

**Agendum
Oakland University
Board of Trustees Formal Session
Aug 7, 2025**

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF MAY 1 – JUNE 30, 2025
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 give emphasis to interdisciplinary, 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, 2025

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 expenses 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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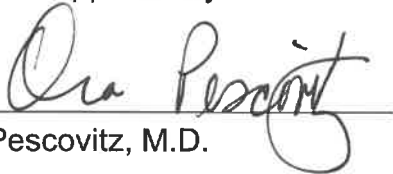
7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Research Office prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance from the Office of Legal Affairs 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, 2025.
9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President
on July 28, 2025 by



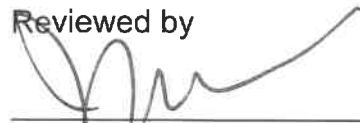
Amy Thompson, Ph.D., FESG, CHES
Executive Vice President for
Academic Affairs and Provost

Recommended on 7/29, 2025
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, 2025

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Krzysztof Kobus Department of Mechanical Engineering	University of Michigan / National Aeronautics and Space Administration	Earth System Sciences (Science, Technology, Engineering and Math) Camps, Outreach, and Teacher Training. This training camp will offer learning experiences for students, often focusing on hands-on activities, field trips, and exposure to career opportunities in environmental and Earth sciences.	\$15,000	\$65,001
Ankun Yang Emenike Chukwuma Department of Mechanical Engineering	University of Michigan / National Aeronautics and Space Administration	Artificial Intelligence-Driven Solid-Electrolyte Interphase Optimization for Sodium Metal Batteries. This project will integrate artificial intelligence for material discovery, in-situ Raman spectroscopy for real-time solid-electrolyte interphase monitoring, and adaptive optimization algorithms to enhance solid-electrolyte interphase stability.	\$5,500	\$5,500
Vandre Figueiredo Hanan Tlais Department of Biological Sciences	University of Michigan / National Aeronautics and Space Administration	The Effect of Unilateral Limb Immobilization in Mice on Muscle Ribosome Biogenesis. This project will determine the effects of restricting movement of one limb on skeletal muscle growth and protein synthesis. More specifically, on the production and assembly of ribosomes, which are essential for translating mRNA into proteins.	\$5,000	\$5,000

Grants and Contracts Report for Period: May 1 - June 30, 2025

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Zhe Wang Erin Witherspoon Department of Chemistry	University of Michigan / National Aeronautics and Space Administration	Photocatalytic Generation of Reactive Oxygen Species by Single-Walled Carbon Nanotubes for Green Air Disinfection in Ionic Liquid. This project will investigate the long-term stability and activity of the semi-conducting single-walled carbon nanotubes and evaluate ionic liquid as a long-term storage material for superoxide. Additionally, this project will investigate the disinfectant activity of the system against various pathogens.	\$4,992	\$4,992
Marco Gerini-Romagnoli Morgan DeCroix Department of Mechanical Engineering	University of Michigan / National Aeronautics and Space Administration	Effect of 3D Printing Orientation on the Adhesion Properties of Bonded Single-Lap Joints. This project will investigate the effect of build orientation on the mechanical properties of additively manufactured bonded single-lap joints. The lap shear strength, ultimate elongation, and failure mode of 3D printed ABS coupons with different deposition angles will be evaluated.	\$3,997	\$3,997
Marco Gerini-Romagnoli Sarah Hohensee Department of Mechanical Engineering	University of Michigan / National Aeronautics and Space Administration	Metal Substrate Adhesion Using Soy-Based Biopolymers. This project will investigate using biodegradable plastics made from soybeans as an adhesion for metals.	\$3,999	\$3,999
Laila Guessous Department of Mechanical Engineering	University of Michigan / National Aeronautics and Space Administration	Michigan Space Grant Consortium Administrator. To serve as Oakland University's affiliate representative to Michigan Space Grant Consortium and for serving on the Michigan Space Grant Consortium Executive Board.	\$1,500	\$19,102

Grants and Contracts Report for Period: May 1 - June 30, 2025

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Mst Shapna Akter Department of Computer Science and Engineering	University of Michigan / National Aeronautics and Space Administration	Efficient Neuro-Symbolic Large-Language-Model-Driven Framework for Real-Time Detection and Mitigation of Software Vulnerabilities in Autonomous Spacecraft Systems. Autonomous spacecraft systems rely on complex software for mission-critical tasks in isolated environments. This project aims to make them less vulnerable to bugs, memory leaks, and misconfigurations that could compromise mission success.	\$5,000	\$5,000
Sarah Beetham Department of Mechanical Engineering	University of Michigan / National Aeronautics and Space Administration	The Role of Heterogeneity in Iron Particle Combustion-Toward Renewable Extraterrestrial Energy Sources. This project will investigate the use of dry metal fuel combustion for high-yield generation of energy from iron, which does not require hazardous chemical processes to facilitate recycling.	\$5,000	\$5,000
Nasser Nasrabadi Department of Electrical and Computer Engineering	West Virginia University / National Science Foundation	Towards the Creation of a Large Dataset of High-Quality Face Morphs - Phase III. Building upon Phase II's completion of several face morph datasets using different morphing algorithms for adults and juveniles, this phase will use even more morphing datasets.	\$138,000	\$138,000

