

**Agendum
Oakland University
Board of Trustees Formal Session
October 18, 2024**

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF MAY 1 – JUNE 30, 2024**
A Recommendation

1. **Division and Department:** Academic Affairs/Research Office
2. **Introduction:** Oakland University contributes to our national agenda as a contributor to the nation's scientific and technological progress, both through the generation of new knowledge and ideas and the education and training of its students. Grants and contracts awarded to Oakland University play a critical role in the advancement of new research findings, and current research trends gives emphasis to inter-disciplinary, technology-driven, and product-oriented team efforts.

The Board of Trustees (Board) has authorized the President, or his or her designee, to receive and acknowledge grants and contracts to the University, but such grants and contracts must be reported to the Board not less often than quarterly for acceptance on behalf of the University.

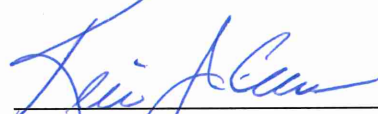
At this time, we request that the Board accept the grants and contracts reported on the attached Grants and Contracts Report, Attachment A, for the period of May 1 – June 30, 2024.

3. **Previous Board Action:** The Board accepts grants and contracts to Oakland University on a regular basis at its Formal Sessions.
4. **Budget Implications:** Grants and contracts contribute to the University through the recovery of direct and indirect expense incurred in support of research projects.
5. **Educational Implications:** Grants and contracts enhance the training and education of students.
6. **Personnel Implications:** Grants and contracts awards may provide salary support for faculty, post-doctoral fellows, undergraduate and graduate students, technicians, lab managers, and other personnel, as required by the funded research project or program.

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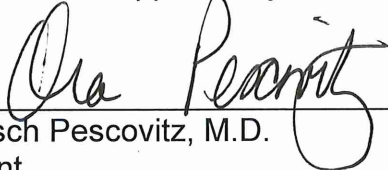
7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Research Office prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance from the Office of Legal Affairs when requested.
8. **Recommendation:** RESOLVED, that the Board of Trustees accept grants and contracts to Oakland University identified in the attached Grants and Contracts Report, Attachment A, for the period of May 1 – June 30, 2024.
9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President
on 10/14, 2024 by




Kevin J. Corcoran, Ph.D.
Interim Executive Vice President
for Academic Affairs and Provost

Recommended on 10/14, 2024
to the Board for approval by


Ora Hirsch Pescovitz, M.D.
President

Reviewed by


Joshua D. Merchant, Ph.D.
Chief of Staff and
Secretary to the Board of Trustees

Grants and Contracts Report for Period May 1 - June 30, 2024

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Sarah Beetham Department of Mechanical Engineering	National Science Foundation	ERI: Simulation and Modeling of Polydisperse Gas-Solid Flows. The goal of this project is to advance the knowledge of polydisperse, gas-solid flows and close the modeling gap that exists in characterizing and predicting their behavior at relevant scales.	\$200,000	\$200,000
Maria Beam Department of Sociology and Anthropology	Michigan Department of Education	Advancing School Social Work through Enhanced Training and Stipends in Southeast Michigan. This project will leverage the newly available SMART program funding to increase the training and readiness of Master of Social Work students focusing on K-12 educational settings by providing targeted training through the School Social Work Certificate program. This training will complement the insights gained from intern placements in diverse educational environments, including high-need areas.	\$228,750	\$228,750
Martha Escobar Department of Psychology	National Science Foundation	Collaborative Research: SEI: Creating a Lasting LEGACY - Scaling a Peer-Learning Community Model to Provide Advanced Placement Computer Science Preparation and Career Awareness for Black Young Women. Advanced Placement Computer Science Preparation (AP CSP) is a gateway course for interest in computer science. The NSF-funded Legacy program provides preparatory opportunities to the demographic least represented in AP CSP in Alabama, namely Black women. This project will scale Legacy up to two further states, Mississippi and Ohio, in order to (1) replicate the successful Legacy model in two new cultural settings, and (2) assess the components of the model that are most relevant for successful implementation.	\$76,606	\$198,981

