Agendum
Oakland University
Board of Trustees Formal Session
April 12, 2024

ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY FOR THE PERIOD OF JANUARY 1 – FEBRUARY 29, 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 January 1 through February 29, 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 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.

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 January 1 – February 29, 2024.

9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President
on 4/9, 2024 by

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

Recommended on 4/10, 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 January 1 - February 29, 2024

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Taras Oleksyk Department of Biological Sciences	Helmsley Foundation	**A Comprehensive Study of T1D Exomes (Phase 2).** The overall goal of this effort is to build a cohort with at least 10,000 T1D patients who have given their consent, alongside 10,000 corresponding control subjects. This goal will be achieved by enabling a network collaboration of researchers, and endocrinology specialists in the region engaging various clinical centers catering to approximately 50,000 registered patients that benefit from a state-endorsed insulin provision initiative.	$3,288,575	$3,288,575
Colin Wu Department of Chemistry	National Science Foundation	**CAREER: Molecular Recognition of 8-Oxoguanine Modified G-Quadruplexes by the FANCJ Helicase and the REV1 Polymerase.** The long-term goals of this research are to establish a Molecular Biophysics program at Oakland University and to develop an interdisciplinary single-molecule research community with my colleagues.	$181,239	$945,910
Gopalan Srinivasan Department of Physics	University of Connecticut / NSF	**EAGER: Magnetoelectric Thin Films for High Frequency Devices.** The goal of this research is fabrication of high frequency devices. Efforts will focus on improvement of electric and magnetic field tunability of the devices and reduction of insertion loss.	$26,025	$51,195

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Elizabeth Delorme-Axford Department of Biological Sciences	PCR Biosystems	**PCR Biosystems: PCRBIO Research Grant.** This project will investigate the methyl transferase Rrp8 in the yeast Saccharomyces cerevisiae. Nucleomethylin (the mammalian homolog of yeast Rrp8) has been associated with obesity and nutrient availability signaling. Interestingly, our preliminary data indicate that rrp8 null cells do not survive prolonged nutrient deprivation (nitrogen starvation), suggesting that RRP8 may play an important role in mediating cell survival under prolonged nutrient-stress conditions.	$6,000	$6,000
Hongwei Qu Department of Electrical and Computer Engineering	Michigan Economic Development Corporation	**Semiconductor Certificate Program for Engineers.** This project is to develop a 3-course training curriculum on semiconductor technologies and offer the courses to 20 engineers at the Active Safety, Automated Driving & Chassis Control Systems division of General Motors (GM). The courses will cover semiconductor materials, devices, technologies, device modeling and design, as well as integrated circuit design and simulation. The curriculum can be expanded to other automotive engineers in Metro Detroit area. The training program will be conducted through the Professional and Continuing Education (PACE) program at Oakland University.	$278,100	$278,100
Michelle Hammond Department of Management and Marketing	University of Durham / United States Army	**Leadership Identity Dynamics in Work and Beyond: Conceptualization, Measurement, and Intervention.** The goal of this research program is to advance the academic understanding of leadership identities and their development by shedding light on processes of identity construction and deconstruction from a cross-domain perspective.	$386,870	$386,870

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Dwayne Baxa School of Medicine	Seaspine	**Evaluation of Bacteriostatic Characteristics of NanoMetaline.** This project seeks to determine the ability of selected Gram-negative and Gram-positive organisms to form biofilms on this implant device compared to Titanium and PEEK.	$3,132	$19,942
Jonathan Maisonneuve Department of Mechanical Engineering	National Science Foundation	**ERI: Fertilizer-Based Liquid Desiccants: New Possibilities for Energy Efficient Dehumidification and Water Recycling.** One promising solution for sustainable food production in indoor plant environments is the novel concept of using fertilizer as a dehumidification agent for climate control. This project will support the development of sustainability hubs in Detroit and Pontiac through collaboration with student, community, and industry partners on a series of outreach and education initiatives.	$18,000	$218,000
David Szlag Department of Chemistry	Michigan Department of Health and Human Services	**SEWER Network Project - 2024** The goal of this research is to test sewage samples provided by Aquasight in accordance with Michigan State University testing protocols and procedures for sewer shed methods optimization and standardization.	$126,847	$3,318,619
Stephen Kent OU Incubator	Grand Valley State University / MEDC	**Accelerator Development Funds - Discretionary Funds.** The objective for this project is to make accelerator services available statewide, make services available to high priority companies in regions, share accelerator best practices statewide, build lasting collaborations, and create jobs to catalyze multiplier effect.	$30,000	$390,000

