College of Liberal Arts and Sciences Sponsored Awards: July-Sept 2015

DEPARTMENT: Africana Studies

Ntiri, Daphne W. **$18,100** **STATE OF MICHIGAN**

PI/Co-PI Award Credit: **100.0%**

2015-2016 WIA Core Another Chance

Workforce Improvement Act adult education high school completion program to build state funded program capacities, recruitment, and to enhance retention in adult literacy program delivery.

Ntiri, Daphne W. **$2,500** **Junior League of Detroit**

PI/Co-PI Award Credit: **100.0%**

Another Chance Teaching Aids

Funded purchase of whiteboard classroom equipment for Another Chance program.

DEPARTMENT: Biological Sciences

Anantharam, Arun **$272,302** **NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES**

PI/Co-PI Award Credit: **100.0%**

The Impact of Synaptotagmin Isoform Structure and Diversity on Dense Core Granule Exocytosis

The research will provide important insights into the regulation of the human stress ("fight-or-flight") response, which impacts cardiovascular, respiratory, metabolic, and mental health. Understanding how hormones are secreted into the bloodstream to trigger fight-or-flight, may lead to new therapies to manage the physiological manifestations of stress.

Kashian, Daniel Mark **$216,072** **Joint Fire Science Program**

PI/Co-PI Award Credit: **100.0%**

Assessing 30 Years of Changes in Vegetation and Fuels Following Wildfire in Jack Pine Forests of Northern Lower Michigan

Measure of successional changes in vegetation and fuels is necessary to develop accurate prescriptions and risk assessment for wildfires. The project is a study of the jack pine forests of Lower Michigan which is the site of one of the largest wildfires on record in the easter United States (1980 Mack Lake Fire). The data collected will benefit in the testing and validation of models used to assess the importances of successional changes in vegetation and fuels.

DEPARTMENT: **Biological Sciences**

Kashian, Donna Rebecca **$20,000** **Great Lakes Environmental Center, Inc.**

PI/Co-PI Award Credit: **100.0%**

Great Lakes Surveillance Plan Technical Assistance

Provide aid the development of a Great Lakes Basin Aquatic Invasive Species Serveillance plan.

Myhr, Karen Lindsey **$2,977,793** **NATIONAL SCIENCE FOUNDATION**

PI/Co-PI Award Credit: **28.5%**

Student Success Through Evidence-Based Pedagogies (WSU-SSTEPs)

Collaborative partnership of Chemistry, Biological Sciences, Physics, Mathematics, and Office of Teaching & Lerning to implement WSU-Sudent Success Through Evidence-based Pedagogies (WSU-SSTEP). The WSU-SSTEP Program puts into action data from the planning grant to facilitate deep penetration of effective pedagogies into STEM courses, with a special eye toward 26 foundational classes. The collaboration will result in refined methods for the longitudinal tracking of students through the foundational STEM coursework and beyond to identify structural elements of the curricula which impede persistence in STEM and lower six-year graduation rates. Institutional student data (transcript-mining) will be used to assess changes in performance and STEM persistence as EBTMs become broadly implemented across campus.

DEPARTMENT: **Chemistry**

Pflum, Mary Kay Hamm **$1,115,276** **NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES**

PI/Co-PI Award Credit: **100.0%**

Chemical Approaches to Mapping Cell Signaling Pathways

Kinase and phosphatase enzymes are involved in various diseases and are the target of multiple pharmaceutical drugs. The research project takes new chemical approaches to characterizing kinase and phosphatase substrates to aid in the understanding of disease and development of new treatments.

DEPARTMENT: **Communication Sciences and Disorders**

Zhang, Jinsheng **$1,041,457** **U.S. DEPARTMENT OF DEFENSE**

PI/Co-PI Award Credit: **45.0%**

Targeting TNF-alpha for Treatment of Blast-Induced Tinnitus

Examination of the hypothesis that blast-induced TBI activates TNF-a, which, together with blast-induced hearing loss, synergistically increases the incidence of blast-induced tinnitus, and that blast-induced activation of TNF-a in limbic structures exacerbates the limbic aspects of blast-induced tinnitus.

DEPARTMENT: **Geography and Urban Planning**

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Mohamed, Shaikh Rayman **$104,630** **U-Haul International**

PI/Co-PI Award Credit: **100.0%**

Moving to Opportunity: U-Haul's Local Economic Impact and Contributions to Residential Mobility

The project is an examination of the social impacts of redevelopment in Midtown Detroit to assess changed quality of the surrounding neighborhood, catalyzation of additional redevelopment, reduction in blight, assessment of optimism, and crime level changes bearing a correlational relationship with U-Haul's redevelopment of the NBC building.

Pothukuchi, Kameshwari **$100,000** **KELLOGG FOUNDATION**

PI/Co-PI Award Credit: **100.0%**

Supporting Leadership: A campus-community partnership for sustainable food systems in Detroit

A post-bachelor certificate course will be developed titled Seeding Student Leadership Program (SSLP). SSLP prepares students to facilitate a just and sustainable food system, will contribute to a competent workforce in the industry, and build leadership capacity of WSU students. The longer term goals of the program are to provide learning, employment and leadership opportunties in Detroit's growing food sector.

