

Estimated over \$500 million over 25 years for Louisiana; more than 500 researchers supported-economic impact of over \$1.5 billion



LOUISIANA'S SUCCESS STORY

ADVANCING BIOMEDICAL RESEARCH IN LOUISIANA

Louisiana's commitment to biomedical research is transforming the state into a leader in health innovation and discovery. With support from national funding initiatives, researchers across Louisiana are addressing critical health challenges through collaborative efforts and cutting-edge technology. These efforts not only advance scientific knowledge but also drive economic growth, create opportunities for students and researchers, and enhance the state's reputation as a hub for biomedical excellence.



LOUISIANA IDEA NETWORK

Louisiana is a hub for biomedical research, supported by IDeA (Institutional Development Award) programs

INBRE

IDEA Networks of Biomedical Research Excellence

COBRE

Centers of Biomedical Research Excellence

CTR

Clinical and Translational Research

LOUISIANA'S RESEARCH STRENGTHS INBRE (LBRN)

Louisiana Biomedical Research Network (LBRN) was established in September 2001 with Biomedical Research Infrastructure Networks (BRIN) funding by the National Institutes of Health (NIH), through the National Center for Research Resources (NCRR) Grant P20RR016456, the LBRN is committed to raising the research competitiveness of Louisiana researchers. IDeA Networks of Biomedical Research Excellence (INBRE) is the second phase of the BRIN Program when LBRN initially started. Currently, LBRN is in the fourth phase with continued funding by the National Institute of General Medical Sciences (NIGMS) Grant P20GM103424 & the Louisiana Board of Regents Support Fund. The **Data Science Core** of the Louisiana Biomedical Research Network (LBRN) serves to train and support project investigators and their teams across Louisiana, and to **lead and support translational research activities** at the frontiers of biomedical science. Its team **uses both established and custom computational tools**, operating at computational scales ranging from the mundane to analyses engaging many hundreds of compute cores.

LBRN LEADERSHIP TEAM



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PROGRESS OF LOUISIANA INBRE PROGRAM (LBRN)

- ★ Established cutting-edge infrastructure across **24 research sites**, supporting biomedical innovation statewide
- ★ **Trained 1,000+ students** in **bioinformatics, genomics, and data science**, with a goal to exceed **1,500 by 2025**
- ★ **Secured over \$50M** in research funding from NIH, NSF, and other agencies, driving groundbreaking discoveries.
- ★ **Supported students from 4 HBCUs**, enhancing minority participation in biomedical and STEM careers
- ★ **Developed a comprehensive LBRN Training Platform** offering credit-based courses in bioinformatics, multi-omics, data science, machine learning and different research specializations for **30+ institutions**
- ★ **Delivered 20+ specialized training workshops** in bioinformatics, molecular biology, and computational biology
- ★ **Partnered with major medical centers and PUIs**, fostering interdisciplinary research
- ★ **Facilitated collaborations** with Eli Lilly, NASA, and top universities, expanding research opportunities & job placements
- ★ **Alumni secured placements** in leading biotech companies and academic institutions
- ★ **Expanding research capacity, faculty mentoring, and student engagement** to establish Louisiana as a biomedical research leader.

\$120M+

in total IDeA funding received



6
State Congressional Districts supported



14
Grants and Contracts awarded



24
Active Research Sites across the state

LBRN: ADVANCING RESEARCH AND WORKFORCE DEVELOPMENT ACROSS LOUISIANA

- ✓ **> 70,000 Sqft** New Research Space
- ✓ **7000+** Students & Scholars Trained
- ✓ **48** New Facilities
- ✓ **20** Improved Facilities (Including BSL2 Cabinets)
- ✓ **> 1000** Data Science Core Users
- ✓ **20** Technical Support Staff
- ✓ **100+** New Awards Granted
- ✓ **Purchased 20** Equipment & **8** New Large Instruments
- ✓ **1100+** Research Projects Initiated
- ✓ **430+** Research Papers Published
- ✓ **260** Proposals Submitted
- ✓ **\$50M+** Grants Secured for PUIs
- ✓ **1500+** Scientific Presentations Delivered

KEY RESEARCH INITIATIVES AND FOCUS AREAS

Louisiana Biomedical Research Network (LBRN)

- Strengthens statewide biomedical research capacity & workforce development.
- Provides faculty and student training programs
- Enhances infrastructure and fosters research collaborations

Metabolic and Endocrine Disease Research

Metabolic Basics of Disease Research

- Focuses on diabetes & obesity research to combat rising health burdens
- Develops precision medicine strategies for improved patient outcomes

Cancer Research

Center for Pre-Clinical Cancer Research

- Develops adv. pre-clinical cancer models to study disease progression
- Aims to create translatable therapies for clinical applications
- Almost 10+ PIs graduated with NIH R21/R01 funding

Immunology and Infectious Disease Research

Center for Applied Immunology and Pathological Processes

- Focuses on understanding immune system responses to bacterial, viral, and pathogen infections.
- Aims to develop targeted therapies to combat infectious diseases

Cardiovascular Disease Research

Center for Redox Biology and Cardiovascular Disease

- Investigates redox biology in cardiovascular diseases prevalent in the southern U.S.
- Develops innovative therapeutic strategies to reduce disease risks.

Obesity and Diabetes Research

Mentoring Obesity and Diabetes Research in Louisiana

- Addresses obesity and diabetes challenges in Louisiana
- Provides mentorship and training to future biomedical researchers

Louisiana Clinical & Translational Science (LA CaTS) Center

- Advances clinical and translational science through collaboration among research institutions
- Focuses on addressing health disparities & enhancing healthcare access

Pulmonary Disease Research

Center for Lung Biology and Disease

- Investigates the underlying mechanisms of pulmonary diseases.
- Aims to develop innovative treatment strategies and provide essential resources for respiratory health research

Cancer Research

Center for Translational Viral Oncology

- Investigates the link between viral infections and cancer development
- Supports the training of junior investigators in viral oncology research

Clinical and Translational Research

Tulane COBRE for Clinical and Translational Research

- Works to improve the quality and impact of clinical & translational research in cardiometabolic diseases.
- Enhances patient care by translating laboratory discoveries into clinical applications

Aging and Regenerative Medicine Research

- Mentoring Research Excellence in Aging and Regenerative Medicine
- Focuses on aging-related diseases and regenerative medicine solutions
- Provides a platform for young researchers to contribute to aging biology research.

PRINCIPAL INVESTIGATORS



Konstantin Kousoulas



Jacqueline Stephens



Joseph Francis



Andrew Yurochko



Christopher Kevil



Thomas Gettys



John Kirwan



Tammy Dugas



John T. West



Jiang He



Michal Jazwinski

INBRE PI

COBRE PI

COBRE PI

COBRE PI

COBRE PI

COBRE PI

CTR PI

COBRE PI

COBRE

COBRE PI

COBRE PI

LSU

School of Veterinary Medicine

PENNINGTON BIOMEDICAL RESEARCH CENTER LSU

LSU

School of Veterinary Medicine

LSU Health SHREVEPORT

LSU Health NEWORLEANS

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