

**Agendum
Oakland University
Board of Trustees Formal Session
October 11, 2021**

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF JULY 1 – AUGUST 31, 2021**
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 July 1 through August 31, 2021.

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 July 1 – August 31, 2021.
9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President
on 10/6, 2021 by



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

Recommended on 10/7, 2021
to the Board for approval by



Ora Hirsch Pescovitz, M.D.
President

Reviewed by
 10/01/21

Grants and Contracts Report for Period July 1 - August 31, 2021

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Cumulative Award Amount YTD
Sayed Nassar Department of Mechanical Engineering	National Science Foundation	IUCRC Phase I Oakland University: Center for Composite and Hybrid Materials Interfacing. This research will involve interdisciplinary teams to address the emerging need to transform current labor-intensive, experience-based CHMI practice into science-based, automated CHMI processes.	\$ 140,000	\$ 140,000
Colin Wu Department of Chemistry	American Heart Association	Evaluation of Cardiovascular Risk of BRCA1 Mutation Carriers. The purpose of this research is to define the cytotoxicities of BRCA1 mutations that are know to be harmful as well as unclassified variants that have unknown phenotypes.	\$ 35,000	\$ 189,000
Luis Villa Diaz Department of Biological Sciences	National Science Foundation	Regulation of Self-Renewal of Pluripotent Stem Cells by Intern Signaling. Our long-term objective for this research is to understand the molecular mechanisms that regulate their decision to commit in self-renewal or to go in to differentiation. We propose that signaling initiated by the transmembrane protein integrin alpha6 can prevent the nuclear accumulation of transcription factors associated with cell differentiation, and therefore sustain self-renewal.	\$ 72,773	\$ 622,951
Florence Dallo Department of Public and Environmental Wellness	Blue Cross Blue Shield of Michigan	An Educational Intervention to Increase Vaccination Rates among Arab American Children in Michigan. Research suggests that vaccine uptake is lower among the foreign-born compared to the US-born population. One such group are individuals from the Middle East (from hereafter, referred to as Arab Americans). To fulfill the gaps identified above, this study has three specific aims: 1) To obtain baseline date; 2) To increase vaccine rates; 3) To assess the effectiveness of the intervention.	\$ 50,000	\$ 50,000
Xiangqun Zeng Department of Chemistry	National Institutes of Health	Biosensors for Determination of Multiple Neurotransmitters in Vertebrate Retina. This project aims to develop a paradigm-shifting neurosensing technology for direct, simultaneous monitoring of the activity of multiple neurotransmitters in the vertebrate retina.	\$ 230,224	\$ 230,224

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Cumulative Award Amount YTD
Zissimos Mouralatos Department of Mechanical Engineering	University of Michigan / United States Department of Defense	Reliable Deep Learning for Data-Driven Mobility Prediction under Uncertainty for Off-Road Autonomous Ground Vehicles. This research will develop a reliable (high-confidence) deep learning approach for off-road mobility prediction under uncertainty in the presence of scarce data.	\$ 49,084	\$ 49,084
Wing-Yue Geoffrey Louie Department of Electrical and Computer Engineering	University of Michigan / United States Department of Defense	A Virtual Spectator System for a Multi-User Video Game Environment. In this project, we will develop an unreal engine based virtual spectator system for multi-user video game environments to address the aforementioned challenges.	\$ 74,804	\$ 74,804
Randal Westrick Department of Biological Sciences	Versiti / National Institutes of Health	Characterization of an Isoform Specific Anticoagulant Function of TFPI-alpha. We have recently identified that the tissue factor pathway inhibitor alpha-Factor V interaction is physiologically relevant. The aim of this grant is to explore this interaction in a glomeruloid body phenotype.	\$ 6,158	\$ 17,768
Luca Cucullo Department of Foundational Medical Studies	Texas Tech University / National Institutes of Health	Blood and Brain-Based Biomarkers of Injury from Emerging Tobacco Products. The main goal of this research is to determine and validate a set of specific blood and tissue biomarkers to assess the cerebrovascular impact of e-cigarettes and other emerging tobacco products as well as the risk of developing neuroinflammatory disorders.	\$ 219,746	\$ 334,201
Ziming Yang Department of Chemistry	Research Corporation for Science Advancement	How May Biosignatures in Icy Ocean Worlds be Affected by Plume Ejection? This project seeks to bridge an essential gap for interpreting and validating plume measurements in future search-for-life missions.	\$ 55,000	\$ 55,000
Mark Manning Department of Psychology	Michigan State University / American Cancer Society	Choice, Implementation Intentions and At-Home Colorectal Cancer Screening. The goal of this research is to design and implement a module to promote colorectal cancer education and awareness among African Americans.	\$ 83,384	\$ 83,384

