

**Agendum  
Oakland University  
Board of Trustees Formal Session  
September 11, 2023**

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY  
FOR THE PERIOD OF MAY 1 – JUNE 30, 2023**  
**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.

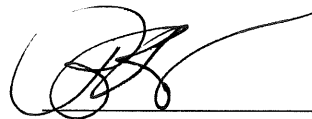
At this time, we request that the Board accept the grants and contracts reported on the attached Grants and Contracts Report, Attachment A, for the period of May 1 through June 30, 2023.

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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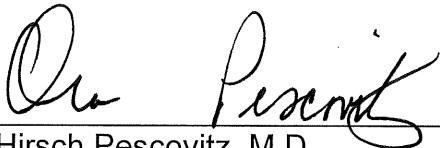
7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Research Office prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance from the Office of Legal Affairs 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, 2023.
9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President  
on 9/1, 2023 by



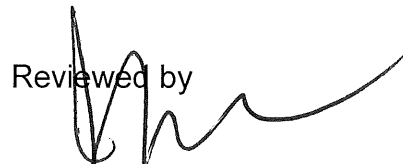
Britt Rios-Ellis, M.S., Ph.D.  
Executive Vice President for  
Academic Affairs and Provost

Recommended on 9/5, 2023  
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, 2023

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Ziming Yang Department of Chemistry	National Science Foundation	<b>CAREER: Mechanistic Understanding of Organic Carbon and Nitrogen Transformations in Hydrothermal Systems.</b> The goal of this research is to understand organic carbon and nitrogen formation and transformations in deep ocean hydrothermal systems. This research will also innovatively merge hydrothermal geochemistry with green chemistry to address current challenges in industry and chemical synthesis.	\$ 59,208.00	\$ 592,632.00
Kenneth Elder Department of Physics	National Science Foundation	<b>Collaborative Research: Nanoscale Heterostructures and Defects in Two-Dimensional Materials.</b> The search for materials with applications in electronics is driven by the need to increase speed and reduce power consumption. Recently attention has moved to more complex 2D materials such as hexagonal-boron nitride and transition metal dichalcogenides. The goal of the proposal is to develop computationally efficient models of such 2D materials and use the models to study the growth and properties in such systems.	\$ 97,805.00	\$ 388,000.00
Lan Jiang Department of Biological Sciences	National Institutes of Health	<b>Acquisition of an Olympus SZX7 fluorescent stereo microscope for dissecting late-stage Drosophila embryos and selecting Drosophila embryos with GFP/RFP tagged genes.</b> This funding is for the acquisition of an Olympus SZX7 fluorescent stereo microscope to replace an old and broken scope, which was used to dissect late-stage Drosophila embryos in our laboratory.	\$ 23,487.00	\$ 481,429.00

**Grants and Contracts Report for Period May 1 - June 30, 2023**

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
<p><b>Yongsoon Yoon</b> Department of Mechanical Engineering</p>	<p>National Science Foundation</p>	<p><b>ERI: Hydraulic Cylinder Diagnostics Using Nonlinear Inverse Model Estimation and Frequency Domain Analysis.</b> The long-term research goal for this project is to seamlessly design system diagnostics of mechanical and manufacturing systems so that their performance and efficiency can be robustly maintained over lifetime.</p>	<p>\$ 199,865.00</p>	<p>\$ 199,865.00</p>
<p><b>Julie Kruse</b> School of Nursing</p>	<p>Health Resources and Services Administration</p>	<p><b>ASPIRE: Achieving Success through Professionalism, Integrity, Resilience, and Engagement.</b> The purpose of the Oakland University Nursing Workforce Diversity project, Achieving Success through Professionalism, Integrity, Resilience, and Engagement, is to increase nursing progression and graduation rates and retention in practice for students who are from diverse and/or disadvantaged backgrounds--specifically those from racial and ethnic minorities underrepresented among RNs.</p>	<p>\$ 548,199.00</p>	<p>\$ 2,195,252.00</p>
<p><b>Tomoko Wakabayashi</b> Department of Human Development and Child Study</p>	<p>CARE House of Oakland County</p>	<p><b>Family Resilience Home Visiting Program.</b> This project will allow an Oakland University PhD student to learn from the vast amount and types of applied early childhood research conducted at HighScope as a HighScope Graduate Research Intern (HighScope GRI). OU early childhood professors will serve to co-mentor the HighScope GRI with HighScope researchers, and will support/consult as part of this partnership.</p>	<p>\$ 28,000.00</p>	<p>\$ 28,000.00</p>
<p><b>Zissimos Mourelatos</b> Department of Mechanical Engineering</p>	<p>University of Michigan</p>	<p><b>Reliable Deep Learning for Data-Driven Mobility Prediction under Uncertainty for Off-Road Autonomous Ground Vehicles.</b> This research will develop a reliable (high-confidence) deep learning approach for off-road mobility prediction under uncertainty in the presence of scarce data.</p>	<p>\$ 53,198.00</p>	<p>\$ 165,684.00</p>

