UC Berkeley
Office of the Chancellor

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April 8, 2025

TO: President Michael Drake
The Regents of the University of California

RE: Chancellor's Determination and Rationale for Approval of Research Funded by Philip Morris International

I write to advise you in accordance with Regent Policy 2309, that I have approved a research project on the Berkeley campus to receive funding from Philip Morris International (PMI), a Tobacco Industry Entity, as part of the Berkeley Sensor and Actuator Center (BSAC) Industry Affiliates Program. The project will be led by UC Berkeley Professor Liwei Lin.

Regent Policy 2309: Policy Requiring Special Review/Approval Procedures Prior to University Submission of Research Proposals to Tobacco Industry Funders, requires that each UC campus establish a process for ensuring that any proposal submitted to a company whose primary business is the manufacture and sale of tobacco products, or any agency that is substantially controlled or acting on behalf of a tobacco company, must first undergo scientific peer review.

The BSAC's terms of membership follow the Industrial Affiliate model, in which members can provide research funds as an aspect of their membership, and those funds are allocated by the Program's governing board to members of the Berkeley faculty. In connection to its membership in BSAC, PMI has provided such research funding, and the BSAC Board has selected three projects to support. Regents Policy 2309 requires, among other things, that research proposals for funding from the tobacco industry be scrutinized for scientific merit. Specifically, the policy requires campuses to appoint review committees to advise "regarding whether a proposed study uses sound methodology and appears designed to allow the researcher to reach objective and scientifically valid conclusions."

There is some question as to whether the BSAC proposals, although funded by PMI, require the mandated review. The Regents Policy applies to all proposals "intended for submission to tobacco industry funders" and, in this case, the proposals were submitted to the BSAC Board and not directly to PMI. Nevertheless, exercising an abundance of caution, we decided to submit the proposal to the review process.

A committee of Berkeley faculty members with subject matter expertise was appointed to review the proposal, and the committee was briefed on the requirements of the Regents Policy. The review committee has now completed its work. It affirms that the proposal exhibits the requisite scientific merit and recommends that the PI should be allowed to proceed with his research. The previous work has resulted in peer-reviewed publications on sensors for non-invasive detection of age and, separately, blood vessel monitoring with potential applications in medicine, user-interface design, and more.

The committee's recommendation was reviewed and endorsed by Vice Chancellor for Research, Kathy Yelick. I have also reviewed and concur with VCR Yelick's recommendation.

This letter confirms my approval of BSAC's request on behalf of Professor Lin and satisfies the Regent Policy 2309 requirement for a written determination.

Sincerely,

Richard K. Lyons

Attachments: Review Committee Report

CC: Theresa Maldonado, Vice President for Research & Innovation
Deborah Motton, Executive Director, Research Policy Analysis & Coordination
Tricia Lyall, Secretary and Chief of Staff to the Regents

BSAC Proposal Review Report

March 21, 2025

Almost two years ago, the committee reviewed Professor Liwei Lin's externally sponsored project, "A Miniaturized Ultrasound Bone Age Assessment Device." Apparently, the project went well, resulting in a prototype device using piezoelectric micromachined ultrasonic transducers (pMUTs) and driving electronics. The system has been used to conduct growth plate measurements on the ulna and radius in a wrist phantom. In addition, Professor Lin and his collaborators developed a machine learning-aided device that further increases the sensing resolutions for bone age assessment. Based on Professor Lin's written report and related publications, we deemed this project successful and good-quality research that accomplished the objective set several years ago.

Building on the successful results of this project, Professor Lin and his collaborators are now proposing to continue working on and extending the present results with broader applications in bioengineering in an attempt to conduct a comprehensive study of the developed ultrasound technology for three different aspects: (1) human-machine interfaces by ultrasound detection and haptic stimulation, (2) ultrasound sonochemistry by weakening or breaking chemical bonds, and (3) cymatics for ultrasound-enabled industrial self-assembly.

Upon reviewing his proposal, we think it is a natural extension of what they have achieved in the past two or three years. The objectives of the proposed research project are clear and focused, and the proposed research is novel with significant scientific merits. It has potential applications and impacts on diverse biomedical engineering, clinical healthcare, biochemistry, and medical sciences. Based on the committee's review, we think this is a quality and feasible research proposal, and we therefore endorse and support its approval.

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