

**Agendum
Oakland University
Board of Trustees Formal Session
April 14, 2022**

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF JANUARY 1 – FEBRUARY 28, 2022**
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 28, 2022

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 January 1 – February 28, 2022.
9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President
on 4/11, 2022 by



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

Recommended on 4/11, 2022
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 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Krzysztof Kobus Department of Mechanical Engineering	State of Michigan	MICUP-HTech Jobs of the Future Program 2021-2022. A College-University Partnership with Macomb Community College and Oakland Community College, and building on the M2O and O2O programs to create a service avenue for students interested in the high-tech field with a focus on bioengineering, renewable energy and mechatronics. The partnership will include student services to help them persist in the program from the community college to Oakland University.	\$ 88,735	\$ 88,735
Omar Brown-El Center for Multicultural Initiatives	State of Michigan	FY2022 - 4S - Select Student Support Services. Collectively Oakland Retains Everyone (CORE) Program 4-S King Chavez Parks. CORE is a program that pairs underrepresented students with lower grade point averages and/or lower SAT with resources that focus on their specific needs. Students in the target population are required to attend a week-long summer enrichment program.	\$ 100,483	\$ 301,449

Grants and Contracts Report for Period January 1 - February 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Alexey Tonyushkin Department of Physics	National Institutes of Health	A Single-Sided Magnetic Particle Imaging (MPI) Scanner for In Vivo Breast Cancer Imaging. The goal of this research is to develop the first ever MPI scanner that could potentially be translated to clinical settings. Specifically, we hope to deliver a more sensitive and non-invasive tool for breast cancer screening that has a direct impact on women's health.	\$ 257,207	\$ 257,207
Xiangqun Zeng Department of Chemistry	National Institutes of Health / Michigan State University	Wearable Microsystem for Continuous Personalized Aerosol Exposure Assessment. The long-term goal of our team is to establish an infrastructure for real-time, continuous, multi-pollutant, air quality monitoring with very high spatiotemporal resolution, enabling groundbreaking environmental health research leading to effective, personalized, exposure analytics and interventions.	\$ 179,451	\$ 604,811
Joshua Yax Lowry Center for Early Childhood Education	State of Michigan	Child Care Stabilization Grant. The Child Care Stabilization Grant provides financial relief to child care providers. These funds will be administered by the Michigan Department of Education and must be used to stabilize operations, cover unexpected costs due to the pandemic, and provide bonuses to child care professionals.	\$ 201,000	\$ 201,000

Grants and Contracts Report for Period January 1 - February 28, 2022

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	Establishing Cyber Defense Scholarship for Service Program at Oakland University in Michigan. The primary objective is to provide scholarships to attract, recruit and train 20 highly qualified students, including 12 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.	\$ 1,043,203	\$ 3,198,315
David Garfinkle Department of Physics	National Science Foundation	Studies of Singularities, Black Holes, and Gravitational Radiation. This project will study two aspects of gravity, gravitational collapse and gravitational radiation. When an object's gravity becomes strong enough to trap light, the object becomes a black hole. Inside the black hole the object continues to become smaller under the influence of its own gravity until it becomes a point with infinite density and infinite gravitational field called a singularity. This project involves working out the properties of the singularities formed in gravitational collapse.	\$ 150,000	\$ 150,000

Grants and Contracts Report for Period January 1 - February 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Amany Tawfik Eye Research Institute	National Institutes of Health	Homocysteine's Role in Age-Related Macular Degeneration. Age-related macular degeneration is the leading cause of vision loss among elderly populations. 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.	\$ 360,490	\$ 1,097,797
Amany Tawfik Eye Research Institute	National Institutes of Health	Homocysteine's Role in Age-Related Macular Degeneration. <i>Second increment, see above.</i>	\$ 110,402	\$ -

Grants and Contracts Report for Period January 1 - February 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Mohamed Al-Shabrawey 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.	\$ 355,986	\$ 1,157,899
Mohamed Al-Shabrawey Foundational Medical Studies	National Institutes of Health	BMP2/ALKs Signaling System in Diabetic Retinopathy. <i>Second increment, see above.</i>	\$ 103,278	\$ -

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Sara Arena Department of Human Movement Science	Michigan Health Endowment Fund	Technology and Reimbursement Innovation of HOP-UP-PT. The Home-based Older Persons-Upstreaming Prevention-Physical Therapy program (HOP-UP-PT) has evidence of an 8-fold decrease in falls among older adults, and may offer an opportunity for prolific cost savings if it is broadly available. The long-term goal is to integrate HOP-UP-PT into the standard of care for aging adults with the scope of reimbursable healthcare services.	\$ 160,537	\$ 160,537
Kristin Rohrbeck OUCARES	Children's Foundation	Using Technology to Improve Mental and Social Wellness in the Autism Community. OUCARES will use this grant to help develop intervention programs to support overall social and mental health by growing peer connections, building resiliency, establishing consistent routines, and teaching copying strategies.	\$ 39,800	\$ 39,800

Grants and Contracts Report for Period January 1 - February 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Deborah Doherty Department of Human Movement Science	Blue Cross Blue Shield of Michigan Foundation	Delivering an Innovative Model of Survivorship Care to Address the Unmet Needs of Black Breast Cancer Survivors in Detroit: Harnessing the Power of Community, Collaboration and Technology to Improve Physical Activity and Wellness. This project aims to develop, implement and analyze the physical functioning, wellness, and physical activity levels of thirty Black women impacted by breast cancer in the Detroit area by implementing sustainable community-based telerehabilitation and virtual group community education services.	\$ 37,500	\$ 37,500
Stephen Kent Smart Zone Business OU Incubator	Grand Valley State University / Michigan Economic Development Corporation	Accelerator Development Funds-Discretionary. 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	\$ 30,000

Grants and Contracts Report for Period January 1 - February 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Marouane Kessentini Computer Science and Engineering	National Science Foundation	IUCRC Planning Grant: Center for Pervasive Personalized Intelligence Center. The research team will organize several visits to the partners as part of the customer discovery and other visits to the two other sites at UC Boulder and Oregon State University to attend events and synchronize our efforts.	\$ 20,000	\$ 20,000
Stephen Kent Smart Zone Business OU Incubator	GVSU/MEDC	Business Accelerator Fund-Client Engagement Fund-Aveopt Incorporated. The objective of 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.	\$ 35,000	\$ 35,000

Grants and Contracts Report for Period January 1 - February 28, 2022

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Deidre Hurse Foundational Medicine	University of Michigan / Michigan Department of Health and Human Services	Gaining Perspective on Substance Use Disorder (SUD) Treatment and Recovery Services for Foster Care Youth in Michigan. This project investigates the experiences of foster parents and Medicaid-eligible youth in transition. Participants will engage in semi-structured interviews to elicit their perspectives and experiences accessing SUD treatment, recovery, and prevention services. Additionally, the research team will explore the caregiver's self-efficacy to adequately care for a young person with a substance use disorder and inquire about related training.	\$ 55,000	\$ 55,000
Wei Zhang Department of Physics	Auburn University / Air Force Office of Scientific Research	Engineering Exceptional Points in All-On-Chip Organic-Inorganic-Layered Hybrid Quantum Devices. The research objectives for this project are centered on fulfilling the all-on-chip concept in hybrid quantum systems and exploring the impact of on-chip-tunable (exceptional points) EPs in hybrid magnonic quantum systems.	\$ 32,849	\$ 100,120
Total Awards			\$ 3,360,921	\$ 7,535,170