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Wing-Yue Geoffrey Louie Department of Electrical and Computer Engineering	National Science Foundation	CAREER: Towards Programmable Social Robots for Everyone: A Teacher-in-the-Loop Learning from Demonstration Project. The objective of this project is to bridge the gap between non-technical experts and social robots so they can be effectively, intuitively, and efficiently used as well as personalized by the general population for society's needs.	\$102,798	\$586,842
Ramin Homayouni Foundation Medical Studies	Michigan Health Endowment Fund	Using Artificial Intelligence to Target Maternal SDoH Needs for Community Health Worker (CHW) Intervention. This project will enhance the effectiveness of CHWs in improving maternal and infant outcomes and by reducing disparities in two important ways. First, identify important SDoH factors that are associated with poor outcomes in our maternal population and use these data to identify individuals who have the highest SDoH needs for CHW outreach. Second, this approach will provide a mechanism to empower CHWs with critical data to aid highest SDoH needs.	\$199,919	\$199,919
Rebecca Boni School of Nursing	Sigma Theta Tau	Oncology Nurses' Professional Quality of Life Survey Development. This project is part of the Competency-Based Education, specifically as it relates to person-centered care and population health and will focus on Oncology nurses quality of life.	\$500	\$500

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Andrew Goldberg Eye Research Institute	National Institutes of Health	Molecular Basis of Rod and Cone Photoreceptor Outer Segment Structures. The goal of this research is to investigate the molecular and cellular mechanisms that govern vertebrate photoreceptor outer segment (OS) structure, a fundamental unsolved problem in photoreceptor cell biology. This basic science knowledge gap severely limits clinical understanding of (and treatments for) blinding diseases in humans and animals caused by mutations that disrupt OS structure.	\$387,723	\$1,967,042
Kwame Sakyi Department of Public and Environmental Wellness	National Institutes of Health	A Multi-Method, Multi-Domain Approach to Evaluating Preterm's Effect on Child Growth and Development. This research project will provide a clearer picture of complex mechanisms (the individual, family, and community) by identifying patterns and pathways of influence, clinical profiles of babies at risk for poor growth and development, and caregiver-driven strategies that promote child growth and development.	\$373,358	\$373,358
Kelly Berishaj School of Nursing	University of Michigan / (NSF)	Understanding Online to Offline Sexual Violence. The goal of this research includes data collection and analysis regarding online dating and incorporates trauma-sensitive language in interviews and support of victims.	\$37,803	\$131,831
Ken Elder Department of Physics	National Science Foundation	Collaborative Research: Nanoscale Heterostructures and Defects in Two-Dimensional Materials. The goal of this project is to develop computationally efficient models in both speed and power consumption of 2D materials and use the models to study the growth and properties in such systems.	\$99,822	\$388,000

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Rasul Chaudhry Department of Biological Sciences	National Institutes of Health	Efficacy of Neuro Stem Cells (NSC) in an Experimental Autoimmune Encephalomyelitis (EAE) Model of Multiple Sclerosis (MS). The main objective of this project is to use a multifaceted approach that simultaneously provides anti-inflammatory and neuroprotective response as well as promotes endogenous neural repair in MS patients.	\$150,000	\$600,000
Mi Hye Song Department of Biological Sciences	National Institutes of Health	Administrative Supplements for Equipment Purchase: The Temperature-Controlled Incubator. Under the current NIGMS R15 research award (1R15GM147857-01), which focuses on the Proteolytic Regulation of Centrosome Proteins, this project will replace an 11-year-old broken incubator for the cultivation of our genetic model system (<i>C. elegans</i>). This equipment is essential for the experimental plans for the genetic and molecular analyses using the in vivo model system.	\$12,985	\$562,885
Colin Wu Department of Chemistry	American Heart Association	American Heart Association SURE Program for Sabrina Villafranca. This program supports individuals from underrepresented groups in STEMM by providing research experience and curriculum.	\$11,520	\$11,520
Colin Wu Department of Chemistry	American Heart Association	American Heart Association SURE Program for Trystan Ward. This program supports individuals from underrepresented groups in STEMM by providing research experience and curriculum.	\$11,520	\$11,520
Colin Wu Department of Chemistry	American Heart Association	American Heart Association SURE Program for Abdul Yakubu. This program supports individuals from underrepresented groups in STEMM by providing research experience and curriculum.	\$11,520	\$11,520

