

Agendum  
Oakland University  
Board of Trustees Formal Session  
September 28, 2010

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY  
FOR THE PERIOD OF JUNE 1, 2010 THROUGH JULY 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 June 1, 2010 through July 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 June 1, 2010 through July 31, 2010.

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

Submitted to the President  
on 7/20/, 2010 by



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

Recommended on 9/21, 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
Frank Giblin Eye Research Institute	National Institutes of Health	<b>Fluorescence Microscope Application.</b> <i>The long-term goal of this project is the acquisition of a Zeiss Fluorescence Microscope for use by five NIH-funded researchers at OU to determine the causes, and seek cures for certain common diseases of aging including glaucoma, cataract, age-related retinal degeneration and osteoarthritis.</i>	\$ 107,845	\$ 107,845
Lianxiang Yang Department of Mechanical Engineering	United States Automotive Materials Partnership	<b>Tensile Tests on ASTM E8 Test Specimens Using DIC Technique.</b> <i>The objective of the project is to develop and implement a comprehensive set of experimental data and associated predictive models for a variety of steel grades of Advanced High-Strength Steels (AHSS) under nonlinear strain path deformations and with bake-hardening behavior incorporated.</i>	\$ 119,336	\$ 119,336
Marie-Eve Pepin Department of Physical Therapy	Elsa U. Pardee Foundation (Note 1)	<b>Shoulder Function in Women Following Breast Cancer Treatment: A Comparison Study.</b> <i>The goal of this project is to study shoulder movement mechanics and function in women with lymph edema, as well as the impact of physical therapy intervention on these shoulder measures.</i>	\$ 20,000	\$ 20,000
George Martins Department of Physics	Battelle	<b>Analytical Development of the FLEX Approximation.</b> <i>The objective of this project is developing implementations of multi-band FLEX equations and cementing a long-term collaboration with a leading group at Oak Ridge National Laboratory.</i>	\$ 21,028	\$ 21,028
J. David Schall Department of Mechanical Engineering	Battelle	<b>Molecular Simulations of Heat Transfer Phenomena in Nanofluids.</b> <i>The goal of this project is to use both computer simulation and experimental methods to conduct basic research in the area of thermal properties in nanoparticle nanofluids.</i>	\$ 29,699	\$ 29,699

Note 1: The award reported herein is categorized as a restricted grant based on the award terms or other compliance requirements. Awards issued through philanthropic organizations may also be appropriately reflected on fundraising reports.

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Barry Winkler Eye Research Institute	National Institutes of Health	<b>Photoreceptor Vulnerability and Glutathione Status.</b> This project will test the hypothesis that a deficiency in glutathione accounts for the selective vulnerability of photoreceptor cells to chemical toxins and environmental stress. The expected outcome will be to provide therapeutic agents to protect against damage to retinas from oxidation and chemical toxins.	\$ 349,089	\$ 709,009
Xiangqun Zeng Department of Chemistry	National Institutes of Health	<b>Ionic Liquid Gas Sensors for Detection of Flammable Gases in the Workplace.</b> The goal of this project is to develop an Electrochemical Sensor Array for flammable gas detection in the workplace.	\$ 180,670	\$ 389,277
Lorenzo M. Smith Department of Engineering and Computer Science	Ford Motor Company	<b>Design Tool for Electrohydraulic Forming Technology Material Model.</b> The goal of this project is to develop a design tool for EHF technology based upon numerical modeling.	\$ 216,000	\$ 542,089
Andrew Goldberg Eye Research Institute	The Matilda Zeigler Foundation for the Blind (Note 1)	<b>Novel Assay and Screen for Protein-Protein Interactions Linking Photoreceptor Structure and Viability.</b> A study to develop a novel experimental approach for the assay of protein-protein interactions involved in retinal disease. 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.	\$ 80,000	\$ 240,000
Cindy Hermesen Department of Financial Aid	Michigan Department of Education	<b>State Fiscal Stabilization AARA.</b> Funds awarded to stabilize budgets and improve student achievement through school improvement and reform.	\$ 1,530,100	\$ 1,530,100

