EPSCoR
NEW HAMPSHIRE

NH EPSCoR invests in university research infrastructure, promotes STEM education and fosters partnerships with industry for job creation & economic development.

NH BioMade Overview

Advancements in healthcare are revolutionizing medicine. The number of knee replacements has grown exponentially, and the prospect of manufacturing replacement organs is progressing towards a reality. These life-changing advances will be further accelerated and improved by innovations in **biomaterials and biomanufacturing.**

NH BioMade is developing innovative approaches for the design and manufacturing of biomaterials such as those used in **orthopedic implants, trauma repair, tissue engineering, and biosensors.**

NH BioMade has 132 team members, including scientists and engineers, students, and educators. Students receive research training, mentoring, and industry internships.

NH BioMade is a $20MM EPSCoR project funded by the National Science Foundation.

Our Partners

University of New Hampshire
DARTMOUTH
Keene STATE COLLEGE
UNH Manchester
COMMUNITY COLLEGE system of New Hampshire
armi Advanced Regenerative Manufacturing Institute

NH BioMade Impacts

New Research Funding
26 proposals
$12.4 MM new funding

Seed Grants
32 grants
$1.3 MM distributed

NH Biomaterials & Biomanufacturing Research Futures Retreat
MARCH 17, 2023
MANCHESTER COMMUNITY COLLEGE

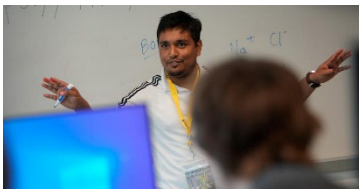
A statewide convening of biomaterials and biomanufacturing researchers & industry professionals

Transfer Scholars
Scholarships to CCSNH students to pursue 4-year STEM degrees at UNH
22 students
$163K in scholarships

NH CREATES

The NH Collaborative for Regenerative Medicine Education and Training for Engineers and Scientists (NH CREATES) will cultivate interest & expertise in regenerative medicine and biotechnology among NH middle and high school students and teachers.

NH CREATES evolved from initial funding provided by NH BioMade and NIH.



NH EPSCoR State Director: Dr. Marian McCord Sr. Vice Provost for Research, Economic Engagement, & Outreach
University of New Hampshire Email: marian.mccord@unh.edu

Success Stories

Advancements in Chronic Wound Healing

An estimated 6.5 million Americans experience wounds that do not heal properly. Without proper healing, wounds can remain infected and worsen, leading to tissue gangrene, amputation, and even death. NH EPSCoR researchers Kyung Jae Jeong and Young Jo Kim are developing an injectable treatment for chronic wounds that uses gelatin combined with melanin extracted from cuttlefish, a marine invertebrate. A seed grant from NH BioMade catalyzed a larger "Trailblazer" award from NIH to further their research.

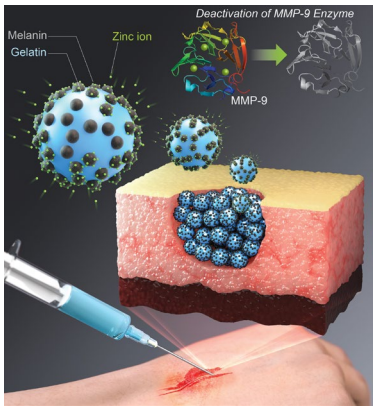


Image credit: Young Jo Kim

Image credit: Vadim Zharkov

Copper Coated "Smart Textiles"

NH EPSCoR researchers at Dartmouth College have developed a novel method for making electronic textiles using a durable copper-based coating that can be integrated into fabrics. These textiles react to harmful gases in the air and transform them into less toxic substances that become embedded into the fabric. The multi-functional characteristics of these materials (conductivity, porosity, and reactivity) make them ideally suited for chemical sensing, filtration, and decontamination. There are numerous health care, environmental sensing, and personal protection applications for this new discovery.

EPSCoR in NH 2004-2022

Since New Hampshire became an EPSCoR jurisdiction in 2004, more than $141 million has been awarded by the federal funding agencies for research and education projects, primarily at universities and colleges.

NSF	$	108,454,402
USDA	$	13,568,927
NASA	$	8,803,838
ENERGY	$	6,564,100
DEFENSE	$	4,258,461
TOTAL	**$**	**141,649,728**

EPSCoR NEW HAMPSHIRE

www.nhepscor.org

@NHEPSCoR

Recent EPSCoR Awards

Advancing Manufacturing and Biotechnology through an On-Demand Sensor Platform: Investments in the Development of Engineering Principles and the Future Workforce
PI: Jeffrey Halpern, UNH, NSF Track-2

Computationally-driven search for new infra-red absorbing semiconductors with long carrier lifetime
PI: Geoffroy Hautier, Dartmouth, Defense

High-Temperature Effective Piezoelectric Composites for Future Space Self-Powering Sensors
PI: Antoinette Galvin, UNH, NASA

High-Strength, High-Ductility, High Entropy Alloys with High-Efficiency Native Oxide Solar Absorbers for Concentrating Solar Power Systems
PI: Jifeng Liu, Dartmouth, Dept. of Energy

Defining and Exploiting Marker-Trait Associations in a Quinoa Diploid Model System
PI: Thomas Davis, UNH, USDA NIFA AFRI

Diversifying the Maple Syrup Industry to Enhance Socioecological Resilience and Ecosystem Services
PI: Heidi Asbjornsen, UNH, USDA NIFA AFRI