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Virginia Uhley School of Medicine	Novo Nordisk	**Health Care Professional Consulting Services agreement.** This project aims to refine the "FORWARD" Obesity Curriculum Project by first undergoing review among medical school educators and to subsequently conduct a quality improvement (QI) initiative to assess the impact of introducing curated obesity educational materials into the curriculum. The long-term goal is to expand access to evidence-based care for patients with obesity.	$12,719	$12,719
Dawn Woods Department of Teaching and Learning	National Science Foundation	**CAREER: Sparking "Number Talks" to Strengthen Mathematical Identities.** This project is designed to improve K-3 mathematics education for students from historically and persistently marginalized groups by intentionally leveraging (and confirming) resources for productive mathematical identity development.	$272,964	$781,196
Ziming Yang Department of Chemistry	National Science Foundation	**CAREER: Mechanistic Understanding of Organic Carbon and Nitrogen Transformations in Hydrothermal Systems.** 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.	$61,049	$592,632

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Huirong Fu Department of Computer Science and Engineering	National Science Foundation	**Cyber Defense Scholarship for Service Program at Oakland University in Michigan.** This project will establish a Scholarship for Service Program at Oakland University. The primary objective is to provide scholarships to attract, recruit and train twenty highly qualified students, including twelve undergraduate and eight graduate 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.	$933,098	$3,198,315
Nelia Afonso School of Medicine	Merck Corporation	**Promoting Vaccine Confidence in Medical and Dental Students: Development and Evaluation of an Educational intervention.** The overarching goal for this project is to develop an educational program to improve vaccine education, promote vaccine confidence, and improve vaccine counseling skills for dental and medical students.	$106,976	$285,592
David Dulio Department of Political Science	US Election Commission	**Meeting the Need: Partnering with Local Clerks in Michigan's New Election Reality.** Oakland University's Center for Civic Engagement will partner with three local communities to recruit, train, and evaluate college student poll workers. This program is ideal for the U.S. Election Assistance Commission's Help America Vote College Poll-Worker Program.	$96,000	$96,000

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Jun Chen Department of Electrical and Computer Engineering	National Science Foundation	**CAREER: Reconfigurable and Predictive Control with Reinforcement Learning Supervisor for Active Battery Cell Balancing.** This project will develop a comprehensive and unifying predictive control framework and corresponding novel methodologies for active battery cell balancing control, especially for batteries with a large number of cells.	$55,000	$555,000
Adam Avery Department of Chemistry	National Ataxia Foundation	**A Cerebellum-Specific ß-III-spectrin Protein Interaction Network for SCA5 Insights.** This project will identify a specific set of proteins that are physically associated with ß-III-spectrin. Further we will test how a SCA5 mutation disrupts this network of ß-III-spectrin protein interactions. This project will provide critical insights into ß-III-spectrin function in Purkinje cells, and advance our understanding of SCA5 disease mechanisms.	$50,000	$50,000
Jun Chen Department of Electrical and Computer Engineering	Michigan State University / MEDC	**Sensor Reduction for Battery Cell State-of-Change Estimation.** In order to guarantee sensor reduction will not decrease state-of-change (SOC) estimation accuracy, we have recently developed a dense extended Kalman filter technique to SOC estimation quality without requiring heavy computation. This project will evaluate the commercialization potential of this technique by conducting proof-of-concept in embedded environment.	$20,000	$20,000
		Total Awards	**$5,952,594**	**$14,494,665**