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Sayed Nassar Department of Mechanical Engineering	National Science Foundation	IUCRC Phase I: Oakland University: Center for Composite and Hybrid Materials Interfacing (CHMI) - Supplement. This funding will support a membership whose projects will be determined at the next Industry Advisory Board Meeting.	\$ 30,000	\$ 30,000
Dao Qi Zhang Eye Research Institute	Wayne State University / National Institutes of Health	Dynamic Visual Signaling and Light Adaptation in the Retinal Interneurons. 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	\$ 19,782
Randal Westrick Department of Biological Sciences	National Institutes of Health	Thrombosuppressive Mechanisms of Novel Mouse Mutants Discovered through an ENU Mutagenesis. This study will seek to identify, validate and functionally characterize two thrombosis suppressor mutations that were previously identified through an ENU mutagenesis screen.	\$ 375,000	\$ 1,875,000
Mary Jamieson Department of Biological Sciences	Charter Township of Oakland Parks and Recreation	Pollinator Surveys and Outreach. The Oakland Township Parks & Recreation Natural Areas Stewardship Program will work with Oakland University and Dr. Mary Jamieson to implement a pollinator/insect monitoring and outreach program. This would include surveys throughout the summer to monitor changes in pollinator populations in response to habitat restoration work.	\$ 3,500	\$ 7,500
Mary Jamieson Department of Biological Sciences	Oakland County	Oakland County Parks Plant and Pollinator Survey. The overall goal of this project is to obtain preliminary data on bee and butterfly abundance and diversity at two Oakland County Parks' properties: Orion Oaks and Springfield Township.	\$ 2,000	\$ 2,000
Ramona Borowicz Lowry Center	Michigan State University / WK Kellogg Foundation	Michigan Farm to Early Care and Education (ECE) Procurement Pilot Mini-Grant. Farm to ECE procurement pilots will help Lowry Center staff obtain locally-grown, healthy foods from a variety of sources – farmers, farmers markets, food hubs and/or distributors - to serve in meals, snacks, and/or educational activities. Through the pilot grant, we will help developing a collective local food sourcing solution as envisioned by the sponsor.	\$ 1,000	\$ 1,000

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Cumulative Award Amount YTD
Amany Tawfik Eye Research Institute	National Institutes of Health	Homocysteine's Role in Age-Related Macular Degeneration. Age-related macular degeneration (AMD) is the leading cause of vision loss among the elderly population. The goal of this research is to conduct in vitro experiments. Our specific aims include: 1: Testing the hypothesis that HHcy induces the metabolic switch from mitochondrial respiration to glycolysis via activation of GLUT1 in RPE cells; 2: Testing the hypothesis that inhibition of NMDAr preserves RPE function and reduces the development of CNV under HHcy; and 3: Testing the hypothesis that elimination of excess Hcy by dietary supplementation or genetic/ pharmacological modifications prevents the progression of AMD.	\$ 253,391	\$ 253,391
Valance Washington Department of Biological Sciences	National Institutes of Health	Translation Studies of the Planet Specific Receptor Trem Like Transcript. We hypothesize that Triggering receptor expressed in myeloid cells (TLT-1's) interaction with fibrinogen is a major pathway by which the immune system commandeers the hemostatic system for immune function. In this application we will mechanistically define this interaction and demonstrate its usefulness as a therapeutic target.	\$ 368,912	\$ 368,912
Mohamed Al-Shabrawey Department of Foundational Medical Studies	National Institutes of Health	BMP2/ALKs Signaling System in Diabetic Retinopathy. The goal of this project is to test the hypothesis that in diabetes, Bone morphogenetic protein-2 (BMP2) compromises blood-retinal barrier and induces extracellular matrix formation through the endothelial Alk2/3-dependent mechanism. The translational significance of this research is the therapeutic potential of inhibition of BMP2/Alks signaling to improve the visual outcomes in diabetic retinopathy with the ultimate goal of overcoming the limiting factors of current therapies in the prevention of extracellular matrix deposition.	\$ 331,362	\$ 331,362
Total Awards			\$ 2,401,120	\$ 4,735,363