

**Agendum  
Oakland University  
Board of Trustees Formal Session  
June 3, 2009**

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY  
FOR THE PERIOD OF MARCH 1 THROUGH APRIL 30, 2009**

**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 March 1 through April 30, 2009.

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:**

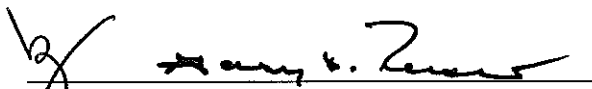
RESOLVED, that the Board of Trustees accept grants and contracts to Oakland University identified in the attached Grants and Contracts Report, Attachment A, for the period of March 1 through April 30, 2009.

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

Submitted to the President  
on 5/18, 2009 by

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

Recommended on 5/24, 2009  
to the Board for approval by

  
Gary D. Russi  
President

OAKLAND UNIVERSITY  
GRANTS AND CONTRACTS REPORT  
MARCH 1 THROUGH APRIL 30, 2009

Attachment A

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Frank Giblin Eye Research Institute	National Institutes of Health	<b>Proteins of Normal and Cataractous Lenses.</b> <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. The overall hypothesis of project is that both molecular oxygen and UVA light can contribute to the formation of nuclear cataract. These studies are designed to elucidate the mechanism of formation of maturity-onset nuclear cataract, which is the cause for a major proportion of the 1.5 million cataract surgeries conducted in the United States each year. The results will provide valuable information on protecting the aging human lens against oxygen and UVA-induced damage, and on guarding against formation of nuclear cataract.</i>	\$ 347,478	\$ 1,096,917
Fermah Chavez Department of Chemistry	National Science Foundation	<b>Career: Synthesis of Structural and Functional Models for Oxalate Degrading Manganese Enzymes.</b> <i>The proposed work will involve the initiation of a new high school outreach program. Experiments and demonstrations related to the PI's research will be developed to teach basic chemistry concepts to high school students as part of their curriculum. The PI, in collaboration with five high school teachers will design experiments and demonstrations. These activities will be tested in high school classroom settings in the southeastern Michigan area. The PI will conduct four workshops aimed at high school chemistry teachers featuring newly created experiments and demonstrations.</i>	\$ 190,000	\$ 450,000
Andrew Goldberg Eye Research Institute	The Matilda Zeigler Foundation for the Blind, Inc.	<b>Novel Assay and Screen for Protein-Protein Interactions Linking Photoreceptor Structure and Viability.</b> <i>We propose to develop a novel experimental approach for the assay of protein-protein interactions involved in retinal disease. Our investigations will offer the opportunity to develop an important, but currently unavailable avenue to understand vertebrate photoreceptor cells and investigate the molecular logic that links genetic defects to progressive retinal degenerations. These studies will offer new tools for the study of, and new insights into the basis of inherited retinal diseases.</i>	\$ 80,000	\$ 240,000

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Attachment A

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Zijuan Liu Department of Biological Sciences	National Institutes of Health	<b>Arsenic Accumulation via Aquaglyceroporins and Phosphate Transporters in Zebrafish.</b> <i>This study will determine the routes of arsenic transport by two families of zebrafish membrane transporters, which are aquaglyceroporins and phosphate transporters. Uptake is the first step for metalloid arsenic to exert its cellular function, so identification of the uptake pathways is important for elucidating the first step in arsenic detoxification in fish and shedding light on the arsenic toxicity and carcinogenesis in humans.</i>	\$ 222,000	\$ 222,000
Nilesh Patel Computer Science and Engineering	Infogation Corporation	<b>Predictive Differential Compression for Geo-Spatial Data.</b> <i>Inclusion of various geo-spatial contents is continuously increasing the size of spatial data, causing storage issue for embedded Navigation devices. This project aims at investigating and developing spatial data compression algorithms, especially targeted for embedded Navigation application.</i>	\$ 35,280	\$ 35,280
Andrei Slavin Department of Physics	U.S. Army TACOM Contracting Center	<b>Phase Renormalization Method and its Applications to the Forced Dynamics of Nonlinear Spin-torque Oscillators.</b> <i>We propose to develop a phase renormalization method for the description of strongly nonlinear spin-torque nano-oscillators (STNO). The proposed effective-phase model will provide a computationally efficient framework for the description of STNO dynamics, since each STNO is described by only one dynamical variable - effective renormalized phase.</i>	\$ 99,999	\$ 99,999
Gwendolyn McMillon Department of Reading and Language Arts	Michigan Department of Education	<b>Whom are We Serving? Building on Students' out-of-school Literacy Experiences to Improve Literacy Teaching and Learning in Urban Schools.</b> <i>Our objective for this project is to improve literacy teaching and learning at two urban elementary schools. Utilizing teacher collaboration groups, teachers will develop and implement Plans of Action in their classroom based on knowledge acquired during professional development workshops.</i>	\$ 200,000	\$ 200,000

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Yang Xia Department of Physics	National Institutes of Health	<b>Adaptability of Articular Cartilage to External Loading by Microscopic Imaging.</b> <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>	\$ 419,136	\$ 2,225,456
John Seeley Department of Chemistry	Foster-Miller	<b>Subcontract on Foster-Miller's Mobile Air Zone Extractor Project.</b> <i>The objective of this project is to characterize existing materials for sampling atmospheric chemical compounds and develop new desorption approaches.</i>	\$ 133,320	\$ 200,000
Guangzhi Qu Department of Computer Science and Engineering	Michigan Space Grant Consortium	<b>Self Protection against Cyber Attacks.</b> <i>In this project, we will propose a self protection system to defend against cyber attacks. Repeat attacks on NASA computers and web sites are causing consternation and stirring national security concerns.</i>	\$ 5,000	\$ 5,000
Michael Polis Department of Industrial Systems and Engineering	Michigan Economic Development Corporation	<b>MEDC EDJT Grant for General Dynamics Land Systems.</b> <i>The objective of this project is to train high technology workers and create high technology jobs in Michigan.</i>	\$ 506,718	\$ 506,718
<b>Total</b>			<b>\$ 2,238,931</b>	<b>\$ 5,281,370</b>