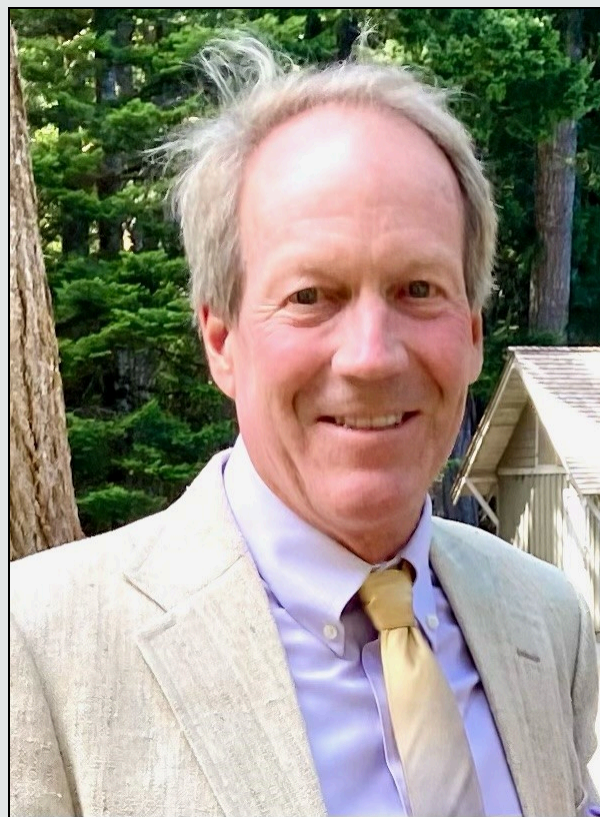**Department of**
BIOMEDICAL ENGINEERING
JOHN AND MARCIA PRICE COLLEGE OF ENGINEERING
THE UNIVERSITY OF UTAH

A Message from the Chair

Unprecedented national events have certainly impacted US biomedical research opportunities, capabilities, education and training and academic culture since our last BME Spring 2025 newsletter. Proposed National Institutes of Health (NIH) funding cuts to both research programs and institutional overhead funds have injected substantial uncertainty into the ability of our nation to maintain its

traditional leadership in biomedical innovation and medical progress. Any significant cut to the NIH's research budget for 2026 is projected to significantly impact patients, healthcare innovation, and academic research. While NIH funding has increased significantly in recent years, this growth is now slowing, and current success rates for grants remains low (e.g., 10% or less in some research programs). Universities stand to lose $billions in funding should these proposed cuts be implemented. We await Congressional actions and certain pending legal decisions to lift this uncertainty.

In addition, hundreds of currently active, awarded NIH and NSF research grants have been terminated. Funding interruptions affect research on diseases like disease diagnostics, cancer, dementia, and tuberculosis. Funding freezes on some clinical trials have halted translational research, potentially jeopardized validation of possible patient benefits for new treatments. New NIH grant approvals have been delayed, stalling $ billions in funding. Federal R&D obligations declined in FY 2023, and preliminary estimates for FY 2024 show only slight increases. Basic research at universities funded by the federal government has decreased, while industry and private foundation funding has increased.

Regarding BME's workforce training mission, these national and additional state-wide decisions are producing new challenges. The local and national biomedical research workforce faces stiff competition, reduced employment opportunities, and loss of early and mid-career scientists in academic roles. International scientists long-recognized as crucial to the US biomedical workforce, particularly at the postdoctoral level, faces issues with full domestic workforce integration and access to adequate funding. Physician-scientists, essential for translating research into clinical practice, are a diminishing part of the medical workforce without incentives to keep them engaged. Life sciences hiring in general has slowed, with job losses in medical device and biotechnology industries.

But there is good news in Utah's Biomedical Engineering program.

Despite these serious new developments impacting many national biomedical training efforts, Utah's BME program continues to press forward, redoubling commitments to new PhD trainees, expanding certificate, minor and program offerings, and reformulating strategies to secure and maintain research support. Please open this Summer 2025 BME newsletter to learn about our numerous recent BME student and faculty recognitions, successes and activities in their academic research and training that paint a different picture about our biomedical engineering program vitality at Utah than portrayed in recent national challenges!

In our BME Summer 2025 newsletter, you can also read about the campus' recent AI summit discussing the numerous opportunities and impacts of AI in education, informatics, data processing and technology advancement. AI is revolutionizing drug design and development by accelerating virtual screening, optimizing drug candidates, and predicting clinical trial outcomes. AI is also improving biomarker discovery and enabling precision medicine approaches. Autonomous experimentation systems are seeking to accelerate research by designing and running in silico experiments, conducting actual experiments and generating hypotheses faster than humans. AI is transforming medical imaging by enhancing interpretation, streamlining image processing, and improving diagnostic interpretation and accuracy. For example, AI strategies have shown the capability to enhance cancer detection and prognosis by identifying subtle disease-specific patterns in complex digital pathology and biomarker data. AI is also being harnessed to improve clinical trials conduct, including strategic trial design improvements, data processing and reporting. Opposing current AI enthusiasm, numerous concerns currently exist regarding AI's accuracy, hallucinations, accessibility, biases, data privacy, accountability for errors, and the need for standardized implementation across institutions. Additionally, ethical considerations surround AI applications in research, including content ownership and potential biases, that require careful attention and development of clear guidelines for use.

