

Agendum
Oakland University
Board of Trustees Formal Session
August 6, 2012

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY
FOR THE PERIOD OF FEBRUARY 1, 2012 THROUGH JUNE 30, 2012**

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 February 1, 2012 through June 30, 2012.

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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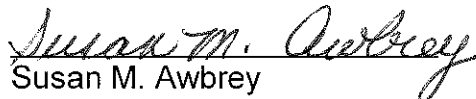
7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Office of Grants, Contracts and Sponsored Research prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance from the Office of Legal Affairs when requested.

8. **Recommendation:**

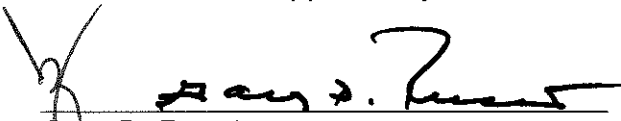
RESOLVED, that the Board of Trustees accept grants and contracts to Oakland University identified in the attached Grants and Contracts Report, Attachment A, for the period of February 1, 2012 through June 30, 2012.

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

Submitted to the President
on 7/24, 2012 by


Susan M. Awbrey
Interim Senior Vice President for
Academic Affairs and Provost

Recommended on 7/29, 2012
to the Board for approval by


Gary D. Russi
President

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Lorenzo Smith Department of Mechanical Engineering	Chrysler Group LLC	Phase I CLIC Research and Development for Sheet Metal Forming Technology. <i>The objective of this collaborative project is to develop novel methods, tools and solutions for improvement of sheet metal forming processes.</i>	\$ 50,000	\$ 110,292
Scott Tiegs Department of Biological Sciences	Wayne State University (Prime awardee of U.S. Environmental Protection Agency)	Phragmites Removal Monitoring Project. <i>The goal of this project is to evaluate the impact of a restoration action - the removal of the exotic plant Phragmites Australis from a wetlands - on organic matter decomposition.</i>	\$ 29,556	\$ 29,556
Mary Lose Department of Reading and Language Arts	Ohio State University (Prime awardee of U.S. Department of Education)	OSU-ARRA- Reading Recovery i3. <i>This project is a national collaborative partnership to scale-up Reading Recovery program implementation in schools identified for targeted assistance.</i>	\$ 330,311	\$ 3,254,351
Andrew Rusek Department of Electrical and Systems Engineering	Chrysler Group LLC	Test Investigations into EMI in the Cable Structures Applied in Manufacturing and Industrial Environments. <i>The objective of this project is to quantify EMI characteristics of shielded and unshielded twisted pair cables in industrial environments via simulation and measurements.</i>	\$ 30,000	\$ 30,000
Xiangqun Zeng Department of Chemistry	Michigan State University (Prime awardee of National Institutes of Health)	Autonomous Electrochemical Gas Sensor Detection Microsystem for Mine Safety. <i>The objective of this project is to develop new, miniaturized technology for sensing multiple gases that are capable of strategic dispersion throughout an underground coal mine.</i>	\$ 154,371	\$ 653,990
Gopalan Srinivasan Department of Physics	Office of Naval Research	Ferrite-Ferroelectric Heteroepitaxial Structures and Frequency Agile Multiferroic RF Components. <i>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.</i>	\$ 80,000	\$ 270,000
Zissimos Mourelatos Department of Mechanical Engineering	Chrysler Group LLC	Enhancements to the Chrysler Door Closing Effort Model and Development of a Liftgate Closing Effort Model. <i>The goal of this project is to enhance a previously developed door closing effort for Chrysler and develop a liftgate closing effort model.</i>	\$ 100,000	\$ 100,000

