

**Office of Research Development and Administration  
Award Report  
July 2017  
\$1,329,829**

**Dan Bonenberger, Geography & Geology**

Wheeling Historic Landmarks Commission (\$12,000)

Early Dwellings of North Wheeling Intensive Survey: North Wheeling is famous for its late-Victorian architecture, yet its concentration of earlier, mid-nineteenth century dwellings is greater than any other neighborhood in Wheeling, potentially surpassing that of any other town in the state of West Virginia. These houses link the city with the most important events in its history: the arrival of the National Road terminus, industrialization, statehood movement, and the Civil War. Unfortunately, this collection of buildings remains hidden in plain sight, for while the age and history of a few of the earliest houses are known, many more remain intact but undocumented beneath a layer of later nineteenth century stylistic accretions or encapsulated in later additions that masque their age and importance. The EMU team's expertise in historical Geographic Information System (HGIS), vernacular architecture, architectural field surveys, and local archival research will bring these hidden treasures to light. The earliest dwellings in the neighborhood will be identified, researched, and described in detail using the WVHPIF following state and federal best-practices. A survey report will evaluate the significance of these buildings in the context of local, regional and national developments, and make recommendations for future recording, designation, and management options.

**Stephanie Casey & Andrew Ross, Mathematics**

National Science Foundation (\$264,941)

Collaborative Research: Mathematics of Doing, Understanding, Learning, and Educating for Secondary Schools: MODULE(S2) aims to improve preservice secondary mathematics teachers' mathematical knowledge for teaching with a three-pronged approach: (1) refine and expand instructional modules which improved preservice secondary teachers' MKT in pilot trials; (2) promote effective instruction by university faculty using these modules; and (3) investigate the impact of use of instructional modules and faculty quality of instruction on preservice teachers, so as to inform subsequent efforts in teacher education. This five year project will build on efforts by the Mathematics Teacher Education Partnership (MTE-P) to create a gold standard for preparation for secondary teaching. Using a Networked Improvement Community Model of design, three teams coordinate on the MODULE(S2) effort: (1) writing teams in four content areas (algebra, statistics, geometry and modeling) will expand, refine, and disseminate instructional modules and support materials for faculty; (2) the professional development (PD) team will develop and conduct activities to support faculty using the modules; (3) the research team will provide empirically-based insight into effective instructional practices to develop preservice secondary mathematics teachers' mathematical knowledge for teaching.

**Anne Casper, Biology**

National Institutes of Health (\$441,000)

Complex Genomic Rearrangements by BIR and mmBIR: When the process of copying a cell's DNA is stalled or damaged, human cells can use a break-induced replication (BIR)-like

mechanism for repair. However, BIR can cause the loss of genetic information and promote tumorigenesis. A related, more error-prone repair pathway, called microhomology-mediated break- induced replication (mmBIR), has been implicated in generating complex duplications and deletions in DNA, both in tumors and in copy number variations (CNVs). This proposal uses the yeast model system to investigate BIR and mmBIR. Our results will help explain how complex rearrangements form in tumors and CNVs and may suggest how the BIR and mmBIR mechanisms could be therapeutically targeted.

**Claudia Drossel & Alexandros Maragakis, Psychology**

Michigan Health Endowment Fund (\$391,098)

EMU Geropsychology Training: Advancing Late-Life Neurobehavioral Health: The goal of this project is to establish specialty training in geropsychology within Eastern Michigan University's Clinical Psychology Doctoral Program, thereby enabling persons 65 years and older with cognitive loss in Southeast Michigan to receive home-based or clinic-based integrated behavioral health services from doctoral students at low cost. During the two-year period of funding, faculty who are experts in geropsychology will model the service delivery, video-record the provision of services with seniors' (or their legal representatives') consent, and create a training package that will serve to sustain the state-of-the-art training in the future.

**Ronald Flowers, Leadership and Counseling**

Association of Leadership Educators (\$1,500)

DRAG-IT: A Guidebook for Engaging College Students in Critical Reflection to Support Student Learning and Leadership Development in High Impact Practices: This research project seeks to develop and pilot a guidebook designed to aid faculty, instructors, student affairs staff, and student leaders in leading critical reflection with students engaged in high impact practices. The DRAG-IT Critical Reflection Guide will be based on conventional and experiential pedagogy and provide a framework for designing and facilitating individual & group conversations, class curriculum, and student affairs programs. Professional and student leadership educators will gain specific techniques for engaging college students in critical reflection during and after participation in HIPs.

