

The Joint Standing Committee on Appropriations and Fiscal Affairs
Testimony from Michael Pollastri, Ph.D.
The Roux Institute at Northeastern University, Portland, Maine

In Support Of

L.D. 416

An Act to Authorize a General Fund Bond Issuance for Research and Development and Commercialization

24 April 2023

Chair Rotundo, Chair Sachs, and distinguished members of the Appropriations and Fiscal Affairs Committee, my name is Michael Pollastri. I currently serve as Senior Vice Provost and Academic Lead at The Roux Institute at Northeastern University—a global leader in graduate education, experiential learning, and use-inspired research.

By way of brief background, I served previously as Interim Dean of Northeastern’s College of Science and before that as Chair of the Department of Chemistry. Prior to joining Northeastern, I spent a decade in industry working in drug discovery as a research chemist at Pfizer. Thank you for the opportunity to provide testimony this morning in strong support of L.D. 416, An Act to Authorize a General Fund Bond Issuance for Research and Development and Commercialization.

The Roux Institute was founded in Portland in 2020 for the express purpose of helping to drive the State of Maine’s economic growth by attracting, developing, and retaining the high technology industries of the future here in the state—including artificial intelligence, computer and information sciences, and the life and health sciences, among other emerging fields. A core element of our mission is to support Maine’s economic development by helping to significantly grow the talent and research base for the current, and future, data-driven economy in Maine.

As was referenced in preceding testimony, Maine lags several states in its investment in research and development, currently ranking 44th out of 50 states. Other states are hard at work right now executing deliberate strategies to differentiate their economies and increase their competitiveness by making robust public investments in emerging fields ranging from life sciences to clean energy to advanced manufacturing.

To address this disparity and to spur economic development in Maine’s natural resource-based and next generation technology sectors, the state’s economic recovery plan called for a \$100 million annual investment in commercially promising research and development in Maine. Passage of L.D. 416 would make an important down payment on this urgent need.

At Roux, we are already working hard to help realize this vision. Roux has partnered with more than 150 Maine employers and non-profit organizations since our founding in 2020, creating customized learning programs and helping prepare the next generation of innovators powering the Maine economy. And we have invested in rapidly expanding our regional entrepreneurial ecosystem, recruiting over 45 startups

N The Roux Institute at Northeastern University

to Maine over the last three years. These companies have attracted \$37 million in invested capital and created 70 new jobs in the state. One example we are particularly proud of is the launch of Tanbark Molded Fiber Products, a sustainable packaging startup. The founder, Melissa Lacasse, was selected for our incubator, which is called “The Founder Residency”, allowing her to launch Tanbark. Melissa recently set up their first manufacturing site in Saco and we are looking forward to their growth in the years to come.

Increased state funding for research and development will help supercharge these efforts, ensuring that advancements in technology and research innovation lead to new products made by companies right here in Maine – just like we did in helping Tanbark bring their new product to market. We have collaborated with Maine-based startups, such as New England Marine Monitoring, not only to help develop the computer vision tools for their services, but also to attract funding from the National Fish and Wildlife Foundation.

Of critical importance to research enterprises like ours is the frequently required matching funds for a considerable number of federal research funding programs. Proceeds from this proposed research bond would provide a source for required state matching funds for consortia of Maine industry and academic institutions to compete for the hundreds of millions of dollars in currently available federal science and technology, computing, advanced manufacturing, and economic and workforce development funding.

And while the Roux Institute research team, numbering 27 faculty, postdoctoral researchers, and graduate students, have been successful in securing \$9 million in federal and private research grants to date, these state funds would open up considerable opportunities for us and our colleagues and partners across the state.

The Roux Institute is acutely focused on the promise of transformative power of technology to enable and grow the economy in Maine. One clear opportunity is centered around applications of artificial intelligence. This opportunity to double down on applications of Artificial Intelligence to Maine business sectors looms large. This past January, we produced a report entitled “The State of AI in Maine”, which reported out the findings from 50-plus interviews of business leaders across multiple economic sectors in Maine. It uncovered a wide range of AI applications already in use in healthcare, financial services, natural resources, education, and manufacturing. But there are many new directions that this technological transformation can take.

This is going to require ongoing research effort and investment, which undoubtedly will require an infusion of research dollars. Over seven hundred people attended the event that surrounded the release of the State of AI in Maine report – showing that there is wide enthusiasm for developing these technologies. Thus, research investments will reach far beyond the Roux Institute and deeply into the wider research community in the state, and this will require investment far beyond what the corporate sector can provide. In conjunction with corporate and federal dollars, the state of Maine has an opportunity to support these investments,

The deployment of AI and related technologies will not only drive growth of companies that exist in Maine, but can also attract those who would aspire to move to Maine, where the cutting edge technologies and talent pools have developed.

N **The Roux Institute**
at **Northeastern University**

We are already working in this space. We are developing artificial intelligence approaches that can improve patient care across healthcare organizations in Maine, by identifying patients who are more at risk of disease complications, by enabling patients to receive more effective care at home, and to provide ongoing monitoring that allows healthcare providers a glimpse into a patient's condition after returning home. Importantly, though these technologies that we develop together with Maine Health and Northern Light Health will improve treatment outcomes for Mainers, they also hold the promise to help transform healthcare nationwide.

L.D. 416 represents a vital step forward to help develop Maine's future economy. That's why there is such a broad cross-section of support across economic sectors and public and private research institutions. It will help make Maine more competitive. And it will help attract new industry to Maine that will provide high-quality jobs to residents of the state, giving young Mainers access to better economic opportunities in the state and attracting newcomers to help power Maine's future growth.

Thank you very much for your time and for your consideration of this important initiative. I urge you to report L.D. 416 favorably with an "ought to pass" recommendation.

Respectfully Submitted,



Michael Pollastri, Ph.D.
Senior Vice Provost and Academic Lead
The Roux Institute at Northeastern University