

Agendum  
Oakland University  
Board of Trustees Formal Session  
December 11, 2017

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY  
FOR THE PERIOD OF SEPTEMBER 1 – OCTOBER 31, 2017**

**A Recommendation**

1. **Division and Department:** Academic Affairs/Office of Research Administration
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 September 1 through October 31, 2017.

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.

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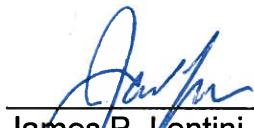
6. **Personnel Implications:** Grants and contracts awards may provide salary support for faculty, post-doctoral fellows, undergraduate and graduate students, technicians, lab managers, and other personnel, as required by the funded research project or program.

7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Office of Research Administration 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 September 1 – October 31, 2017.

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

Submitted to the President  
on December 1, 2017 by

  
\_\_\_\_\_  
James P. Lentini, D.M.A.  
Senior Vice President for  
Academic Affairs and Provost

Recommended on 12/1, 2017  
to the Board for approval by

  
\_\_\_\_\_  
Ora Hirsch Pescovitz, M.D.  
President

Office of Research Administration  
 Grants and Contracts Report for period of September 1 - October 31, 2017 for December 11, 2017 Meeting

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Bradley Roth Department of Physics	Henry Ford Health System	<b>Graduate Student Support for Medical Physics Research at Henry Ford Hospital.</b> The objective of this funding is to support Biomedical Sciences. This support allows many of our best and brightest graduate students to work in the world-class laboratory of Distinguished Professor Michael Chopp and his colleagues, many of whom are adjunct faculty in our Physics Department.	\$ 6,999	\$ 399,538
Lianxiang Yang Department of Mechanical Engineering	X-wave Innovations, Inc.	<b>3-D Digital Image Correlation-Based NDE System for Qualification of Additive Manufacturing Parts.</b> The objective of this research is to use advanced optical method: 3D multi-camera digital image correction, for non-destructive testing and evaluation of additive manufacturing parts.	\$ 20,000	\$ 20,000
Lawrence Herriman Macomb-OU INCubator	Grand Valley State University/ MEDC	<b>Business Accelerator Fund-Client Engagement, Security Vitals.</b> 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.	\$ 14,963	\$ 14,963
Lawrence Herriman Macomb-OU INCubator	Grand Valley State University/ MEDC	<b>Business Accelerator Fund-Client Engagement, Human Balance and Stability.</b> 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.	\$ 10,320	\$ 10,320
Erik Fredericks Department of Computer Science and Engineering	Comcast Innovation Fund	<b>Developing Context-Aware Strategies to Minimize Impact on an Internet of Things Network.</b> This project will explore how modeling an Internet of Things network as a self-adaptive, multi-agent system can be used to minimize network impact and power draw on a home network.	\$ 50,000	\$ 50,000

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Lan Yao School of Nursing	Blue Cross Blue Shield Michigan Foundation	<b>Fall Prevention Exercise Program in Older Arab American.</b> Oakland University School of Nursing will work together with Arab community Center for Economic and Social Services to introduce the Tai Chi for Falls exercise program to older Arab Americans through a multilingual, culturally sensitive program.	\$ 35,312	\$ 35,312
Peng Zhao Department of Mechanical Engineering	Los Alamos National Lab	<b>Development and Validation of KIVA-hpFE for Spray and Engine Processes.</b> Validate engine stimulation code KIVA-hpFE over different combustion configurations, such as two-phase spray combustion, turbulent flow in motored engines, and combustion process in diesel engines. The validation shall be achieved by comparing simulation results using KIVA-hpFE with other reacting flow code, or with available DNS and experimental targets in well-accepted combustion benchmarks.	\$ 2,700	\$ 72,657
David Stone The Research Office	Michigan Economic Development Corporation	<b>Business Incubator Programs: Incubator Gatekeeper.</b> The goal of this project is to find a key person to oversee Oakland's incubator-client gatekeeping activities. The Gatekeeper's responsibilities entail client recruiting, fundraising, strategic guidance for clients and supporting local entrepreneurs. The Gatekeeper will create efficiencies by streamlining the organizational structure that will lead to increases in the incubator's performance metrics.	\$ 199,625	\$ 199,625
Lawrence Herriman Macomb-OU INCubator	Michigan Economic Development Corporation	<b>MSF 2015 Business Incubators.</b> This funding will be used to cover a portion of the cost to hire a SmartZone Program Administrator and Early Stage Business Commercialization Strategist.	\$ 98,663	\$ 294,542
Zissimos Mouralatos Department of Mechanical Engineering	Fiat Chrysler Automotive US LLC	<b>A CAE Method to Predict and Optimize Active Noise Cancelation Performance Using Vehicle Vibroacoustic Analysis.</b> The goal is to develop a vibroacoustic analysis to actively reduce noise in a vehicle cabin.	\$ 118,000	\$ 118,000
Thomas Raffel Department of Biological Sciences	Golf Ball Divers Alliance	<b>OU/ Golf Ball Divers Alliance Research Program.</b> The goal of this project is to determine whether and how the performance of urethane golf balls changes following submersion in a golf course pond.	\$ 2,500	\$ 2,500