**Ethan Lowenstein, Teacher Education**

Great Lakes Fisheries Trust (\$145,000)

The Southeast Michigan Stewardship Coalition, GLFT Confirmation 5, SEMIS 2017-2019: The Southeast Michigan Stewardship Coalition (SEMIS) regularly achieves high levels of quality implementation of our core structures that support communities of practice and sustained professional learning. These have included: A 9-day sequence of professional development each year; organizational resources to support whole school communities of practice and create communities of practice that align to each school's structures; On-site curriculum coaching; A partnership-grant application process that provides a vehicle for assisting teachers and partners in focused planning and the formation of new community partnerships, and sustaining existing partnerships; Structures for public sharing of PBE efforts such as the Community Forum and Annual Place-Based Education conference and the development of new communities of practice; and structures for the formation of professional learning communities called affinity groups led by Coalition members and organized around relevant professional PBE practice topics. This continuation grant builds on those activities.

**Bay and Paul Foundation (\$30,000)**

Transforming Place-Based Education Practice through Personalizing Teacher Learning: The Southeast Michigan Stewardship Coalition (SEMIS) engages young people and adults in Place-Based EcoJustice Education efforts addressing local environmental issues. Through in-depth professional development and facilitation of school-community partnerships with teachers and community educators from 18 schools and 35 community organizations, SEMIS fosters visionary education communities. By focusing educational investigations on local issues, young people gain a deeper understanding of the interconnected social and environmental problems their communities face. As teachers and students see how they, themselves, can have a direct impact on creating just and healthy communities, they gain confidence and take agency as civic actors. Past Bay and Paul support has allowed us to use personalized curriculum coaching as a method of teacher support for fostering meaningful place-based learning. We have found that such support is especially critical in under-resourced schools serving high-poverty students. The proposed program would give us the opportunity to sustain and deepen our coaching efforts, refine our coaching protocols, and ultimately yield richer place-based experiences for students.

**Bloomfield Hills High School (\$6,190)**

BHHS SEMIS Professional Development Contract

**John Paul Catholic Church (\$4,000)**

JPIIICS SEMIS Professional Development Contract

**Ypsilanti Community Schools (\$4,000)**

YCS Professional Development Contract

The above contracts provide professional development for teachers in how to use a place-based education approach

**Wendy Thomas, College of Business**

**Grand Valley State University (\$30,100)**

Michigan Small Business Development Center (SBDC) Regional Service Center 2017, Request for Supplemental Funding: Funding will expand SBDC counseling and training services to targeted industries within specific underserved markets in SE Michigan. This region currently has several business consultants with expertise in finance. The supplemental funding will be used to hire a consultant with expertise in marketing. The marketing consultant will be especially helpful for start-up businesses that require little or no financing.

**Office of Research Development and Administration**

**Award Report, August 2017**

**\$327,714**

**Cathy Fleischer, English**

**National Council of Teachers of English (NCTE) (\$14,400)**

National Council of Teachers of English (NCTE) Principles in Practice book: Annual Contract with NCTE to support Professor Fleischer's role as editor of NCTE journal Principles in Practice.

**David Pawlowski, Physics and Astronomy**

National Aeronautics and Space Administration, Sub-Award from University of Michigan (\$28,289)

Understanding the effects of solar flares on the upper atmospheres of Mars and Venus - year 2: Dr. Pawlowski's work will primarily focus on the development and use of the Mars Global Ionosphere-Thermosphere Model (M-GITM) as well as the Venus Global Ionosphere-Thermosphere Model (V-GITM). He will assist in the development of V-GITM, simulate the response to both realistic and idealized solar flare cases within M-GITM and V-GITM, work closely with other team members to compare results and observations that illustrate how traveling atmospheric disturbances facilitate the transport of energy and momentum throughout the Mars and Venus upper atmosphere, and model results and observational analysis.

**Mary Motherwell**, WEMU FM Public Radio

Corporation for Public Broadcasting (\$144,974)

WEMU Community Service Grant 10/01/2015-09/30/2017: Annual award for broadcasting Public Radio programs.

