

Agendum
Oakland University
Board of Trustees Formal Session
June 29, 2010

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF APRIL 1, 2010 THROUGH MAY 31, 2010**

A Recommendation

1. **Division and Department:** Academic Affairs/Office of Grants, Contracts and Sponsored Research

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 April 1, 2010 through May 31, 2010.

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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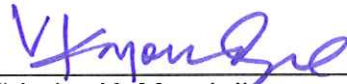
7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Office of Grants, Contracts and Sponsored Research prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance 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 April 1, 2010 through May 31, 2010.

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

Submitted to the President
on 6/13, 2010 by



Virinder K. Moudgil
Senior Vice President for
Academic Affairs and Provost

Recommended on 6/18, 2010
to the Board for approval by



Gary D. Russi
President

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Gopalan Srinivasan Department of Physics	Office of Naval Research (ONR)	Ferrite-Ferroelectric Heteroepitaxial Structures and Frequency Agile Multiferroic RF Components. This objective is growth of heterostructure composites and studies on high frequency excitations. Such composites have the potential to be useful for radio frequency signal processing.	\$ 50,000	\$ 270,000
Xianggui Qu Department of Mathematics and Statistics	Beaumont Hospitals	Safety and Efficacy of Nerve Rerouting for Treating Neurogenic Bladder in Spina Bifida. The goal of this project is statistical verification of the safety and effectiveness of the somatic-autonomic reflex pathway procedure in gaining bladder and bowel control in patients with spina bifida.	\$ 6,703	\$ 6,703
Reginald McCloud Department of Pre-College Programs	State of Michigan - Department of Labor and Economic Growth	Gear Up. This program will provide an opportunity for underrepresented students to discover first hand, the potential of a college education and to expose students to the information, knowledge and skills they need to complete high school and prepare themselves adequately for college entry and success.	\$ 5,000	\$ 52,840
Xianjie Yang Department of Mechanical Engineering	General Dynamics Land Systems	Bolted/Bonded Composite Joint Testing. The primary objective of this research project is to develop the experimental procedures so that the load versus deflection responses and the failure characteristics for each specimen can be obtained.	\$ 15,000	\$ 15,000
Lianxiang Yang Department of Mechanical Engineering	General Motors Corporation	Feasibility Study of Shearographic NDE of Weld Joints. The scope of this project is to demonstrate that shearography is feasible for nondestructive inspection of weld joints. The quality of many automotive assemblies depends on the quality and reliability of spot welds. Currently, there is no economically feasible method to inspect welds in mass production.	\$ 11,996	\$ 11,996

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Xiangqun Zeng Department of Chemistry	Office of Naval Research (ONR)	<i>Ionic Liquid Electrochemical and Piezoelectric Sensors for Standoff Explosive Detection.</i> <i>The overall goal of this project is to develop ionic liquid sensors for the detection of the ultra-low trace quantities of both nitro-containing (NO₂) and organic peroxides.</i>	\$ 1,054,638	\$ 1,054,638
Laila Guessous Department of Mechanical Engineering	National Science Foundation (NSF)	<i>REU Site: Automotive and Energy Research and Industrial Mentorship Program at Oakland University.</i> <i>This project seeks to address the nationwide problem of attracting and retaining U.S. students, particularly women, in STEM fields and more specifically in the field of mechanical engineering, by providing meaningful and timely 10-week summer research experiences to ten talented undergraduate students from across the U.S.</i>	\$ 114,075	\$ 343,496
Bradley Roth Department of Physics	National Institutes of Health (NIH)	<i>Magneto-Acoustic Effects in Imaging.</i> <i>Detecting and imaging the electrical behavior of nerves and muscles underlies important diagnostic techniques in medicine. This project analyzes new imaging techniques that make use of magnetic forces on electrical currents.</i>	\$ 96,562	\$ 388,200
Gopalan Srinivasan Department of Physics	U. S. Army	<i>Research Experience for High School Students: High Frequency Materials and Measurement Techniques.</i> <i>This award provides additional funding for training in materials research for high school students.</i>	\$ 7,955	\$ 311,255
Michael Sevilla Department of Chemistry	National Institutes of Health (NIH)	<i>Mechanisms of Radiation Damage to DNA.</i> <i>This project will study free radical mechanisms of radiation damage to DNA.</i>	\$ 263,479	\$ 893,393