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
<b>Chhabi Govind</b> Department of Biological Sciences	National Institutes of Health	<b>Roles for Chromatin Remodeler RSC and Histone Acetyltransferases in Regulating Chromatin Structure and Transcription.</b> This research will examine the role of RSC regulatory domains and histone modifications in organizing chromatin, and promoting gene expression.	\$ 62,364.00	\$ 492,199.00
<b>Dao-Qi Zhang</b> Eye Research Institute	Wayne State University / National Institutes of Health	<b>Dynamic Visual Signaling and Light Adaptation in the Retinal Interneurons.</b> The long-term goal of this study is to examine how the ON and OFF sign switch occurs in the retinal bipolar and amacrine cells and how this switch plays a role in shaping spikes in ganglion cells.	\$ 19,782.00	\$ 100,293.00
<b>Jia Li</b> Department of Electrical and Computer Engineering	Air Force Office of Scientific Research	<b>Interpretable Multimodal Sensor Fusion. Interpretable Multimodal Sensor Fusion.</b> This investigation will reveal the link between sensor behaviors and decision making, increase the fusion system's resilience to adversarial attack, and enable domain adaptation when sensors are deployed in a new environment.	\$ 158,227.00	\$ 461,078.00
<b>Amanpreet Kaur</b> Department of Electrical and Computer Engineering	National Science Foundation	<b>ERI: Low-Cost, Miniaturized, Wideband and Wide-Angle Beam Steering Array For 5G Communication System.</b> This research aims to develop a miniaturized broadband, a low-cost phased array with fast beam switching/scanning capability.	\$ 198,496.00	\$ 198,496.00
<b>Wing-Yue Geoffrey Louie</b> Department of Electrical and Computer Engineering	University of Michigan /ARC (DOD)	<b>After Action Reviews with a Virtual Spectator System for Improving Human-Robot Team Performance.</b> The objective of this project is to integrate the Virtual Spectator system in the SACO environment to construct an After Action Review.	\$ 39,984.00	\$ 39,984.00

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Taras Oleksyk Department of Biological Sciences	Helmsley Charitable Trust	<b>Comprehensive Study of T1DM Exomes in Ukraine.</b> The goal of this project to evaluate genetic components of Type 1 diabetes in a single population residing in Ukraine.	\$ 723,265.00	\$ 1,561,256.00
Andrew Goldberg Eye Research Institute	National Institutes of Health	<b>Investigation of the Molecular Basis of Rod and Cone Photoreceptor Structure.</b> This research will improve understanding of healthy rod and cone cell structure and the changes that occur during progressive retinal disease, and may suggest strategies for preserving sight.	\$ 389,778.00	\$ 1,955,245.00
Sergey Golovashchenko Department of Mechanical Engineering	General Motors Corporation	<b>Coefficient of Friction Evaluation for Forming.</b> The goal of this project is to determine the coefficient of friction for several sheet aluminum and sheet steel substrates with different oils coated on them.	\$ 47,348.00	\$ 47,348.00
Rebecca Clemans Foundational Medical Studies	Michigan State University / MDHHS Michigan Department of Human Services	<b>MI CARES 3.0 grant.</b> The main objective of this project is to engage additional medical schools in providing electives and other curricular activities through shared learning and resources. This grant aims to encourage medical school collaborations around training medical students on treating persons with a substance use disorder.	\$ 27,378.00	\$ 27,378.00
David Schwartz Counseling Center	The Children's Foundation	<b>Grizz Recovery Program Children's Foundation (CRP).</b> This funding will provide support for students in recovery, with the goal to achieve academic success while enjoying a genuine college experience free from alcohol and other drugs. The CRP and its services are designed to empower students holistically to thrive to their fullness.	\$ 45,000.00	\$ 45,000.00