**Stephanie Casey**, Mathematics

National Science Foundation, Sub-Award from North Carolina State University (\$37,651)

Enhancing Statistics Teacher Education with E-Modules (ESTEEM): This project will push the discipline of mathematics teacher education and statistics education forward by utilizing free online resources (and/or entire modules) within traditional settings in university teacher preparation programs. The goals are: 1. Create online resources for infusing secondary mathematics teacher preparation programs with content focused on teaching; 2. Design modules and approaches to be used within teacher preparation programs; 3. Implement resources and modules in undergraduate courses and investigate students' learning and faculty implementation.

**Jessica Alexander**, Engage

Ann Arbor Area Community Foundation AAACF (\$2,400)

FLY Creativity Lab and Parkridge Community Center: FLY Creativity Lab is Ypsilanti's center of collaboration between kids and working artists, makers and educators. FLY is dedicated to growing our community's creative capacity by bringing experiences that empower kids to imagine, invent, and innovate. The power of creativity is the power of change. It is the power of knowing how to face challenges and nurture independent vision. It is the art of making things happen. Programs are available to families throughout Washtenaw County.

**Emad Tanbour**, School of Engineering Technology

Ford Motor Company (\$50,000)

Virtual Reality Lab: The School of Engineering Technology Virtual Reality (VR) Lab at Eastern Michigan University will use VR technology to improve patient compartment design of ambulances. This project will use virtual prototyping and design revision of patient compartments. Requested funding will be used to add a fourth VR wall that is needed to conduct this work. The fourth VR wall facilitates the visualization of the ambulance compartment and allows the design improvement project to be conducted with high fidelity and realistic proportions.

**Steve McGregor**, School of Health Promotion and Human Performance

MKinetics (\$25,000)

University of Michigan, Michigan Corporate Relations Network (\$25,000)

Validation of Inertial Motion Unit (IMU) Based Portable Joint Range of Motion Sensor

System: EMU will collect joint kinematics, optical motion capture, and IMU data to validate joint range of motion for an inertial motion unit and motion sensor system for MKinetics, a sports technology company with locations in Detroit and Pittsburgh.

**Office of Research Development and Administration**

**Award Report, September 2017**

**\$1,700,833**

**Jessica Alexander**, Institute for the Study of Children, Families and Communities

Michigan Department of Education (\$5,733)

Summer Food Service Program for EMU Upward Bound Summer Academy 2017: Upward Bound is a year-round academic and college success program for students from high-needs school districts. EMU's Upward Bound program targets low-income high school students from Ypsilanti Community Schools who are academically at-risk and the first in their families to go to college. EMU-UB provides academic support, career exploration, advising, college campus tours, assistance with college and financial aid applications, etc. This award allows us to provide food during our Summer Academy.

**Jessica Alexander**, Office of Academic Service Learning

Michigan Department of Labor-Labor and Economic Growth (\$29,951)

Protecting Construction Workers from Silica 2018: Eastern Michigan University's Center for Organizational Risk Reduction(EMU CORR) training program will (1) enhance MIOSHA's mission to help assure the safety and health of Michigan workers, (2) assist MIOSHA to implement its 2014 - 2018 Strategic Plan for Construction Health Hazards, and (3) assist Michigan employers in complying with new silica standards and protecting Michigan workers by providing effective, practical training and compliance advice. EMU CORR will provide an eight-hour comprehensive training program in workshop format to enable employers to recognize silica exposure hazards, legal obligations to protect workers from silica exposure, and select and implement appropriate exposure control measures for various construction situations and conditions. EMU CORR will hold ten seminars in multiple locations around the state. The target audience is employers engaged in (1) the construction of buildings, (2) heavy and civil engineering construction, (3) demolition, (4) residential construction, and (5) building material, garden equipment and supplies

**Ethriam Brammer**, Institute for the Study of Children, Families and Communities

US Department of Education (\$232,265; Year 3 of 5)

Eastern Michigan University TRIO SSS Regular Program, 207 - 2018: The EMU TRIO SSS program supports first generation students, low income students, and students with disabilities. The goal is to increase college retention and graduation rates for these students. The program offers tailored support that includes academic tutoring, advice and assistance in course selection, counseling to improve financial literacy, information and assistance in applying for Federal Student Aid, and assistance in applying for admission to graduate school. Funding

provides support for 140 students per year. The program succeeds through partnership with collaborating offices across campus.