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Sayad Nassar Department of Mechanical Engineering	U.S. Army	Root Cause Analysis and Testing of Transparent Composites. <i>The objective of this project is to study failure modes and identify delamination root cause in transparent layered thick composites under various static and dynamic thermo-mechanical loads and environmental conditions.</i>	\$ 844,268	\$ 844,268
Stephen Goody Department of Art and Art History	Michigan Council for Arts and Cultural Affairs	Program for Operational and Project Support (POPS). <i>This funding will be used to support the Oakland University Art Gallery for the production of an accompanying catalogue for the upcoming visual arts exhibition, "Idealizing the Imaginary: Invention and Illusion in Contemporary Painting".</i>	\$ 7,500	\$ 7,500
Mohammad-Reza Siadat Department of Computer Science and Engineering	National Institutes of Health	Urinary Continence Index for Prediction of Urinary Incontinence in Older Women. <i>The objective of this project is to estimate a urinary incontinence index for older women to predict whether a subject is likely to develop incontinence in the future.</i>	\$ 135,102	\$ 135,102
Andrei Slavin Department of Physics	National Science Foundation	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>	\$ 90,656	\$ 270,000
Reginald McCloud Pre-College Programs	U.S. Department of Education	GEAR UP. <i>The goal of this project is to provide academic and social support for students currently in the seventh grade with support continuing through their first year of college. As a result of their active participation, students will be adequately prepared to succeed in college.</i>	\$ 87,767	\$ 87,767
Julie Ricks-Doneen Department of Human Development & Child Study	U.S. Department of Education	Child Care Access Means Parents in School. <i>This project will provide Pell-eligible undergraduate student-parents financial assistance with their Lowry enrolled child's tuition.</i>	\$ 54,745	\$ 108,866

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Julie Gustafson Macomb OU- INCubator	Michigan Economic Development Corporation	Macomb-OU INCubator. <i>This project will enhance Michigan's business climate in order to create jobs, grow the local economy and advance the industries of Defense/Homeland Security and Advanced Manufacturing.</i>	\$ 500,000	\$ 500,000
Sherry Perdue Department of Writing and Rhetoric	International Writing Centers Association	RAD Research in the Writing Center: How Much, By Whom, and with What Methods. <i>The goal of this project is to examine research practices and beliefs of writing center administrators.</i>	\$ 700	\$ 700
Julie Ricks-Doneen Lowry Center for Early Childhood Education	National Inclusion Project	Let's ALL Play Implementation Lowry Summer Camp. <i>The Let's ALL Play program will focus on the inclusion of children and youth with special needs in programs with typically developing peers.</i>	\$ 7,500	\$ 7,500
Michael Sevilla Department of Chemistry	National Institutes of Health	Mechanisms of Radiation Damage to DNA. <i>This project will study free radical mechanisms of radiation damage to DNA.</i>	\$ 203,672	\$ 1,184,000
Zissimos Mourelatos Department of Mechanical Engineering	Beta CAE Systems USA	Enhanced Re-Analysis Methods for FE-based Vibration Analysis in Shape Optimization and Probabilistic Optimization. <i>The goal of this project is the development of efficient deterministic re-analysis methods for vibration and optimization of large-scale, finite-element models.</i>	\$ 160,000	\$ 160,000
Dae-Kyoo Kim Department of Computer Science	Myongji University, South Korea	Grid-Wise Information Base and Configuration Engine Development for Unifying IEC 61850 and IEO 61970. <i>This research aims at facilitating data communication between hardware devices and software application in the smart grid domain.</i>	\$ 130,000	\$ 308,000
Julie Gustafson Macomb OU- INCubator	Grand Valley State University	Accelerator Development Funds-Discretionary. <i>The objective for 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 catalyze multiplier effect.</i>	\$ 30,000	\$ 330,000

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Amy Butler OU INCubator	Michigan Initiative for Innovation and Entrepreneurship	<i>OU INC Talent Enhancement and Green Technology Entrepreneurship Academy.</i> <i>The goal of this project is to enhance and accelerate the innovations of universities to business through education of faculty and students and build access to university resources by regional businesses.</i>	\$ 30,000	\$ 30,000
Amy Butler OU INCubator	Grand Valley State University	<i>Accelerator Development Funds-Discretionary.</i> <i>The objective for 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 catalyze multiplier effect.</i>	\$ 30,000	\$ 330,000
Andrei Slavin Department of Physics	Yale University	<i>Coherent Information Transduction Between Photons, Magnons and Electric Charge Carriers.</i> <i>This project will focus on the investigation of information transmission, storage and processing in multi-component systems, which utilize the coherent interconversion between photons, magnons and electric charge carriers.</i>	\$ 35,738	\$ 600,000
Dan Aloï Department of Electrical and Computer Engineering	University of Michigan	<i>Reliable Peripheral Nerve Interfaces.</i> <i>The goal of this project is to develop and demonstrate a reliable peripheral nerve interface to control a prosthesis.</i>	\$ 87,055	\$ 87,055
Reginald McCloud Department of Pre-College Programs	Detroit Area Pre-College Engineering Program (DAPCEP)	<i>DAPCEP Saturday Program Rockets, Rainbows and Motors.</i> <i>This funding will provide underrepresented students the interest and preparation needed to succeed in a university-level science and engineering curriculum.</i>	\$ 4,500	\$ 4,500
Reginald McCloud Department of Pre-College Programs	Detroit Area Pre-College Engineering Program (DAPCEP)	<i>DAPCEP PURSE Program.</i> <i>This project will promote underrepresented girls' involvement in Research, Science and Energy.</i>	\$ 7,500	\$ 7,500
Tanush Shaska Daniel Steffy Department of Mathematics and Statistics	National Security Agency	<i>East Coast Algebra Days.</i> <i>The objective of this workshop is to bring together researchers and graduate students who work in applied algebra and cryptography.</i>	\$ 12,000	\$ 12,000

