



The Delaware IDeA Network of Biomedical Research Excellence (INBRE) supports state-of-the-art research core facilities, investigator- driven basic/translational biomedical research projects, and student biomedical research internships across the First State. These activities train the workforce needed for Delaware's non-profit, academic and industrial researchers to discover ways to improve the health of Delawareans while increasing the competitiveness of Delaware's investigators for federal biomedical research funding.



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https://de-inbre.org

 UNDERGRADUATE RESEARCH We provide biomedical research opportunities for undergraduates	 SUPPORTING INVESTIGATORS By supporting early-career investigators on their quest to become independent researchers	 IMPROVING INFRASTRUCTURE Improving DE's research infrastructure with a collaborative network of core facilities offering the latest research equipment
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Impact of DE-INBRE FY21-22

In 2022 alone, thirty-two new research awards were received by individuals associated with our network **valued at \$44M**. **Research productivity has been high across our grant cycle (2019-present) with more than 168 downstream grants valued at \$196M.**

During INBRE IV more than 1,000 researchers and clinicians, and over 100 junior investigators statewide, have **benefitted from direct INBRE support access to core facilities or have participated in DE-INBRE supported programs.**

In 2022, DE-INBRE partner organization Delaware State University received several **significant research grants** including an \$18.4M grant to establish an RCMI Center on Interdisciplinary Health Equity Research (1U54MD015959-01A1) and an NIGMS/NIH T-32 G-RISE program: "Diversifying neuroscience through predoctoral training at an HBCU" (1T32GM144895-01).



In November, members of DSU gathered to celebrate their \$18.4 grant supporting an RCMI initiative. PI: Dr. Melissa Harrington is pictured in center

Learn more here: <https://tinyurl.com/5n9b6x3z>

Program Overview

DE-INBRE is a **five-year, \$16,417,115 grant** from the National Institutes of Health (NIH) National Institute of General Medical Sciences (NIGMS) bolstered by \$5,000,000 of Delaware state support that achieves its mission by funding the activities of its 11 partners and affiliates:

Partner Institutions:

- University of Delaware (UD)
- Delaware State University (DSU)
- Delaware Technical Community College (DTCC)
- Nemours Children's Health
- Christiana Care Health System
- Delaware Public Health Laboratory (DPHL)



Affiliate Institutions:

- Delaware BIO
- Delaware Health Science Alliance Wilmington VA Medical Center
- Wilmington University
- Delaware Health Information Network (DHIN)



IDeA in Delaware

In addition to DE-INBRE, other currently funded IDeA programs include **Delaware CTR-ACCEL, 6 COBReS, 1 Admin Supplement & 2 co-funded R01 grants:**

Delaware Clinical and Translational Research ACCEL Program

Statewide; led by UD

-CTR-ACCEL Program bolsters and expands clinical & translational research

CENTERS OF BIOMEDICAL RESEARCH EXCELLENCE (COBRE)

Located at UD

-Delaware Center for Musculoskeletal Research, Phase I

-Discovery of Chemical Probes and Therapeutic Leads, Phase II

-Center of Biomedical Research Excellence in Cardiovascular Health, Phase II

Located at Nemours Children's Health

-Research Expanding Access to Child Health (REACH), Phase I

-The Delaware Comprehensive Sickle Cell Research Center, Phase II

Located at DSU & UD

-Delaware Center for Neuroscience Research, Phase III

DE-INBRE Administrative Supplement

Located Nemours/Delaware Public Health

-Genomic Surveillance of SARS-CoV-2 in the State of Delaware

Located at UD

-Prevention of PTOA via regulation of the cytomechanics of chondrocytes

-Multiscale tendon damage and aberrant cellular responses in an in vivo model of tendinosis

Success Stories



Holly Miller started her experience with DE-INBRE in 2017, working as a Summer Scholar at DSU. During this summer research experience, she learned valuable research techniques and performed complex lab experiments while gaining professional skills from presenting her work at multiple symposia. She continued her research work as an INBRE-funded Undergraduate Research Assistant in the Milette Lab at DSU.

Her experiences led her to apply to graduate school where she was given a DE-INBRE Graduate Research Fellowship. Following graduation, Holly began her current position as a Molecular Biologist for the Delaware Department of Health and Social Services at the Delaware Public Health Lab (DPHL) where she is currently working on a special project performing whole genome sequencing on COVID-positive samples to determine how COVID variants are moving through communities. In addition to her current position at DPHL, she also teaches as an Adjunct Professor at DSU.

Jonathan Bernal began his journey with DE-INBRE in the Summer of 2021 where he was a DTCC Summer Scholar working with a DE-INBRE project at ChristianaCare with Dr. Alicia Salvatore. He worked to examine the racial disparities in patient experiences. He graduated from DTCC in 2021 and continued his education at UD where he is currently a Biology student while also working at a pharmaceutical company as a laboratory technician. The skills he learned during his time with DE-INBRE helped him to land his current job and also helped him to meet many people with different specialties.



After graduation Jonathan plans to take a gap year before pursuing higher education in the biomedical field. Jonathan says that “if any student has the opportunity to work with INBRE, take the chance as you never know whom you can meet and can help you with your career plan.”

Statewide NIH, NIGMS Funding

FY21-23

Program/Grant Name	Type/Institution	FY	Cong District	Amount
Prevention of PTOA via regulation of the cytomechanics of chondrocytes (PI: LUCAS X. Lu, #5R01AR074472-02)	University of Delaware	2021	DE-00	\$333,806
Research Expanding Access to Child Health (REACH), Phase I (PI: Anne Kazak, #1P20GM144270-01)	Nemours Children’s Health	2022	DE-00	\$2,428,726
Multiscale tendon damage and aberrant cellular responses in an in vivo model of tendinosis (PI: Dawn Elliott, #1R01AR080059-01)	University of Delaware	2022	DE-00	\$490,932
Delaware INBRE (PI: Melinda Duncan, #5P20GM103446-22)	University of Delaware	2022	DE-00	\$3,717,654
Delaware Center for Neuroscience Research, Phase III (PI: Melissa Harrington, #1P30GM145765-01)	Delaware State University	2022	DE-00	\$1,146,083
Delaware Clinical and Translational Research ACCEL Program (PI: Greg Hicks, #5U54GM104941-10)	University of Delaware	2022	DE-00	\$3,999,995
The Delaware Comprehensive Sickle Cell Research Center, Phase II (PI: Edward Anders Kolb, #5P20GM109021-07)	Nemours Children’s Health	2022	DE-00	\$2,092,666
Discovery of Chemical Probes and Therapeutic Leads, Phase II (PI: Joe Fox, #5P20GM104316-08)	University of Delaware	2022	DE-00	\$2,359,432
Center of Biomedical Research Excellence in Cardiovascular Health, Phase II (PI: David Edwards, #5P20GM113125-07)	University of Delaware	2022	DE-00	\$2,347,347
Delaware Center for Musculoskeletal Research, Phase I (PI: Dawn Elliott, #5P20GM139760-03)	University of Delaware	2023	DE-00	\$2,116,893
Genomic Surveillance of SARS-CoV-2 in the State of Delaware (PI: Melinda Duncan, #3P20GM103446-22S1)	University of Delaware	2022	DE-00	\$515,000

Total Funds: \$ 21,548,534