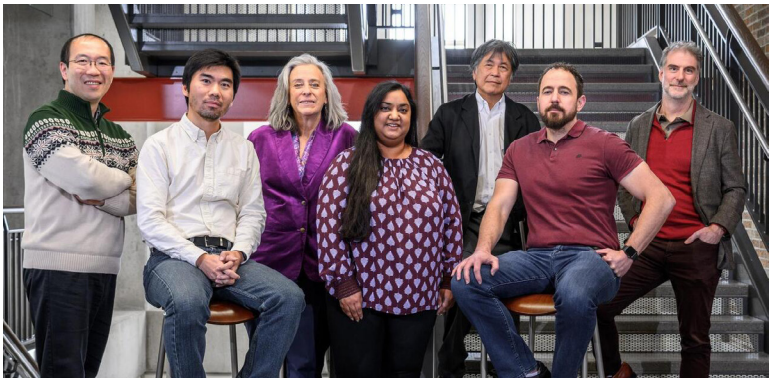
"The Bioengineering & Life Sciences Initiative is already accelerating the pace of multidisciplinary biomedical research on campus and laying the foundation for the future growth of innovative collaboration across campus and around the world."

Paul Bohn

Director, BELS Initiative; Arthur J. Schmitt Professor of Chemical and Biomolecular Engineering; Professor of Chemistry and Biochemistry

FUELING BOLD RESEARCH

To date, the Bioengineering & Life Sciences Initiative has awarded nearly **$1.25 million** in seed funding to **faculty**, **academic units**, and postdoctoral scholars advancing the frontiers of biomedical research. Projects ranged from producing cancer therapies in low-earth orbit to creating AI-generated digital models of the cardiovascular system. Each was selected for scientific excellence and the promise of growing into larger, self-sustaining centers of discovery.



INVESTING IN DISCOVERY TOOLS

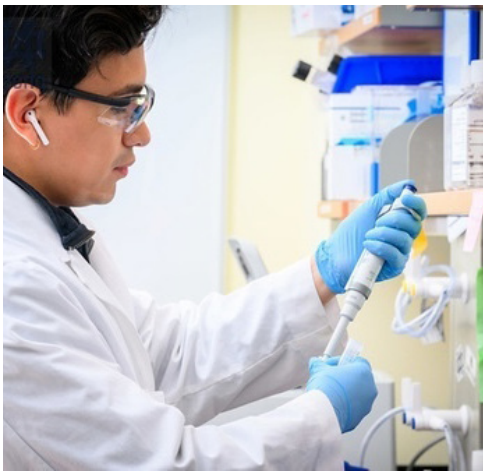
Photo courtesy of Thermo Fisher Scientific

To strengthen research infrastructure, the initiative acquired a Glacios 2 Cryo-TEM microscope— the first of its kind at Notre Dame.

When installed in McCourtney Hall East in 2026, this instrument will allow faculty and students to visualize biology at the molecular level, expand discovery, and attract top talent. Complementary efforts to restructure flow cytometry resources will ensure the campus has the advanced tools needed to remain at the forefront of bioengineering and life sciences.

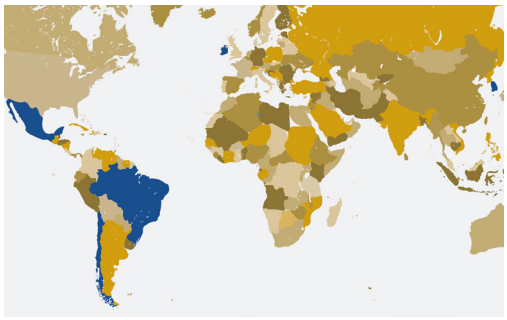
TRAINING THE NEXT GENERATION

The Initiative's first postdoctoral fellow began pioneering work in women's health and bio-inspired diagnostics; a second postdoctoral fellow joined the University this fall and is designing advanced biomimetic devices. The Initiative **awarded grants to five current postdoctoral scholars** to accelerate their independent research, and the **inaugural BELS graduate fellowship** was conferred on a promising biomedical sciences doctoral student, with additional support for an engineering fellow planned in the coming year. These efforts support multidisciplinary training for early-career scholars who are vital to Notre Dame's research mission.



BUILDING GLOBAL PARTNERSHIPS

BELS initiated global partnerships, particularly with the Institute of Biological and Medical Engineering at the Pontificia Universidad Católica de **Chile**, to explore joint research and training opportunities. Plans for collaboration with premier **South Korean** universities are in development, and additional international explorations have started with universities in **Mexico, Brazil,** and **Ireland**.



A new, BELS-supported research team

is developing systems to detect and respond to emerging infectious threats faster—before outbreaks escalate. By integrating expertise across four academic units and multiple disciplines, the ND-BIOSCOPE team builds early-warning platforms that could transform public health preparedness. The cross-disciplinary project is fueling innovation at the forefront of global public health defense, helping Notre Dame contribute to timely, lifesaving disease surveillance and response capabilities.

EXPANDING NOTRE DAME'S REACH

Together, these efforts are establishing the Bioengineering & Life Sciences Initiative as a hub of discovery, collaboration, and innovation—strengthening Notre Dame's role as a catalyst for scientific breakthroughs that serve humanity.

$1.25
million
in seed funding invested to launch innovative multidisciplinary health research projects across Notre Dame.

7
awards
supporting multidisciplinary faculty and multi-unit teams tackling cancer, cardiovascular disease, and national and global health threats.

3 inaugural fellows
—postdoctoral and graduate—appointed to advance cutting-edge research and training.

1st Cryo-TEM microscope
coming to campus, revolutionizing how researchers study biology at the molecular level.