**Wayne Doyle**, Institute for the Study of Children, Families and Communities

US Department of Education (\$154,815; Year 3 of 5)

Eastern Michigan University TRIO SSS programs for Veterans: The EMU program promotes academic success among student veterans and serves a minimum of 80 students. The program provides dedicated academic and personal support, tailored to address the unique needs of veterans who are in pursuit of a bachelor's degree from EMU. Expected outcomes are good academic standing, increased retention and degree completion and optimal use of available financial aid. The program partners with: EMU Veterans Resource Center, McNair Scholars Program, EMU Student Support Services, Financial Aid, Transfer Admissions, Upward Bound, University Advising and Career Development, the Veterans Community Action Team for Region 9, and the Consortium of Michigan Veterans Educators.

**Chris Finch**, Child Care Center

Michigan Department of Education (\$25,000)

Child Food Care Program: The Child and Adult Care Food Program provides reimbursement for the meals provided to the children at the Children's Institute.

**Charles Graham**, School pf Social Work

Washtenaw County Juvenile Drug Court (\$25,861)

Adolescent Diversion Program 2018: The Adolescent Diversion Program (ADP) field unit is a cooperative effort between Eastern Michigan University (EMU) School of Social Work and Washtenaw County Juvenile Court. ADP seeks to provide court referred adolescent participants with a program of mentoring and advocacy services tailored to address their unique needs and to help them avoid further involvement with the juvenile justice system. Trained and supervised social work undergraduate student interns will meet and work with each assigned youth 6-8 hours weekly for 15 weeks, providing constructive interaction and feedback through various vocational, academic, and recreational activities.

**Allen Kurta**, Biology

Michigan Dept of Natural Resources (\$32,240)

Bat surveys in underground mines and caves in northern Michigan (supplement to original contract plus more time): At various sites throughout the state, Dr. Kurta will monitor the number of hibernating bats and the approximate species composition to help determine the effects of an introduced fungal disease (white-nose syndrome) on bats in Michigan.

**Vijaykumar Mannari**, School of Engineering Technology

CRODA (\$15,963)

CRODA Testing Agreement: This project involves testing and evaluation of new generation environmentally sustainable epoxy hardeners with commercially available counterparts to assess performance and corrosion resistance.

**Heather Neff**, English Language and Literature

US Department of Education (\$232,265; Year 1 of 5)

McNair Program 2017 - 2018: The goal of the Eastern Michigan University McNair Program, is to provide disadvantaged college students with effective preparation for doctoral study. Each year the EMU program serves 36 undergraduate students, at least two-thirds of whom (24) will be first-generation and low-income, with the remaining third (12) coming from populations underrepresented in doctoral education.

**Eric Paradis, Physics and Astronomy**

National Science Foundation, sub award through University of Michigan (\$25,313)

Electric fields, shock-fronts and structures in laser-induced magnetized plasmas: Plasmas that are cold or strongly coupled or magnetized occur, for instance, in astrophysical environments, magnetic-confinement fusion and ion trapping experiments. Further, the presence of a large magnetic field leads to novel phenomena such as magnetic pressure, anisotropic expansion/trapping in both astrophysical plasmas as well as plasma within fusion devices and magneto-hydrodynamic generators. The study of such plasmas is challenging; some are too remote while others may be inaccessible to diagnostic probes. Although laboratory studies of cold plasmas have been conducted in weak magnetic fields, the strong magnetic-field regime is still poorly understood. One outstanding goal is to reach the regime of strong coupling for both electronic and ionic components of the plasma. The proposed work focuses on the preparation and diagnostics of small-scale, easy-to-access laboratory plasmas that emulate the plasma systems above.

**Steven Pernecke, College of Arts and Sciences,  
US Department of Education (\$397,754)**

Strengthening the STEM Curriculum of Eastern Michigan University by Institutionalizing the CSIE Program, Year 4, 2017 - 2018: This is year 4 of 5 years of funding. The project will implement the innovation and effective CSIE program across STEM disciplines. The focus is on faculty professional development, curricular reform, and improved student connections to STEM faculty, peers, and the community through experiential community-based research activities.

