



The University of Vermont

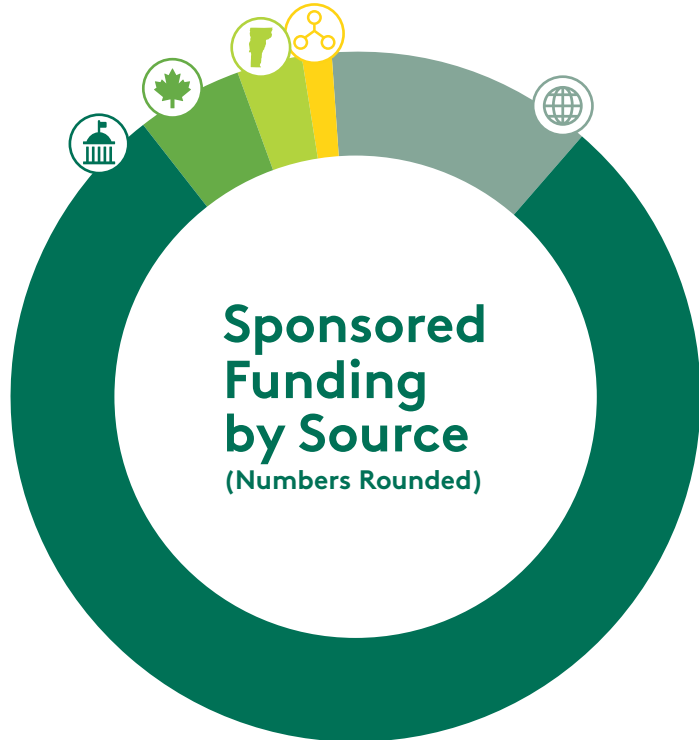
RESEARCH REVIEW

2023



Fiscal Year 2023 Research By the Numbers

By several measures, fiscal year (FY) 2023 was UVM's best year for sponsored research, with a 7.5% increase in sponsored funding. Nearly 1000 projects were established from over 680 awards. To learn more, visit go.uvm.edu/research2023



\$262.8M

In External Research Support

| Source | Amount | Awards |
|--------------------|------------------|------------|
| Federal Government | \$205.5 M | 531 |
| Nonprofits | \$13.1 M | 108 |
| State and Local | \$8.2 M | 27 |
| Industry | \$3.2 M | 22 |
| UVM Foundation | \$32.6 M | — |
| Total | \$262.8 M | 688 |



- | | |
|------------------------|-----------------------|
| 1. LCOM \$94.4 M | 6. CAS \$7.7 M |
| 2. CALS \$39.5 M | 7. CESS.....\$6.8 M |
| 3. OVPR\$27.5 M | 8. CNHS.....\$2.3 M |
| 4. CEMS \$25.8 M | 9. Other\$4.7 M |
| 5. RSEN\$21.3 M | |



- | | |
|-------------------------|-----|
| 1. Research | 586 |
| 2. Extension | 60 |
| 3. Instruction | 37 |
| 4. Public Service | 5 |