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
<b>Sayed Nassar</b> Department of Mechanical Engineering	National Center for Manufacturing Sciences	<b>Adhesive Joining of Lightweight Materials.</b> The overall objective of this project is for the Fastening and Joining Research Institute at Oakland University to study, characterize, and optimize adhesively bonded lightweight multi-material joints, and to develop adhesive joining solutions that mitigate mechanical and environmental loads.	\$ 549,999	\$ 549,999
<b>Tomoko Wakabayashi</b> Department of Human Development and Child Study	High Scope Educational Research Foundation	<b>Supporting Preschool and Kindergarten Students' Self-Regulation through HighScope Curriculum Enhancements: Plan-Do-Review and Conflict Resolution.</b> The primary goal of this project is to enhance self-regulation skills of Detroit preschool and Kindergarten students.	\$ 560,994	\$ 560,994
<b>Gopalan Srinivasan</b> Department of Physics	Virginia Polytechnic Institute and State University/DARPA	<b>A MATRIX Solution to Solid State Devices for Scalable, Integratable, and Efficient Signal and Power DARPA.</b> This research is aimed at ferromagnetic and ferroelectric composite-based devices for high frequency electronics.	\$ 80,000	\$ 240,000
<b>Jennifer Lucarelli</b> School of Health Sciences	Centers for Disease Control and Prevention	<b>Health Pontiac, We Can! Eliminating Health Disparities in a Low-Income Urban Minority Community.</b> This grant will support health-promotion activities in Pontiac, targeted towards improving minority health and reducing health disparities.	\$ 455,524	\$ 2,407,768
<b>Brian Dean</b> Department of Electrical and Computer Engineering	National Science Foundation	<b>Applied Research Experience in Electrical and Computer Engineering.</b> The primary goal of this research is to engage ten undergraduate students per year in an intensive ten-week research program with the goal of encouraging their continued participation in STEM related fields.	\$ 352,887	\$ 352,887
<b>Zissimos Mourelatos</b> Department of Mechanical Engineering	University of Michigan/TACOM	<b>Reliability, Maintenance and Optimal Operation of Repairable Systems with Application to a Smart Charging Microgrid with Vehicle-to-Grid Capability.</b> This project provides added value to ongoing ARC research, ongoing TARDEC work and work at the industry partner and other industries.	\$ 161,484	\$ 605,095

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Zissimos Mourelatos Department of Mechanical Engineering	Hyundai Mobis Company	<b>Efficient Reduced-Order Modeling and Re-Analysis Methodologies for NVH Analysis and Optimization.</b> The goal of this research is to demonstrate the accuracy and computational efficiency of reduced-order modeling and re-analysis methods in NVH analysis and optimization of large-scale finite element models.	\$ 60,000	\$ 60,000
Martha Escobar Department of Psychology	National Science Foundation-Tuskegee University	<b>NSF INCLUDES DDLP: The Alabama Alliance for an Inclusive Middle Grades Computer Science Preparation through Makerspaces in the Alabama Black Belt Region.</b> This pilot project will develop, implement, and assess a prototype for computer science education for middle schools in the Alabama Black Belt region.	\$ 14,994	\$ 14,994
<b>Total</b>			<b>\$ 2,794,964</b>	<b>\$ 6,009,194</b>