**Zuzana Tomas, World Languages English as a Second Language  
US Department of Education (\$523,673; Year 2 of 5)**

Writing Research Intervention in Teaching English Language Learners (WRITELL): A Quasi-Experimental Study Using Teacher Inquiry Communities to Support English Learners Opinion Writing Through the Use of Writing Strategies and Scaffolding: WRITELL provides professional development to improve instruction for English Learners (ELs). Undergraduate and graduate students at Eastern Michigan University will provide after-school tutoring services to EL youth and to EL adults during morning and evening classes. Intensive, year-long professional development for teachers will improve instruction for ELs and provide the subject for a quasi-experimental study of the effectiveness of scaffolding and writing strategy instruction for ELs. The project will serve 40 preservice teachers per year (200 total), 60 in-service teachers per year (300 total), 50 newly-licensed EL teachers by project end, 30 school leaders, counselors, school psychologists, etc. per year (150 total), 100 EL students in after-school tutoring programs per year (500 total), 250 parents and children in family literacy workshops per year (1250 total), and 250 adult ELs in the community per year (1000 total).

**Office of Research Development and Administration**  
**Award Report, October 2017**  
**\$2,595,522**

**Jessica Alexander, Academic Services**

Community Mental Health Partnership of Southeast Michigan (\$73,647)

Substance Use Disorder Prevention Programs: Communities That Care of Ypsilanti (CTCY) focuses on the 48197 and 48198 zip codes using the Communities That Care (CTC) prevention process to address the community's issues. Over the past six years CTCY has built a community coalition that collects data and uses that data to drive the selection of tested and effective programs. CTC guides communities through a proven five-phase change process. Using evidence-based prevention science, CTC promotes healthy youth development, improves youth outcomes, and reduces problem behavior through this prevention process. Many communities using the CTC process see dramatic reductions in levels of youth alcohol and tobacco use and crime and violence.

**Leslie Atzman and Ryan Malloy, Fine Arts**

Sappi (\$31,550)

A Community Arts Hub for Ypsilanti Michigan Riverside Arts Center/FLY Creativity Lab Identity and Toolkit: Ypsilanti is a distressed city, but it is becoming a hub for vibrant experimental work in the arts. Architects, artists, and designers have begun to settle into the city, creating a dynamic new arts scene while also reaching out to those in the community. Riverside Art Center and FLY Creativity Labs are working together to galvanize this trend. For this project, Ryan Malloy, Leslie Atzman, and a group of graphic design students at Eastern Michigan University's School of Art & Design, will work with RAC and FLY to develop an identity system for Riverside Arts Center/FLY Creativity Lab and a FLY Creativity Lab Toolkit for local young people and their families. The toolkit will be geared to elementary and middle school students, but will include thought-provoking activities for all ages. The identity system will include logos, letterhead, business cards, environmental graphics, website, stickers for laptops, building signage, street-side banners, invitation and press release form for April 2018 launch party, fundraising materials/informational brochure, and styles manual with recommendations for the application and use of the brand, including the creation of future promotional material. The purpose of this new branding is to position RAC and FLY as a welcoming community resource, and to relay RAC and FLY's goals for collective advancement through art and design.

**Maurice Henderson, College of Technology, Deans Office**

Michigan Department of Education (\$60,000)

Michigan Business Professionals of America: Competitive renewal for continuing support for Business Professionals of America (BPA)-Michigan Association. The purpose of the project is to sustain and advance BPA as a vital component of the Business Services and Technology curriculum and to fulfill the mission of the Career and Technical Education and Leadership organizations in Michigan.

**Kasim Korkmaz, School of Visual Built Environment**

Nexus Gas Transmission, LLC (\$50,000)

Equipment for Construction Safety: Equipment for the construction lab will be purchased as well as the development of training curriculum on construction safety.

