

## Office of Research Development and Administration Award Report, January – March 2018

\$1,374,703 Hitomi Oketani, World Languages Japan Business Society of Detroit Foundation (\$2,080) Research on Japanese Heritage Language: Given current trends in globalization, workers in wide-ranging occupations will be competing globally, and those with strong cultural and bilingual skills in multiple societies will be most competitive for key positions. We study "Japanese Heritage Language (JHL) students" with one or both parent(s) speaking Japanese as their first language at home, while their children's first language is shifted from Japanese to English. We expect such students to have great opportunity to be biliterate but in practice it is very difficult because there is no supporting educational organization especially for JHL students and their families. We will work closely with a JHL parents group to investigate in more detail the best suitable solutions for their linguistic environment, and identify the best approach to practice English and Japanese bilingualism from the perspective of Japanese Heritage Language teaching. Hitomi Oketani, World Languages Japanese School of Detroit (\$16,490) Oketani - JSD - Heritage Contract Year 4: This is a project to promote Japanese English bilingual/multilingual education including Japanese heritage education for K-12 students, their teachers, and their parents. Eastern Michigan University will conduct workshops for teachers and parents, observe and consult on classroom instruction, and assist teachers with curriculum development. Joseph Breza, Psychology National Institutes of Health - NIH (\$143,264) Lightly Salted: An Optogenetic Approach to Uncover the Role of Type I Cells in Salt Taste Transduction: Sodium (Na<sup>+</sup>) is an essential nutrient, but humans consume this nutrient in excess which increases the risk of hypertension and stroke. It is currently unknown which cell type within taste buds is responsible for Na<sup>+</sup>-taste transduction. Here, an optogenetic approach is used to determine whether Type I cells within taste buds are responsible for Na<sup>+</sup> taste transduced through epithelial sodium channels (ENaCs). Optogenetic manipulation of Type I taste-bud cells allows for selective perturbation of taste-bud circuitry with an unprecedented level of precision— unmatched by conventional pharmacology—and serves as a valuable tool for unraveling the enigma of the taste of Na<sup>+</sup>. This project will test two hypotheses. 1) Optogenetic activation (via Channelrhodopsin-2; ChR2) of Type I cells in fungiform-taste buds activates NaCl-best neurons in the mouse Nucleus Tractus Solitarius (NTS), located in the medulla. 2) Optogenetic activation (via ChR2) of Type I cells in fungiform taste buds elicits Na<sup>+</sup> taste and drives Na<sup>+</sup> appetite in Na<sup>+</sup> deprived mice. Knowledge obtained from these investigations will provide the field with much needed information about the role of Type I cells in taste function, and could provide a target for pharmacological manipulation of taste circuitry to enhance salt taste, thereby decreasing Na<sup>+</sup> intake. Such discoveries would have a positive impact on human health and disease afflicted by excess Na<sup>+</sup> consumption. Elise Buggs, Academic Partnerships Michigan Department of Talent & Economic Development (\$81,183) MICUP: Funding for the Martin Luther King, Jr. - Cesar Chavez - Rosa Parks College/University Partnership Program between four-year public and independent colleges and universities and public community colleges, to increase the number of academically or economically disadvantaged students who transfer from community colleges into baccalaureate programs. John Cooper, Communication, Media and Theater Arts DTE Energy Foundation (\$20,000) Cooper - DTE Found - Louis Lightning bug: Eastern Michigan University will take DTE Energy's "Play it Safe" program to southeast Michigan Safety Towns and similar programs/sites. Marguerite Daisey, Teacher Education River Rouge School District (\$338,274) Thinking Like an Artist in Core Curriculum Subjects (Year 4): The goal of the proposed project is to enhance, expand, document, evaluate, and disseminate an innovative, cohesive model of standards-based arts education into elementary and middle school reading and mathematics instruction of low SES students of color. The project addresses the lack of awareness and implementation of arts integration instruction by teachers. Professional development consists of weekly visits to schools by technology, art-integration and math methods instructors. There will be a summer art-integration institute, 5 artists workshops, and 20 lessons co-planned by teachers and project staff, and co-taught by art, ELA (or math) teachers, art-integration instructors, and ELA/math interns. The management team consists of River Rouge administrators and EMU project director who will disseminate the work and build a sustainability plan. Christine Finch, Child Care Center Washtenaw Intermediate School District (\$168,305) Great Start Readiness Program: Great Start Readiness makes preschool programs available to EMU students and the surrounding community. It can make it possible for EMU students to complete their education and for community members to attend EMU and/or become employed. The funding is for four-year-olds who would otherwise be at risk of becoming educationally disadvantaged. Theodore Ligibel, Geography and