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
Andrei Slavin Department of Physics	U.S. Army - TACOM	<i>Development of Theory of Operation of Current-Biased Spintronic Detectors and Coupled Arrays of Detectors.</i> The first goal of this project is to develop a theory of operation of spintronic microwave detector with direct-current bias and crystallographic and shape anisotropy. The second goal is the study of the out-of-plane high-amplitude regime of magnetization precession in a spintronic detector for the purposes of microwave energy harvesting.	\$ 99,999	\$ 99,999
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.</i> The goal of this project is to monitor streams and rivers in the upper peninsula of Michigan using macro invertebrate assemblages and cotton-strip decomposition rates.	\$ 2,400	\$ 11,200
Maria Bryant Department of Chemistry	National Science Foundation	<i>Intermolecular Forces from Interacting Densities.</i> The goal of this project is to design a computational method integrating density functional theory with perturbation theory of intermolecular forces.	\$ 325,545	\$ 325,545
David Garfinkle Department of Physics	National Science Foundation	<i>Numerical Studies of Singularities and Black Holes.</i> The goal of this project is to understand the properties of gravitational collapse, black holes and the big bang.	\$ 45,000	\$ 135,000
Julie Gustafson Macomb OU INCubator	Grand Valley State University	<i>Business Accelerator Fund-Client Engagement.</i> The objective for 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 catalyze multiplier effect.	\$ 50,000	\$ 300,000
Amy Butler OU INCubator	Grand Valley State University	<i>Business Accelerator Fund-Client Engagement.</i> The program objectives for this project are 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 catalyze multiplier effect.	\$ 21,900	\$ 300,000

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Geri Graham Project Upward Bound	U. S. Department of Education	Project Upward Bound College Preparatory Academy. 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.	\$ 597,252	\$ 597,252
J. David Schall Department of Mechanical Engineering	Battelle Memorial Institute	Experimental and Molecular Dynamic Investigations of Nanofluid Stability. The objective of this project is to study stability of nanofluids through experiment and simulation.	\$ 48,500	\$ 48,500
Laila Guessous Department of Mechanical Engineering	National Science Foundation	REU Site: Automotive and Energy Research and Industrial Mentorship Program at Oakland University. 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.	\$ 114,927	\$ 343,496
Manohar Das Department of Electrical and Computer Science	University of Minnesota	A Nationwide Consortium of Universities to Revitalize Electric Power. The object of this project is to revise and revitalize the energy/power engineering courses offered by the Department of Electrical and Computer Engineering by adopting the curricula developed by the University of Minnesota.	\$ 8,333	\$ 16,666
George Martins Department of Physics	National Science Foundation	Local Environment and Time-Dependent Effects in Nanoscale Systems. The purpose of this funding is to study the symmetry, local environment and time-dependent effects in nanoscale systems using a synergistic approach.	\$ 18,716	\$ 55,137
Andrei Slavin Department of Physics	National Science Foundation	MWN Dynamically Controlled Artificial Magnonic Materials Based on Arrays of Nano-Sized Dots. This project involves further development, characterization, and investigation of dynamically controlled nano-structured artificial materials two-dimensional magnonic crystals based on arrays of interacting nano-sized magnetic dots.	\$ 110,000	\$ 330,000