Federal Funding by Source



HEALTH AND HUMAN SERVICES
\$92.4 M | 273 AWARDS



DEPARTMENT OF AGRICULTURE
\$58.4 M | 89 AWARDS



NATIONAL SCIENCE FOUNDATION
\$16.7 M | 41 AWARDS



DEPARTMENT OF COMMERCE
\$7.9 M | 12 AWARDS



DEPARTMENT OF DEFENSE
\$7 M | 20 AWARDS



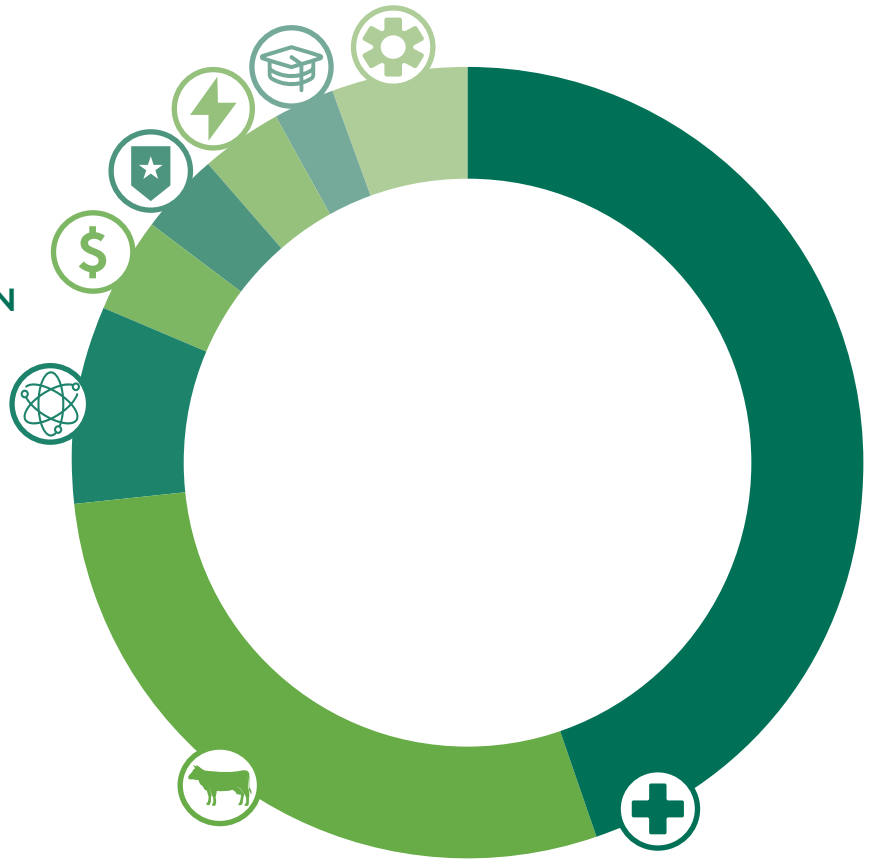
DEPARTMENT OF ENERGY
\$6.8 M | 16 AWARDS



DEPARTMENT OF EDUCATION
\$4.7 M | 78 AWARDS



OTHER
\$11.3 M | 78 AWARDS



OTHER: NASA, Department of Transportation, Environmental Protection Agency, Department of the Interior, and the Department of Veterans Affairs

Research Impacts



53 AWARDS

worth \$1 million or more were awarded to faculty in FY23



10 TONS

of maple syrup produced at the Proctor Maple Research Center

4-H

855,056 PEOPLE

were engaged with UVM Extension across 265 publications and community events



7.5%

growth in sponsored research from FY22 to FY23



21 FELLOWSHIPS

like those from the Guggenheim Foundation were granted to faculty members in the School of the Arts.



31 MILLION HOURS

were computed through the Vermont Advanced Computing Center across nearly 9 million tasks



246 PERFORMANCES

in Dance, Theatre, and Music were showcased by students and faculty in UVM's School of the Arts

The University of Vermont’s faculty, staff and student researchers build on our distinctive strengths to help create healthy societies and a healthy environment. Thanks to the hard work of all involved, our research enterprise—and our impact—continue to grow. The most significant products of our success are the discoveries and innovations that our research delivers to deal with the most pressing needs of our time. While we work to solve the problems of today, it’s just as important that we prepare the problem solvers of tomorrow. UVM students are the next generation of scientists, humanists, inventors, and entrepreneurs. This is the promise of UVM’s research success: innovative, sustainable, impactful solutions for a better Vermont, and a better world.

—Suresh Garimella
PRESIDENT, UNIVERSITY OF VERMONT



The commitment and creativity of the researchers at the University of Vermont has resulted in record-levels of extramural research support. Over 688 distinct awards will be used to establish nearly 1000 research and educational projects to directly impact the minds, lives, and people on our campus, throughout the state of Vermont, and across the globe. In hosting the inaugural [Research, Innovation, Sustainability, and Entrepreneurship \(RISE\) Summit](#), we announced that UVM is actively seeking partnerships with communities and companies to address the most pressing issues of our time. Across campus, our faculty and staff have embraced what it means to be Vermont’s leading land-grant university, delivering cutting edge laboratory science, environmental stewardship, academic scholarship and inventive creative works to become a vital engine for not just research but economic growth both in Burlington and throughout Vermont.