In summary, the US biomedical technology research ecosystem is currently navigating a complex new landscape marked by unprecedented funding uncertainties, workforce challenges, rapid technological advancements, and evolving ethical and policy considerations. These current events highlight the need for continued investment, strategic workforce development, responsible AI integration, and robust ethical oversight to ensure the continued progress and impact of biomedical research. BME is actively engaged in integrating appropriate, ethical and rapidly evolving AI strategies into our training and research programs.

As BME Chair, I urge you to read on here to understand how our BME program is maneuvering and thriving in response to these challenges – our resilience is part of our department fabric.

David Grainger, Ph.D.
University Distinguished Professor and Chair
Ole and Marty Jensen Endowed Chair

BME Alumna Interview with Dr. Sara Hanrahan: Associate Professor, University of Tennessee-Knoxville

Read more here

Tradition: 2025 Annual BME Undergraduate Senior Research Symposium celebrates student research achievement

[Read more here](#)

University of Utah and BME figure prominently at all levels in Utah's 15th Annual Bench-to-Bedside Competition

[Read more here](#)

Recent and current BME students selected as ASME SBC Student Paper Competition Finalists

Biomedical Engineering's Rebecca Patush receives prestigious NSF Fellowship to support work on hydrogel coating materials for neural implants

BME Faculty and FEBio colleagues win annual Richard Skalak Award and Editor's Choice papers in the Journal of Biomechanical Engineering
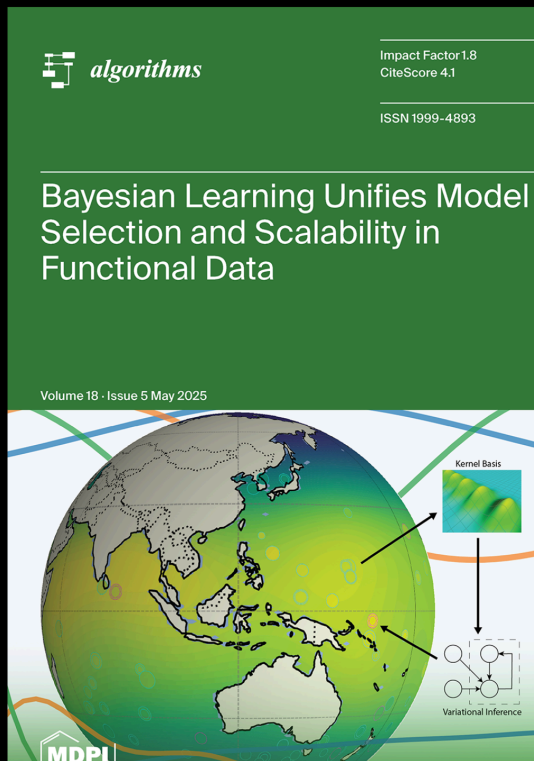
BME Faculty, Tamara Bidone is team member in a $8.5 million Leducq Foundation grant to study Peripheral Artery Disease and develop new treatments

[Read more here](#)
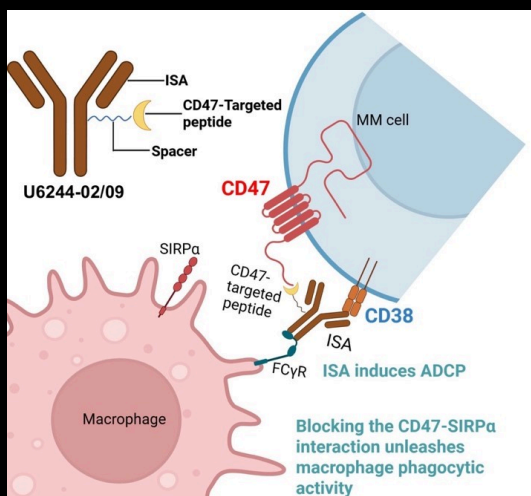
University of Utah Faculty Henry Kopeček and Douglas Sborov receive funding to continue their research in Multiple Myeloma treatment.

[Read more here](#)

BME's Sarang Joshi and the U's SCI team were featured in 'ALGORITHMS' for their work in big-data analysis

[Read more here](#)

AI Summit: Cutting-edge Talks from Across Campus and Beyond

[Read more here](#)

Excellence in Action: Faculty Leaders, Researchers and Educators

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