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Geraldine Graham Upward Bound	U. S. Department of Education	Oakland University Project Upward Bound College Prep Academy. The Project Upward Bound College Preparatory Academy at Oakland University will serve 133 Upward-Bound-eligible participants from one target area encompassing the communities of Pontiac and Royal Oak Charter Township, Michigan.	\$739,409	\$3,554,850
Alycen Wiacek Department of Electrical and Computer Engineering	Oak Ridge Associated Universities	Augmented Reality for Multimodal Acoustic-based Breast Biopsy. This project aims to develop and evaluate an augmented reality system capable of integrating information from multiple imaging modalities in order to improve breast biopsies.	\$5,000	\$5,000
Randy Westrick Department of Biological Sciences	University of Michigan (AHA)	Bridging Basic and Clinical Science in Heart and Brain Inflammation: The Roles of Metabolic Stress and Senescence. This project will provide more scientific information as to why heart failure (HF) and cognitive impairment (CI) are so closely linked, what pathways are involved between the two, and how they can be mitigated to provide new strategies to combat HF and CI.	\$99,755	\$401,190
Jun Chen Department of Electrical and Computer Engineering	University of Michigan	Sensor Reduction for Large Battery Packs. Measuring terminal voltage and temperature for each sensor in an electric vehicle (EV) battery can incur a significant cost as EV batteries usually consist of hundreds or thousands of cells. To reduce cost, recent efforts have been made to reduce the number of sensors in battery pack, by selectively installing sensors in a subset of cells. This project aims to develop a technique to guarantee that such sensor reduction will not decrease state of charge estimation accuracy.	\$126,374	\$126,374

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Stephen Kent The OU Incubator	Grand Valley State University / MEDC	Business Accelerator Fund - Client Engagement Fund-Simple Vision Technology. This funding will provide Michigan Strategic Fund Business Incubators the ability to support small businesses in Oakland County like Simple Vision Technology.	\$20,000	\$20,000
Stephen Kent The OU Incubator	Grand Valley State University / MEDC	Business Accelerator Fund - Client Engagement Fund-Leelayan Inc. This funding will provide Michigan Strategic Fund Business Incubators the ability to support small businesses in Oakland County like Leelayan Incorporated.	\$7,000	\$7,000
Wing-Yue Geoffrey Louie Department of Electrical and Computer Engineering	Automotive Research Center / ARC	Automotive Research Center (ARC) A Center of Excellence in Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan. Gaming engines are being utilized for virtual prototyping of autonomous vehicles in the field and for testing the efficacy of manned-unmanned teaming strategies. This integration project seeks to leverage connections between the simulation developments as well as human subject studies on human-robot teaming.	\$35,809	\$60,402
Alycen Wiacek Department of Electrical and Computer Engineering	National Science Foundation	ERI: Development of a Wireless 3D Breast Ultrasound Imaging System for Low-Resource Settings. This project aims to develop a low-cost, point-of-care, 3D wireless ultrasound system and determine optimal features that can be extracted from this system to diagnose breast cancer.	\$200,000	\$200,000

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Maria Beam Department of Sociology and Anthropology	Michigan Department of Health and Human Services (MDHHS)	Master Social Work (MSW) Student Support - 2024. This project will utilize the MDHHS Section 1914 Program funds to support the education and training of MSW students committed to serving in public behavioral health roles within Michigan. This initiative will directly address the critical shortage of skilled behavioral health professionals by providing stipends to full-time, advanced-standing MSW students who commit to two years of post-graduation service in high-need public behavioral health settings across the State of Michigan.	\$409,741	\$409,741
Ankun Yang Department of Mechanical Engineering	Michigan State University	Thermo-Assisted Spin Coater. This project aims to develop a thermo-assisted spin coater to melt Li and Na into liquid states and spin-coat them into thin films. The proposed thermo-assisted spin coating technique has substantial market opportunities across various applications, particularly in the EV batteries, with potential customers as the numerous battery companies investing in next-generation alkali metal-based rechargeable	\$20,000	\$20,000
Steven Louis Department of Electrical and Computer Engineering	Institute of Electrical and Electronics Engineers	2024 International Conference on Microwave Magnetics. The Institute of Electrical and Electronics Engineers (IEEE) will sponsor the Oakland University 2024 International Conference on Microwave Magnetics.	\$5,000	\$5,000
Sergey Golovashchenko Department of Mechanical Engineering	Pacific Northwest National Laboratory / DOE	Local Property Improvement for Wrought Aluminum and Cast Magnesium. The main objective of this project is to develop properties for a universal alloy that is less dependable on costly and critical elements, which can streamline the supply chain and enable widespread usage of sustainable aluminum sheets in vehicles at a lower cost.	\$40,293	\$40,293

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
David Szlag Department of Chemistry	Michigan Department of Health and Human Services	SEWER 2025 - SEWER Network Project. The goal of this research is to continue our existing actionable wastewater surveillance program at two universities including residential halls, apartments, and campus surveillance points over the next four semesters.	799,439	4,122,525
Total Awards			\$4,412,644	\$14,445,043