DEPARTMENT: Mathematics

Bruner, Robert R. **$2,977,793** **NATIONAL SCIENCE FOUNDATION**

PI/Co-PI Award Credit: **14.3%**

Student Success Through Evidence-Based Pedagogies (WSU-SSTEPs)

Collaborative partnership of Chemistry, Biological Sciences, Physics, Mathematics, and Office of Teaching & Lerning to implement WSU-Sudent Success Through Evidence-based Pedagogies (WSU-SSTEP). The WSU-SSTEP Program puts into action data from the planning grant to facilitate deep penetration of effective pedagogies into STEM courses, with a special eye toward 26 foundational classes. The collaboration will result in refined methods for the longitudinal tracking of students through the foundational STEM coursework and beyond to identify structural elements of the curricula which impede persistence in STEM and lower six-year graduation rates. Institutional student data (transcript-mining) will be used to assess changes in performance and STEM persistence as EBTMs become broadly implemented across campus.

Bruner, Robert R. **$1,448,963** **NATIONAL SCIENCE FOUNDATION**

PI/Co-PI Award Credit: **25.0%**

Noyce Mathematics Fellows, TeachDETROIT

Wayne State University's College of Education collaborative project for the Noyce Mathematics Cohort, Teach DETROIT, for consideration under Track 1, Schlarships and Stipends, Phase 1, in collaboration with Wayne State's College of Liberal Arts and Science Mathematics Department, Henry Ford College, Detroit Public Schools, Wayne Westland Community Schools and Wayne Regional Education Services Agency. Funding over 5 years supports the recruitment, training, and retention of STEM ndergraduate majors to teach mathematics in grades K-8 in Detroit area schools.

DEPARTMENT: Mathematics

Mordukhovich, Boris S. **$352,394** **NATIONAL SCIENCE FOUNDATION**

PI/Co-PI Award Credit: **100.0%**

Second-Order Variational Analysis and Its Applications

The research is a systematic investigation of new optimization models of second-order subdifferential constructions to the design and justification of numerical algorithms in nonsmooth optimization and related areas. Besides the proposed theoretical and numerical developments, the second-order results will be applied to solving concrete problems in mechanics, engineering, and several branches of behavioral sciences.

DEPARTMENT: Physics

Cackett, Edward Michael **$56,366** **Smithsonian Astrophysical Observatory**

PI/Co-PI Award Credit: **100.0%**

Crustal cooling from KS 1731-260 14 years into quiescence

Observation KS 1731-260 will be performed 14 years into quiescence and will test whether the neutron star crust is still cooling, or whether cooling has stopped. The behavior of the cooling will allow measure of the thickness of the neutron star crust and determination of the temperature of the neutron star core.

Hoffmann, Peter Manfred **$2,977,793** **NATIONAL SCIENCE FOUNDATION**

PI/Co-PI Award Credit: **14.3%**

Student Success Through Evidence-Based Pedagogies (WSU-SSTEPs)

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DEPARTMENT: Psychology

Barnett, Douglas **$562,440** **HEALTH RESOURCES & SERVICES ADMINISTRATION**

PI/Co-PI Award Credit: **50.0%**

Training Psychologists to Excel in Integrated Care

A comprehensive, interprofessional training and service program to address complex health needs of the medically underserved. Training program that creates five new advanced, 1,000-hour, year-long practicum placements for psychology trainees annually within interprofessional primary care practice teams serving vulnerable and underserved populations. Provides integrated, culturally responsive, evidence-based, behavioral health services to Detroit's underserved. Develops an interprofessional didactic curriculum for optimal whole person health care.

DEPARTMENT: Psychology

Beeghly, Marjorie **$275,000** **MICHIGAN STATE UNIVERSITY**

PI/Co-PI Award Credit: **5.0%**

Consequences of prenatal toxicant exposure on fetal brain function

Collaboration with Merrill Palmer and Pediatrics, the primary goal of the research is to establish the effect of prenatal toxicant exposure on fetal brain function and to determine the long-term consequences of their association for child behavioral problems.

Wurm, Annmarie Cano **$582,767** **National Center for Complementary and Alternative Medicine**

PI/Co-PI Award Credit: **100.0%**

Preliminary test of an integrative intervention to alleviate chronic pain and improve quality of life in couples

A couple-based intervention for people with chronic pain that teaches both partners psychological and relationship flexibility skills to promote better quality of life and alleviate pain. This project will form the basis of a long-term research program aimed at developing and disseminating effective mind-body treatments for people with physical health problems that also account for the social context in which they live.

DEPARTMENT: Sociology

Swider, Sarah Christine **$19,500** **UNIVERSITY OF CALIFORNIA, LOS ANGELES**

PI/Co-PI Award Credit: **100.0%**

Organizing among informal workers in the construction and domestic workers Industries

A study of organizing among informal workers in the construction and domestic workers industries in China. Interviews with governmental officials, workers, and organizational officials will be conducted. The collaborative research is with University of California, Los Angeles.