**Lynn Malinoff**, Study Children and Family

Michigan Department of Education (\$675,000)

21st CCLC Cohort J Year 2017-2018 Bright Future: For 10 years, Eastern Michigan University Bright Futures (EMUBF) has developed a strong culture of best practices including positive youth development (youth voice, choice, and engagement), embedded academics, social emotional learning (SEL), and family engagement. Students will receive targeted academic support, and experience project-based clubs resulting in new experiences, career exploration, learned academic content, and skills to transition to the next level. Community partners, university students, and experts will facilitate clubs in technology, music, martial arts, theater, art, and leadership. EMU partners include the College of Education, Social Work, Communication and Theater Arts, Academic Service Learning, Leadership and Counseling, biology, and world languages. UM partners include the Kinesiology and French departments, School of Education, and College of Pharmacy. Two Ypsilanti Community Schools (Ypsilanti Community Middle School and Ford Early Learning Center) and three Wayne Westland Community Schools (Hicks, Schweitzer, and Taft-Galloway) are the focus of this Bright Futures project.

**Lynn Malinoff**, Study Children and Family

Michigan Department of Education (\$675,000)

21st CCLC Cohort 1-Two Bright Futures: Three Bright Futures programs will serve students in Wayne Westland Community Schools (Franklin Middle School and Hoover and Marshall Upper Elementary Schools) and four Bright Futures programs will serve students in Ypsilanti Community Schools (Perry Early Learning Center and Ypsilanti Community High School). There are limited after school opportunities in these schools making them ripe for 21CCLC programs. Students will participate in daily academic activities, mentoring, service-learning and a rotating menu of clubs and activities focused on cultural arts and technology, supported by many collaborators. University partners include Eastern Michigan University College of Education, Communication and Theater Arts, Academic Service-Learning, and Counseling and Leadership, and the UM School of Education. Clubs will integrate writing skills, youth development, and skills for a successful transition from elementary to middle school and middle to high school.

**Lynn Malinoff**, Study Children and Family

Michigan Department of Education (\$675,000)

21st CCLC Cohort I - One Bright Futures: One Bright Futures program will serve students in Wayne Westland Community Schools (Wayne Memorial High School) and four Bright Futures programs will serve students in Ypsilanti Community Schools (Estabrook, Erickson, Adams, and Holmes Elementary Schools). There are limited after school opportunities in these schools making them ripe for 21CCLC programs. Students will participate in daily academic activities, mentoring, service-learning and a rotating menu of clubs and activities focused on cultural arts and technology, supported by many collaborators. University partners include Eastern Michigan University College of Education, Communication and Theater Arts, Academic Service-Learning,

Leadership and Counseling, and the UM School of Education. Clubs will integrate writing skills, youth development, and skills for a successful transition from elementary to middle school and middle to high school.

**Steve McGregor**, School of Health Promotion and Human Performance

The US Hockey Foundation (\$41,680)

Leveraging technology to address player safety and enhance player development in US ice hockey: In order to promote continued growth of ice hockey in the United States, it is important to address issues of player safety. Recent advances in technology allow for detailed, accurate identification of on-ice contact events. Therefore, technology can be used to improve the current state of knowledge regarding contact-related injuries in ice hockey. Aside from player safety, player development is another important component of the continued growth of hockey. Again, recent advances in technology allow for the accurate assessment of on-ice player performance in ways that were previously unattainable. Enhanced player development will contribute to the success across all levels of USA Hockey that will add to continued growth of the sport. In broad terms, the objectives of this project will be two-fold; to leverage technology to i) address issues of player safety, specifically related to contact in both checking and non-checking environments, and ii) to develop enhanced understanding of player assessment and development that can contribute to improved coaching approaches at all levels of USA Hockey from youth to elite levels of the sport.

**David Wait**, College of Technology, Deans Office

Michigan Department of Education (\$44,000)

Michigan Family, Community, and Career Leaders of America (FCCLA): Non-competitive renewal to be the host for the statewide Michigan Family, Career, & Community Leaders of America. This program provides state leadership to local FCCLA programs, providing students and teachers with activities and programs that promote personal growth and development through family and consumer sciences education.

**David Wait**, College of Technology, Deans Office

Michigan Department of Education (\$60,000)

Michigan DECA: Competitive renewal to administer the statewide management and leadership of the secondary Michigan DECA Career and Technical Student Organization. The purpose of the Michigan DECA is to sustain and advance career and leadership organization as a vital component of the vocational marketing education curriculum and to fulfill the mission of the career education and leadership organizations in Michigan.