## Grants and Contracts Report for Period May 1 - June 30, 2023

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
David Schwartz Counseling Center	Community Foundation for Southeast Michigan	<b>Grizz Recovery Program Community Foundation (CRP).</b> This funding will provide support for students in recovery, with the goal to achieve academic success while enjoying a genuine college experience free from alcohol and other drugs. The CRP and its services are designed to empower students holistically to thrive to their fullness.	\$ 56,000.00	\$ 56,000.00
Melissa Jones Department of Human Movement Science	American College of Sports Medicine	<b>Stigma, Health, and Activity in Pregnancy: The SHAPE Study.</b> The purpose of this research is to examine how weight stigma or weight bias internalization relate to physical activity, time spent sitting, and maternal-child health outcomes among pregnant individuals.	\$ 9,993.00	\$ 9,993.00
Subramaniam Ganesan Department of Electrical and Computer Engineering	Integral and Open Systems Incorporated	<b>Systems Architecture for Localization and Mapping of Objects in a non-GPS Environment.</b> Integral and Open Systems along with Oakland University will perform a feasibility study to investigate the system architecture for a full SLOWJAMS capability to enable RPO and Docking on low-power platforms in a GPS-Denied environment.	\$ 75,000.00	\$ 75,000.00
David Szlag Department of Chemistry	Michigan Department of Health and Human Services	<b>Detecting COVID-19 in Sewage Runoff.</b> The goal of this research is to continue our existing actionable COVID-19 wastewater surveillance program at two universities including residential halls, apartments, and campus surveillance points over the next four semesters.	\$ 701,445.00	\$ 3,191,771.00

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
<p><b>Wing-Yue Geoffrey Louie</b> Department of Electrical and Computer Engineering</p>	<p>National Science Foundation</p>	<p><b>CAREER: Towards Programmable Social Robots for Everyone: A Teacher-in-the-Loop Learning from Demonstration Framework.</b> The long-term goal of this research 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. Towards that goal, this CAREER will develop an end-to-end LfD 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.</p>	<p>\$ 16,000.00</p>	<p>\$ 602,842.00</p>
<p><b>Huirong Fu</b> Computer Science and Engineering</p>	<p>National Science Foundation</p>	<p><b>CyberCorps Scholarship for Service: Cyber Defense of Intelligent Systems.</b> The primary objective of this program is to provide scholarships to attract, recruit and train twenty (20) highly qualified students from diverse backgrounds to enter the field of cybersecurity and to work after graduation for a federal, state, local, or tribal government organization in a position related to cybersecurity.</p>	<p>\$ 141,984.00</p>	<p>\$ 3,198,315.00</p>
<p><b>Michele St. Denis</b> School of Nursing</p>	<p>Corewell Health</p>	<p><b>Corewell Health Participant Support-Corewell Health Nurse Scholars Program.</b> The goal of this project is to increase the number of nursing students matriculating in and graduating from OU's School of Nursing by approximately one-third over current levels. This program will also provide funding for infrastructure investment to allow OU SON to hire faculty, staff and enhance resources to accomplish expansion of its existing accelerated second degree and Basic-BSN nursing programs.</p>	<p>\$ 10,375,000.00</p>	<p>\$ 20,700,000.00</p>



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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Daniel Aloï Department of Electrical and Computer Engineering	National Institute of Standards and Technology	<b>Oakland University Vehicular Wireless Communications Systems Testing and Standards Facility.</b> The AAMS project will support research, development and certification of automotive antennas enabling vehicle connectivity, autonomy and infotainment as well as for antennas in the military, aviation, railroad and military sectors.	\$ 3,000,000.00	\$ 3,000,000.00
<b>Total Awards</b>			<b>\$ 17,096,806.00</b>	<b>\$ 39,813,060.00</b>