Geology Michigan Department of Natural Resources (\$15,000) Internship at the Michigan Historical Center's Historical Marker Program: The Michigan Historical Center will provide funding for one Graduate Research Assistant (RA) from the EMU Historic Preservation Program to work with the Center on the Michigan Historical Marker Program. Ethan Lowenstein, Teacher Education National Oceanic Atmospheric Administration - NOAA (\$75,000) Developing a Comprehensive Teacher Support System for K-12 Great Lakes Literacy and PlaceBased Watershed Education: This project experiments with innovative content and processes building on the South East Michigan Stewardship (SEMIS) Coalition current B-Wet grant. The SEMIS Coalition's Placed-Based Education (PBE) curriculum methodology is an ideal delivery method for NOAA's Meaningful Watershed Educational Experience as the goals of the two overlap substantially. The goals for this project are: 1) to increase the number of students who can participate in curriculum embedded, meaningful and immersive experiences, 2) to help students develop a deeper understanding of the Great Lakes Literacy Principles and put these principles into practice through place-based stewardship projects, 3) to sharpen students' abilities to articulate local watershed and Great Lakes challenges and share their knowledge and ideas with the public in informed ways, 4) to provide the kind of holistic educator support system needed for teachers to learn the content, ground their understandings in Great Lakes Literacy principles, and work with their students in the field. With this award, we can integrate NOAA educational assets into our organization's activities. Carmen McCallum, Leadership and Counseling Ann Arbor Area Community Foundation AAACF (\$114,480) Community Scholarship Program: The Community Scholarship Program (AAACF) focuses on college graduation for students who face significant hurdles through poverty and inequity. The program integrates multi-year scholarship awards with college success coaches to improve each scholar's chance of attaining a post-secondary degree. Using a well understood student development theory (Astin's I-E-O model) we will examine the program by focusing on the experiences of all stakeholders (students, success coaches, trainers, AAACF staff, etc.) who are invested in the program's success and the mechanisms that are used to promote success with special attention to the impact of success coaches on students' persistence and graduation attainment. Micheal Saylor, COE Deans Office State of Michigan 1 (\$47,269) EMU Morris Hood Jr., Educator Development (MHED): Few students enter the field of education from high school and even fewer of those come from urban schools. They do not see teaching as a desirable or viable career. The Pathways program works with partner schools to identify and support middle/high-school students who are potential teachers, facilitates their admission to EMU, provides additional wrap-around services for them academically, socially, and personally, and facilitates their full admission to the certification program. The support occurs prior to admission, in their transition to EMU, while at EMU, and after completion of the program. Partner schools agree to interview the participants for a teaching position upon certification. Sarah Shea, School of Social Work Michigan Health Endowment Fund (MHEF) (\$100,000) Supporting the Health and Mental Health of Infants and Toddlers in Foster Care: The goal of this project is to train foster and adoptive parents to prevent or remediate adverse childhood experiences of foster care children, ages 0-3, who are at a significantly higher risk for long-term health and mental health problems. The project will pilot and evaluate innovative multi-modal training content for foster and adoptive parents within the existing Michigan Department of Health and Human Services' (MDHHS) mandatory adoptive and foster parent training system, preparing caregivers to respond constructively to the developmental and social-emotional health needs of infants and toddlers. He Tang, School of Engineering Technology Optimal Inc. (\$25,000) Tang - Optimal - Industry contract: Developing a low production volume, special vehicle is a challenging innovation as its unique characteristics and requirements differ from those of conventional mass production vehicles. One of the development tasks is the manufacturing assembly realization. This project helps the project sponsor review, critique, and support their development tasks and results, focusing on the manufacturing feasibility and design for manufacturing for a special vehicle. Wendy Thomas, Small Business Development Center Community Foundation for Southeastern Michigan (\$95,000) Thomas - CFSEM - NEI: The Michigan Small Business Development Center (SBDC) will provide financial education services to several Detroit neighborhoods. The objectives of the project are to provide onsite business support services, help existing businesses understand the requirements for good financial management, and increase the number of business start-ups in the targeted neighborhoods. The SBDC will hire a consultant and student to work on-site in designated neighborhood locations, providing business counseling and a variety of financial related workshops. Jessica Alexander, Office of Academic Service Learning Lincoln Consolidated Schools (\$11,356) Milan Area School District (\$11,356) Ypsilanti Community Schools (\$17,487) College Coaching Corps 2017-2018: The College Coaching Corps seeks to help Michigan students located in communities with low socio-economic status and low adult educational

attainment rates pursue postsecondary educational opportunities. Working alongside school professionals and under the supervision of school counselors or principals, Eastern Michigan University College Coaching Corps Graduate Assistants support students as they make the transition from high school to postsecondary education. College Coaching Corps GA's provide students and their families with relevant information regarding the benefits of a postsecondary education, preparing for college attendance, and the admission and financial aid processes. Jessica Alexander, Office of Academic Service Learning Washtenaw County, Michigan (\$3,300) South Side Ypsilanti Bike Share: The South Side Ypsilanti Bike Share project will increase healthy exercise, increase mobility and provide free transportation in three Ypsilanti Housing Commission communities: Hamilton Crossings, New Parkridge and Sauk Trail Pointe. All three communities have either been renovated or newly constructed and serve low-income families. Bike sharing provides (in addition to exercise): access to employment, consumer products and services; family entertainment at no cost; reduction in fuel consumption and emissions gases; and reduced traffic. Eastern Michigan University, Ypsilanti Housing Commission, Parkridge Community Center and Rutherford Pool are collaborating on this project. Jessica Alexander and Marquan Jackson, Engage Strong Housing LDHA LP, Ypsilanti MI (\$89,859) Strong Future FY2018, Year 3: EMU's Family Empowerment Program in partnership with the Ypsilanti Housing Commission is one of 10 programs in the country to participate in the Strong Families Fund (SFF) Initiative, a 10-year initiative launched by the Kresge and Robert Wood Johnson Foundations designed to demonstrate and document the impact of Resident Services Coordination (RSC) to affect improved resident and property outcomes in affordable housing developments. RSC is a vital link to information, referrals, and connections to community services that supports residents to maintain housing stability, economic growth and improved quality of life. The goals of SFF include: performance incentive payments to support resident service coordination in affordable family developments, demonstration of beneficial outcomes for residents and properties, and evidence of viability for sustainable funding for resident service coordination from investors and mainstream systems and funders. The EMU project provides resident services for all residents in the YHC housing communities: Sauk Trail Pointe and Hollow Creek, also known as Deborah Strong Housing (total 112 units). In the third year of this program we are required to measure stability and/or change in jointly identified (CSH, Kresge, FEP and YHC) outcomes. Those outcome areas include: work, income and assets; children, youth and education; housing stability; property; and community engagement