**David Wait**, College of Technology, Deans Office

Michigan Department of Education (\$60,000)

Michigan Skills USA: Competitive application to continue operating the Michigan office for Skills USA. The purpose of Skills USA is to provide high school students and their teachers with activities and programs that motivate students and that develop students leadership, individual, social, teamwork, decision making, problem solving, and technical skills as it relates to various trade and industrial career paths that students may pursue in secondary education.

**Tsu-Yin Wu**, School of Nursing

Michigan Department of Health and Human Services (\$50,000)

A Culturally-Sensitive Linguistically-Appropriate Intervention for Outreach and Increase CRC

Screening Among Asian Americans in Michigan - 2018: Asian Americans colorectal cancer (CRC) screening rates are lower compared with the rates for non-Latino whites. To increase CRC screening in this underserved Asian population, intervention strategies need to address language, socio-cultural, and structural barriers to CRC screening and help immigrants understand the importance of obtaining and maintaining screening. The objective of this project proposed by Healthy Asian Americans Project (HAAP) is to reduce health disparities related to colorectal cancer screening experienced by uninsured Asian Americans in Michigan. Specific aims are to utilize evidence-based strategies and implement a culturally and linguistically appropriate program to refer eligible Asian Americans to Michigan CRC Early Detection Program (MRCEDP) screening sites in metro Detroit areas and Grand Rapids.

**Tsu-Yin Wu, School of Nursing**

Midwest Asian Health Association (\$99,645)

Cooperative Agreement to Support Navigators in Federally-Facilitated and State Partnership

Marketplaces: The Health Asian Americans Project will target Asian Americans and Asian immigrants by providing assistants during the enrollement process for healthcare benefits. This will promote health equity and improve health outcomes for racial and ethnic minority populations by expanding the affordability and accessibility to healthcare coverage.

**Office of Research Development and Administration**

**Award Report, November and December 2017**

**\$286,568**

**Munther Abualkibash, Information Security and Applied Computing**

Microsoft (\$5,000)

Microsoft Azure Research Award: Object detection using supervised learning often requires extensive training, resulting in high execution times. If the system requires retraining to accommodate a missed detection then waiting several hours before the system is ready may not be acceptable in practical implementations. This research is to improve the result of previous research by running the object detection framework on the cloud where the system can efficiently adapt to misclassified data and be retrained within a few seconds instead of few minutes. Improvements can be made to the framework by accelerating the framework computation process where it can be adjusted to work directly in the cloud rather than using local workstations to handle applications.

**Jessica Alexander, Office of Academic Service Learning**

Ford Community Corps (\$8,798)

826Michigan: Educational Psychology (College of Education) & 826Michigan partnered to provide a meaningful field experience for students exploring teaching as a career. 826Michigan is a nonprofit serving students in Ann Arbor, Ypsilanti and Detroit that inspires school-age students to write confidently. Educational Psychology students are required to complete 20 hours of tutoring high-needs students in Ypsilanti or Detroit.

**Jessica Alexander, Office of Academic Service Learning**

Ford Community Corps (\$11,203)

Alternatives for Girls: Alternatives for Girls, and Applied Drama and Theater for the Young. Graduate students will collaborate to develop drama/theatre work as a means for self-empowerment and exploration.

**Elise Buggs**, Academic Partnerships

Michigan Department of Health & Human Services (\$66,895 of a total award of \$133,738)

Magic - Independent Skills for Living: The program provides independent living services to eligible youth. The services are coordinated with other relevant federal and state programs and include assistance with housing, employment, education, budgeting/financial management, identifying/maintaining appropriate relationships, career planning, parenting, medical/dental health, and finding community resources.

**Elise Buggs**, Academic Partnerships

College Day Appropriation (\$92,351)

College Day Appropriation The MI GEAR UP Program partners with Michigan's 15 public universities, and valuable external community partners to provide early intervention services and a scholarship component for low-income students. The MI GEAR UP program serves a cohort of students, beginning in the seventh grade and follows them through the first year of college. The College Day Program mission is to 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 prepare themselves adequately for college entry and success. EMU's College Day Appropriation is directed to support the MI GEAR UP program.

