

Agendum
Oakland University
Board of Trustees Formal Session
September 23, 2009

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF JULY 1 THROUGH AUGUST 31, 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 July 1 through August 31, 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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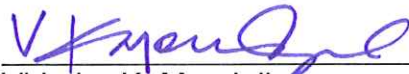
7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Office of Grants, Contracts and Sponsored Research prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance 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 July 1 through August 31, 2009.

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

Submitted to the President
on 9/12, 2009 by


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

Recommended on 9/14, 2009
to the Board for approval by


Gary D. Russi
President

Oakland University
 Grants and Contracts Report
 July 1 through August 31, 2009

Attachment A

| Principal Investigator | Awarding Agency | Title and Project Abstract | Award Amount | Total Award All Years |
|--------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------|
| Andrew Goldberg Eye Research Institute | National Institutes of Health | Molecular Scaffolding for Photoreceptor Outer Segment Structure and Renewal. <i>Retinal photoreceptors provide the cellular basis for sight. These fragile cells use a highly organized "outer segment" to detect incoming photons. Disorganization of outer segment architecture by trauma or inherited disease can impair photoreceptor function and viability to cause a wide range of retinal diseases. 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> | \$ 360,138 | \$ 1,063,242 |
| David Garfinkle Department of Physics | National Science Foundation | Numerical Studies of Singularities and Black Holes. <i>The goal of this project is to find the properties of gravitational collapse and the black holes and singularities formed in that collapse. This will deepen our understanding of gravity, space, and time.</i> | \$ 132,683 | \$ 132,683 |
| Fatma Mili Department of Engineering and Computer Science | National Science Foundation | Summer Institute in Bioengineering and Health Informatics. <i>The primary objective of the Oakland University Summer Institute on Bioengineering and Health Informatics is to promote graduate studies and careers in Bioengineering and Bioinformatics to bright, talented undergraduate minority students. The objective will be achieved by providing the student participants with a nurturing environment in which they are involved in interdisciplinary research and training activities, and by targeting the pool of recruitment to underrepresented students pursuing degrees in Computer Science, Natural and Health Sciences, and other related majors.</i> | \$ 148,135 | \$ 588,760 |

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|-----------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------|
| Lakshmi Raman Department of Psychology | National Institutes of Health | Beliefs about the Role of Nutrition on Mind-Body Interactions. <i>The objective of this project is to determine if children and adults entertain a mind-body interaction when assessing the impact of nutrition on biological and psychological processes. The data will provide the basis for effective health intervention programs for children and adults.</i> | \$ 222,000 | \$ 222,000 |
| Zijuan Liu Department of Biology | National Institutes of Health | Arsenic Accumulation by Aquaglyceroporins and Phosphate Transporters in Zebrafish. <i>Arsenic is an environmental toxin and carcinogen. The establishment of a zebrafish model can help to understand arsenic induced multiple diseases. This supplement will aid in the development of the scientific infrastructure in the U.S. by providing research experiences for undergraduate students.</i> | \$ 15,700 | \$ 15,700 |
| James Leidel Department of Facilities Management | The Kresge Foundation | Kresge Foundation Green Building Initiative. <i>This objective of this project is to provide additional planning and design on the new Human Health Building project, over and above the standard project plans, to attempt a USGBC LEED Platinum building or zero energy building.</i> | \$ 75,000 | \$ 75,000 |
| Scott Tiegs Department of Biology | Michigan State University (USDA) | Organic-Matter Decomposition among Plant Species and Pond Types of the Copper River Delta. <i>This project goal is to perform an evaluation of litter decomposition dynamics across common plant species and aquatic habitats of the Copper River delta, Alaska. The outcome will be an improved understanding of the overall ecological functioning of the different habitats that constitute the Copper River delta, especially as it relates to organic-matter dynamics and food webs.</i> | \$ 19,201 | \$ 19,201 |

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|------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------|
| George Martins Department of Physics | National Science Foundation | Materials World Network: Collaborative Research: Decoherence, Correlations and Spin Effects in Nanostructured Materials. <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 | \$ 168,000 |
| Nessan Kerrigan Department of Chemistry | National Science Foundation | Catalytic Asymmetric Dimerization of Ketoketenes. <i>The objective of this project is to develop a new organic chemistry methodology that would innovate natural product and drug molecule synthesis.</i> | \$ 340,000 | \$ 340,000 |
| Bradley Roth Department of Physics | National Institutes of Health | Magneto-Acoustic Effects in Imaging. <i>This project will analyze the role of the Lorentz force in biomedical imaging methods.</i> | \$ 154,277 | \$ 154,277 |
| Jai Li Department of Computer Science and Engineering | National Science Foundation | NOSS: Ultra-Wideband Sensor Networks for Automotive Vehicles. <i>The automotive industry has been limited by the available sensor technology. Revolutionary changes from the conventional wired sensors are required to reduce cost and enable new improvements to vehicle performance. This research project undertakes a multidisciplinary and cross-layer approach to develop UWB intra-vehicle sensor network theory and methods.</i> | \$ 90,000 | \$ 275,000 |
| Huirong Fu Department of Computer Science & Engineering | National Science Foundation | CT-ER: Trust-US: Trustworthy Transportation Ubiquitous Systems. <i>The United States Department of Transportation reports more than 1.8 million intersection crashes per year. The objective of this research is to develop methods and algorithms that ensure that vehicular network systems meet all safety requirements including accountability, privacy, authenticity, and timeliness.</i> | \$ 16,000 | \$ 271,999 |

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|--------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------|
| Reginald McCloud Department of Pre-College Programs | State of Michigan - DOE, Labor and Economic Growth | <i>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.</i> | \$ 47,840 | \$ 47,840 |
| Lianxiang Yang Department of Mechanical Engineering | Intelligent Automation, Incorporated | <i>Monochromatic Light Illuminated (MLI) High-Speed (HS) DIC System for High Temperature Strain Measurement. This research will provide great support for validation and optimization of design data and CAD models as well as for improvement of product quality, and thus, for enhancement of the lifetime and durability, and for reduction of the risk of failure of products.</i> | \$ 30,000 | \$ 30,000 |
| Charles Lindemann Department of Biology | National Science Foundation | <i>An Investigation of the Mechanism that produces Rhythmic Beating in Cilia and Flagella. The main objective of this project is to gather vital physical information about the flagellum and to incorporate it into a theoretical and a computer model of flagellar mechanics.</i> | \$ 219,012 | \$ 219,012 |
| Total | | | \$ 1,925,986 | \$ 3,622,714 |