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Shailesh Lal Department of Biological Sciences	Indiana University	IPGA: Characterization, Modeling, Prediction, and Visualization of the Plant Transcriptome. <i>The object of this project is to perform experimental analysis to test the efficacy of computational-based gene structure prediction at the plant genome database. PlantGDB.</i>	\$ 165,871	\$ 165,871
Lorenzo Smith Department of Mechanical Engineering	Chrysler Group LLC	Development of New Tooling for Fully Lock Bead Model. <i>Oakland University will design and develop new tooling to be used in a draw bead simulation test fixture.</i>	\$ 5,866	\$ 5,866
Zissimos Mourelatos Department of Mechanical Engineering	General Dynamics Land Systems	Calculation of Weld Fillet Stresses. <i>The purpose of this project is to develop a methodology and software to calculate weld fillet stresses based on custom weld sizes, shapes and lengths.</i>	\$ 30,000	\$ 30,000
Reginald McCloud Department of Pre-College Programs	Detroit Area Pre-College Engineering Program (DAPCEP)	Detroit Area Pre-College Engineering Program - Spring Ready 2012. <i>This funding will provide underrepresented young men to pursue education necessary for careers associated with the alternative energy industries.</i>	\$ 9,000	\$ 9,000
Reginald McCloud Department of Pre-College Programs	Detroit Area Pre-College Engineering Program (DAPCEP)	Detroit Area Pre-College Engineering Program - Session I Bridge 2012. <i>This funding will provide underrepresented young men to pursue education necessary for careers associated with the alternative energy industries.</i>	\$ 60,000	\$ 60,000
Reginald McCloud Department of Pre-College Programs	Detroit Area Pre-College Engineering Program (DAPCEP)	Detroit Area Pre-College Engineering Program - Session II Bridge 2012. <i>This funding will provide underrepresented young men to pursue education necessary for careers associated with the alternative energy industries.</i>	\$ 60,000	\$ 60,000
Krzystof Kobus OU INCubator	Michigan Space Grant Consortium	Clean Energy Earth Science Workshops and Training K-12 Teachers and the Community. <i>The objective of this project is to provide a comprehensive, hands-on, workshop-based outreach and education program to bring three separate populations onto the Oakland University campus focusing on clean energy technology.</i>	\$ 15,000	\$ 15,000

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Ching-she Wu Department of Computer Science and Engineering	Michigan Space Grant Consortium	Trade-Off Analysis on QoS-Aware Dynamic Web Services Composition with Evolutionary Optimization. <i>The goal of this project is to implement dynamic web service composition, suitable service components and organize optimal combinations from different service providers.</i>	\$ 5,000	\$ 5,000
Xia Wang/ Carl Cayabyab Department of Mechanical Engineering	Michigan Space Grant Consortium	Characteristics and Performance of Biomass under Various Mixture Compositions. <i>The purpose of this research project is to study the characteristics and performance of various biomass mixture compositions.</i>	\$ 2,500	\$ 2,500
Osamah Rawashdeh Department of Electrical and Computer Engineering	Michigan Space Grant Consortium	Diverse Redundancy for Increased Reliability of Highly Integrated Systems. <i>The purpose of this research project is to better understand the advantages and disadvantages of using diverse resources on highly integrated circuits to create diverse redundant systems for increased reliability.</i>	\$ 5,000	\$ 5,000
Xia Wang/ Stephen Bazinski Department of Mechanical Engineering	Michigan Space Grant Consortium	Quantifying the Effects of Cell Temperature on the Capacity of High Energy. <i>The purpose of this research project is to study a series of tests performed on high-energy Li-ion prismatic cells.</i>	\$ 5,000	\$ 5,000
Robert Van Til Department of Industrial and Systems Engineering	National Science Foundation	Project Lifecycle Management Scholarship Program. <i>The NSF Scholarships in Science, Technology, Engineering and Mathematics (S-STEM) Program makes grants to higher education institutions to support academically talented financially needy students, enabling them to enter the workforce following completion of their degree.</i>	\$ 80,255	\$ 80,255
Bradley Roth Department of Physics	Beaumont Research Institute	Physics Doctorial Student - Ranjeeta Thapa. <i>These funds will provide research training placement of Oakland University graduate Physics student, Ranjeeta Thapa.</i>	\$ 15,126	\$ 15,126

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Cheryl Riley-Doucet School of Nursing	National Eczema Association	<i>Assessment of PAMID to Manage Nighttime Pruritus among Children with Atopic Dermatitis. The goal of this project is to design, validate and perform clinical tests of a medical device that is capable of physiological monitoring and multi-sensory intervention. The proposed research and development effort will also facilitate multidisciplinary collaboration between the School of Engineering and Computer Science, School of Nursing and Psychology.</i>	\$ 11,000	\$ 11,000
Total			\$ 5,145,131	\$ 12,495,360