Grants and Contracts Report for Period: May 1 - June 30, 2025

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Wing-Yue Louie Department of Electrical and Computer Engineering	National Science Foundation	Towards Programmable Social Robots for Everyone using a Teacher-in-the-Loop Learning from Demonstration Framework. This research project will help 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. Towards that goal, this CAREER will develop an end-to-end learning-from-demonstration framework for non-technical experts to teach a social robot a task by keeping the teacher-in-the-loop throughout the entire robot learning process.	\$107,469	\$586,000
Rebecca Boni School of Nursing	Sigma Global Nursing Excellence	Professional Quality of Life Among Oncology Nurses in the United States. This project will identify the level of professional quality of life experienced among oncology nurses and to examine differences between the professional quality of life of inpatient and outpatient oncology nurses.	\$5,000	\$5,000

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Sarah Beetham Department of Mechanical Engineering	National Science Foundation	Research Experiences for Teachers Site: More than Automotive--Toward a Healthier, Sustainable Society. This project will shift the local vernacular on "What is an engineer?" from an automotive stereotype to a broader portrait of problem solvers that tackle society's most pressing issues toward a healthier and more sustainable society to promote broader student participation in STEM educational and career pathways. It will also cultivate sustainable and meaningful relationships between engineering and education faculty at Oakland University and the surrounding community of schools.	\$599,821	\$599,821
Jun Chen Department of Electrical and Computer Engineering	University of Michigan / Michigan Translational Research and Commercialization	Sensor Reduction for Large Battery Packs (Year 2). Battery cell state-of-charge estimation is of paramount importance to ensure battery efficiency and safety. This research project will develop a cost-effective, sensor-reducing method to estimate battery cell state-of-charge.	\$119,845	\$119,845
G. Rasul Chaudhry Department of Biological Sciences	National Institutes of Health	Efficacy of Neuro Stem Cells in an experimental autoimmune encephalomyelitis model of Multiple Sclerosis. Multiple sclerosis is a debilitating incurable disease and presents a major public health problem leading to great economic and societal burden. This project will determine the capabilities of neural stem cells derived from primitive mesenchymal stem cells to provide anti-inflammatory response and neuroprotection as well as neuroregeneration in an animal model of multiple sclerosis.	\$150,000	\$600,000

Grants and Contracts Report for Period: May 1 - June 30, 2025

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Sergey Golovashchenko Department of Mechanical Engineering	Ohio State University / National Science Foundation	Industry-University Cooperative Research Center for Industrial Metal Forming. The mission of the Center for Industrial Metal Forming is to perform cutting-edge, pre-competitive fundamental research in metal forming science and engineering in collaboration with industrial Members. This center is comprised of Ohio State University, Oakland University, and the University of New Hampshire. Each member will bring unique expertise and facilities to the consortium and will collaborate closely with its industrial Members to conduct research and prepare engineers and professionals for the metal forming industry through academic programs, industrial training, and workshops.	\$164,000	\$164,000
Jun Chen Department of Electrical and Computer Engineering	Michigan State University / Michigan Economic Development Corporation	Affordable Autonomous Vehicle Platform for University Research and Education (ADVANCE Grant). The deliverables of this project will be a prototype with all necessary electronic devices installed, a software bundle that includes flexible interface for research development and well-developed user cases for educational activities, and a report on commercialization strategy, including the desired features from customers, market analysis, and supply chain analysis.	\$55,000	\$55,000

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Tomoko Wakabayashi Department of Human Development and Child Studies	Michigan Association of Intermediate School Administrators	Evaluation of the Birth-to-Age 3 Early Literacy Training Program. This project will evaluate the Birth to Age 3 Literacy Training in Mount Pleasant, MI. Specifically, the evaluation will determine if knowledge and self-efficacy were improved because of the training received.	\$7,000	\$7,000
Daniel Aloï Department of Electrical and Computer Engineering	University of Michigan / Michigan Translational Research and Commercialization	Low Cost Antenna/Radar Measurement System for ADAS Development. The goal of this research is to accelerate the transfer of new technologies into the mobility and transportation sectors.	\$150,124	\$150,124
David Szlag Department of Chemistry	Army Research Laboratory	Clinton River Microbial Source Tracking. This goal of this research is to identify the source of fecal contamination in storm water in conjunction with Assessment of Chemical Exposures and Macomb County.	\$82,054	\$82,054
Maria Beam Department of Sociology, Anthropology, Social Work, and Criminal Justice	Health Resources and Services Administration	Behavioral Health Workforce Education and Training Program. This program will address the critical shortage of mental health paraprofessionals by providing an opportunity for undergraduate Social Work Students, Master of Social Work students, and pre-clinical Counseling Students master's-level counseling over four years.	\$562,821	\$562,821

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Michael Kranak Department of Human Development and Child Studies	Havenwyck Hospital	Behavioral Stabilization, Assessment, and Functional Education. Due to an increased number of individuals with problem behavior as compared to Havenwyck Hospital's typically served population, this consultation will build upon their existing strengths and opportunities with the potential for establishing a long-term collaboration and partnership.	\$6,200	\$6,200
Nicole Wagner Department of Biological Sciences	Clinton River Watershed Council	Areas of Concern Great Lakes Restoration Initiative Grant. This funding will be used for monitoring and data collection to serve the Loss of Fish and Wildlife Habitat, Degradation of Benthos and Eutrophication, and Undesirable Algae Beneficial Use Impairments.	\$8,531	\$8,531
Total			\$2,205,853	\$3,201,987