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Frank Giblin Eye Research Institute	National Institutes of Health (NIH)	Proteins of Normal and Cataractous Lenses. <i>The objective of this project is to evaluate the role of oxidative stress in the development of human nuclear cataract, the most common type of lens opacity in older adults, and the type most likely to require surgery.</i>	\$ 393,563	\$ 1,531,060
James Leidel Department of Facilities Management	U. S. Department of Energy (DOE)	HHB Geothermal Heat Pump System. <i>The objective of this project is to construct a geothermal heat pump, heating and cooling system for the new Human Health Sciences building. This project will enhance the energy efficiency of the building and be a cost containment measure. It will be a showcase green building project, a first for Oakland University.</i>	\$ 2,738,100	\$ 2,738,100
Zissimos Mourelatos Department of Mechanical Engineering	University of Michigan	Simulation-Based Validation and Certification of Vehicle Tests and Designs. <i>The goal of this project is to complement current research activity at the ARC to accelerate the progress of basic research in simulation-based validation and certification of vehicle tests and designs.</i>	\$ 40,000	\$ 422,280
Andrei Slavin Department of Physics	National Science Foundation (NSF)	Collaborative Research: Signal Processing Devices Based on Spin-Torque Oscillators. <i>The objective of this project is to develop new nano-sized microwave signal processing devices based on spin-torque nano-oscillators. The proposed nano-sized signal processing devices will qualitatively change the microwave signal processing in the future nano-spintronics.</i>	\$ 91,065	\$ 270,000

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Patricia Wren Department of Health Sciences	University of Michigan	Ulcerative Colitis Patient-Related Outcomes Development Protocol. <i>The goal is to determine what aspects of the ulcerative colitis (UC) disease experience occur most frequently and most affect patients in their daily lives, and how to best measure these as patient reported outcomes (PRO). Ulcerative colitis adversely affects patients' quality of life with severe symptoms that can last a lifetime; optimal clinical management requires patient-centered measures of disease activity and severity.</i>	\$ 33,803	\$ 33,803
Lisa Mileto School of Nursing	Health Resources and Services Administration (HRSA)	Nurse Anesthesia Traineeship. <i>This award will be used to support tuition for graduate students enrolled in the OU-Beaumont Graduate Program of Nurse Anesthesia.</i>	\$ 15,170	\$ 15,170
Reginald McCloud Pre-College Programs	Detroit Area Pre-College Engineering Program (DAPCEP)	Detroit Area Pre-College Engineering Program. <i>This award will be used to give underrepresented students the interest and preparation needed to succeed in a University-level science or engineering curriculum. The need is to increase the number of underrepresented student populations who are prepared to enter and succeed in college.</i>	\$ 5,000	\$ 5,000
Getnet Bekele Department of History	U.S. Department of Education (USED)	African Oral Narratives. <i>The goal of this project is to make available first-hand farmers' experiences in agricultural development on the web to students, scholars, INGOs, and policy makers around the world. Often times policy makers and non-government organizations make agricultural development policies with little or no contact with farmers. This project seeks to bridge that gap.</i>	\$ 10,308	\$ 16,057

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Lianxiang Yang Department of Mechanical Engineering	U.S. Automotive Material Partnership, LLC	DIC Measurement of Strain Distribution for Hole Expansions. <i>The goal of this project is to use DIC technology to measure the whole field strain distribution of hole expansion, investigate the process of a crack initiation and propagation, and obtain experimental data for FEA correlation.</i>	\$ 19,650	\$ 19,650
Gopalan Srinivasan Department of Physics	National Science Foundation (NSF)	Functionally Graded Ferroics and Magnetoelectric Interactions. <i>With this project we will study electromagnetic properties of composite materials with an outcome of new materials for sensors and RF devices.</i>	\$ 85,000	\$ 340,000
Yang Xia Department of Physics	National Institutes of Health (NIH)	Adaptability of Articular Cartilage to External Loading by Microscopic Imaging. <i>This project will detect the early changes in the in situ molecular architecture of diseased articular cartilage. We hypothesize that the load-induced changes in cartilage at the structural and molecular levels can be detected by a combination of microscopic imaging modalities and that the degradation in cartilage due to diseases or mechanical injury could affect load-induced ultra structural changes.</i>	\$ 446,742	\$ 2,211,597
Linda Thompson Adams School of Nursing	St. John Health System	Transforming Nursing Education Program. <i>The objective of the project is to collaborate with St. John Health System to develop and deploy innovative approaches to nursing education.</i>	\$ 1,060,410	\$ 5,373,183
Lianxiang Yang Department of Mechanical Engineering	University of Mississippi	Developing a Digital Shearography System for Vibration Analysis. <i>The objective of this project is to develop a new and sensitive optical laser inspection system for the whole field landmine inspection.</i>	\$ 219,980	\$ 219,980

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Scott Tiegs Department of Biological Sciences	Huron Mountain Wildlife Foundation	<i>Influence of Landscape-Scale Variables on Functional and Structural Integrity of Northern Michigan Streams. The goal of this project is to monitor streams and rivers in the upper peninsula of Michigan using macroinvertebrate assemblages and cotton-strip decomposition rates.</i>	\$ 2,500	\$ 4,400
Osamah Rawashdeh Department of Electrical and Computer Engineering	National Science Foundation (NSF)	<i>REU Site: Interdisciplinary Research Experience in Electrical and Computer Engineering (IREECE). The objective of this project is to establish an undergraduate summer research program for underrepresented students in Electrical and Computer Engineering related research at OU.</i>	\$ 299,995	\$ 299,995
Total			\$ 7,086,694	\$ 16,847,796