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Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Geraldine Graham Upward Bound	U.S. Department of Education	<b>Project Upward Bound College Preparatory Academy.</b> <i>Project Upward Bound will serve 120 eligible participants from Pontiac Northern High School, Pontiac Central High School, Pontiac Academy for Excellence, and Oak Park High School providing academic, social, cultural, and career enrichment. The objective is to encourage academic improvement, project retention, postsecondary enrollment, and postsecondary persistence.</i>	\$ 597,252	\$ 2,389,008
Marshall Kitchens Department of Writing & Rhetoric	National Writing Project Corporation	<b>Meadow Brook Writing Project.</b> <i>The purpose of this project is to conduct a summer institute and other year-round activities to improve the ability of area K-12 teachers to teach writing to their students.</i>	\$ 51,000	\$ 449,000
David Spencer SmartZone	U.S. Department of Commerce	<b>Macomb-Oakland University INCubator.</b> <i>This project will provide operational support and programs to Macomb-OU INCubator to grow business in Southeast Michigan.</i>	\$ 385,000	\$ 385,000
George Martins Department of Physics	National Science Foundation	<b>Materials World Network: Collaborative Research: Decoherence, Correlations and Spin Effects in Nanostructured Materials.</b> <i>This project aims at understanding correlated electron behavior in different material systems: magnetic adatoms and molecules on surfaces, carbon nanotubes and graphene, and quantum dots in semiconductor materials. The goal is to provide deeper physical insights into correlations and their consequences on newly developed probes that explore local interactions at an unprecedented nanoscale level.</i>	\$ 56,000	\$ 224,000
Lianxiang Yang Department of Mechanical Engineering	General Motors Corporation	<b>Feasibility Study of Shearographic NDE of Weld Joints.</b> <i>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.</i>	\$ 2,564	\$ 14,560

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<b>Principal Investigator</b>	<b>Awarding Agency</b>	<b>Title and Project Abstract</b>	<b>Award Amount</b>	<b>Total Award All Years</b>
Gopalan Srinivasan Department of Physics	Virginia Polytechnic Institute and State University	<i>Passive, Highly Sensitive, Room Temperature Magnetic Field Sensors and Arrays for Detection. The goal of this project is to conduct research and development of an imaging system based on magnetic field sensing.</i>	\$ 188,000	\$ 188,000
Shravan Chintala Eye Research Institute	National Institutes of Health	<i>Proteases in IOP-Mediated Glaucomatous Damage. This project will advance understanding of the mechanisms underlying pressure-mediated ganglion cell loss in glaucoma.</i>	\$ 370,000	\$ 740,000
David Spencer SmartZone	The Community Foundation for Southeast Michigan (Note 1)	<i>The New Economy Initiative for Southeast Michigan. The objective of this project is to provide operational support to Macomb-INCubator to assist in developing an accelerator network for Southeast Michigan.</i>	\$ 675,000	\$ 675,000
Darlene Schott-Baer School of Nursing	Health Resources and Services Administration	<i>Advanced Education Nursing Traineeships. This funding will be used as tuition support for graduate nursing students.</i>	\$ 51,073	\$ 113,385
Andrew Goldberg Eye Research Institute	National Institutes of Health	<i>Molecular Scaffolding for Photoreceptor Outer Segment Structure and Renewal. The long-term objective of this research is to define the molecular scaffolding that underlies the dynamic architecture of vertebrate rod and cone photoreceptor outer segments. This research will advance knowledge of outer segment architecture to provide a basis for understanding how scaffolding defects impair rod and cone cell viability to cause retinal disease.</i>	\$ 356,536	\$ 2,132,850
Henri Gooren Department of Sociology and Anthropology	University of Southern California	<i>The Pentecostalization of Religion and Society in Paraguay and Chile. The objective of this project is to examine the extent of Pentecostalization in Paraguay and Chile specific forms of Pentecostalization of religion and society in Paraguay and Chile.</i>	\$ 100,000	\$ 100,000
<b>Total</b>			<b>\$ 5,486,192</b>	<b>\$ 11,119,186</b>

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