—Kirk Dombrowski
**VICE PRESIDENT FOR RESEARCH
AND ECONOMIC DEVELOPMENT,
UNIVERSITY OF VERMONT**





College of Engineering and Mathematical Sciences assistant professors Nick Cheney and Joe Near from the Department of Computer Science and Hamid Ossareh, Associate Professor of Electrical Engineering, have received [National Science Foundation CAREER Awards](#). The honorees join over 30 other CAREER grant winners at the University of Vermont (UVM) from the last 20 years.



The University of Vermont's new research and teaching vessel [Marcelle Melosira](#) arrived at the Rubenstein Ecosystem Science Laboratory on July 23, 2023. The 60-foot hybrid-electric vessel contains cutting-edge technology and research equipment, providing one-of-a-kind access to Lake Champlain for student classes and research teams of up to 30 people.

1. College of Education and Social Services

Jason Garvey describes himself as a quantitative queer. “All of my research uses large-scale surveys and I’m very much a quantitative methodologist,” he said. “My scholarship centers on the lived experiences of queer and trans collegians.” But in recent years his work has been exploring some of the problems and limits of statistics-focused research. Garvey won a Fulbright Award for his autobiographical project, which traces his undergraduate beginnings in 2002 to 2022. He aims to have his project develop into a book, “weaving together large-scale empirical studies with policy analyses—all grounded in some very personal vignettes that have shaped who I am.”



1.

2. Rubenstein School of Environment and Natural Resources

Assistant Professor Dr. Mindy Morales-Williams received a National Science Foundation CAREER Award in 2022 for her contributions to and vision for research in limnology and phytoplankton ecology. She is working to predict how algal communities will respond to disturbances such as watershed land use and climate change, and how those shifts will affect essential lake ecosystem function. As seasonal patterns become less consistent with climate change, the predictability of algae has also decreased. Algal communities have significant impacts on ecosystems as they influence carbon cycles and habitat health for other aquatic species.



2.

3. Larner College of Medicine

Infants born to mothers who use opioids during pregnancy can develop symptoms of neonatal opioid withdrawal (NOW) syndrome. New research led by a Leslie Young, M.D., demonstrates that the “Eat, Sleep, Console” care approach (ESC) is more effective than usual care approaches for treating opioid-exposed infants. The ESC-NOW trial, funded by the National Institutes of Health (NIH), examined the impact of the ESC care approach and found that it substantially decreased the time until infants were medically ready for discharge. The current findings are published in the New England Journal of Medicine.



3.

4. College of Nursing and Health Sciences

While Emily Coderre, PhD, acknowledges that some autistic people may have visual learning styles and think in pictures, she cautions against extending that assumption to all autistic people. Doing so, she says, “perpetuates the idea that any sort of visual stimulus will be easier to understand than language.” To learn more, Coderre studies how people understand stories when they’re told through comic strip pictures. Using electroencephalography (EEG), an imaging technique that records neural activity through the scalp, they took a more nuanced look at what’s going on in the brain during the activity than behavioral responses alone could offer.



4.

5. College of Arts and Sciences

It’s long been thought that the Rocky Mountains were created many millions of years ago during a solo collision between pieces of the Earth’s crust. But now a research team that includes Keith Klepeis and Gabriela Mora-Klepeis from UVM’s Dept. of Geography and Geosciences is proposing that the iconic mountain range was actually formed in two separate collisions spaced millions of years apart. This is a big deal, as it changes the conversation about the largest mountain belt in western North America. The study was published in the June issue of the journal Nature Communications.



5.

6. College of Agriculture and Life Sciences

UVM researchers found approximately 29% of the state’s 238 mobile home parks are at least partially located in areas at risk of flooding. Now — with funding from the National Oceanic and Atmospheric Association — Kelly Hamshaw, Dan Baker, and Vermont State Climatologist Lesley-Ann Dupigny-Giroux are researching how to best strengthen climate resilience in mobile home parks. “Mobile home communities are at higher risk for flooding, but with climate change also comes greater risks from extreme temperatures and other weather events,” Hamshaw said. “This collaboration will allow us to better support the resilience of these important communities, which are essential to Vermont’s housing landscape.”



6.



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