**Jennifer Fong**, Upward Bound

U S Department of Education (\$10,256)

Upward Bound, Supplemental funds for 2017-2018: The EMU UB program is designed to identify, select, enroll, and support 89 eligible participants and focuses on preparing students to successfully graduate college within six years of their high school graduation. EMU UB programming meets the specific needs of target students in the form of an integrated academic year, a pre-collegiate summer residential program including an algebra Jumpstart program for rising 9th graders, and a collegiate bridge and work-study/internship for seniors transitioning to college.

**Faison Gibson**, Marketing

SPARK Ann Arbor (\$5,000)

SPARK Contract: In collaboration with Ann Arbor SPARK, the EMU Center for Digital Engagement, provides area high-tech startups with digital marketing interns, as well as other programming related to the evolving nature of digital engagement.

**Ellen Gold**, Student Wellbeing

Alana's Foundation (\$1,500)

Flu Shot Vaccines for Un-Insured Students: Provides flu shots to students who lack preventative health care resources.

**Mary Kubitskey**, College of Education Office of Academic Services

American Institute of Bilingual Education (AIBE) (\$13,770)

EMU Student Teacher International Student Teacher Program -- West Bloomfield School

District: EMU College of Education, in partnership with our colleagues in the College of Arts and Science and local school districts, works to support the development of students as teachers of Chinese. Our candidates complete practicums in the partner schools as they work towards their teaching certificate.

**Mary Kubitskey**, College of Education Office of Academic Services

BCC International Education Group, Inc. (\$41,312)

EMU Student Teacher International Student Teacher Program -- L'Anse Creuse School District:

EMU College of Education, in partnership with our colleagues in the College of Arts and Science and local school districts, works to support the development of students as teachers of Chinese. Our candidates complete practicums in the partner schools as they work towards their teaching certificate.

**Mary Kubitskey**, College of Education Office of Academic Services

BCC International Education Group, Inc. (\$13,770)

EMU Student Teacher International Student Teacher Program -- Whitmore Lake School District:

EMU College of Education, in partnership with our colleagues in the College of Arts and Science and local school districts, works to support the development of students as teachers of Chinese. Our candidates complete practicums in the partner schools as they work towards their teaching certificate.

**Alexander Popko**, World Languages

German Embassy (\$3,575)

German American Day: Funding supports the teaching and learning of German and of German politics and culture. The German Consul from the Chicago Consulate will deliver two lectures. There will be a cultural learning experience referred to as the "Walking Oktoberfest" that will engage local high schools students in learning about German culture.

**Alexander Popko**, World Languages

Japan Business Society of Detroit Foundation (\$1,318)

Japanese Quiz Bowl: The 24th Annual Michigan Japanese Quiz Bowl is the largest Japanese language competition for Grade K-12 Japanese Language Students in Michigan. Eastern Michigan University will examine the current curriculum at K-12 Japanese classroom in Michigan, provide direction for better classroom practice and prepare appropriate questions for the 24th Annual Michigan Japanese Quiz Bowl.

**Hannah Seidel**, Biology

Life Sciences Research Foundation (LSRF) (\$5,000)

Life Sciences Research Foundation Fellowship: Nutritional control of germline stem cell

proliferation: A complete understanding of stem cell biology requires better knowledge of how stem cells respond to changes in diet and nutrition. *C. elegans* offers many advantages as a model system, and its germline stem cells are extremely responsive to nutritional change: under fed conditions, these cells divide continuously; upon starvation, they become quiescent. Candidate

gene approach and unbiased screen will be used to identify key regulators of nutritional control of germline stem cells. These studies will provide insight into how multi-cellular organisms evaluate nutritional state and coordinate appropriate responses across tissues..

**James Sheerin**, Physics and Astronomy

National Aeronautics and Space Administration (\$1,500)

Michigan Space Grant Operating Support for 2017-2018: 2017-2018 annual operating funds for the EMU Space Grant.

**Motoko Tabuse**, World Languages

Japan Business Society of Detroit Foundation (\$3,000)

Japanese Culture Festival 2018: As a means to promote the cultural awareness of Japanese Culture, the Japanese Student Association (JSA) of Eastern Michigan University will once again host it's annual Japanese Culture Festival to showcase Japanese culture to foster knowledge and appreciaton of the Japanese culture.

**Patricia Zimmer**, Communication, Media and Theater Arts

Michigan Council for Arts & Cultural Affairs MCACA (\$2,320)

Bringing Theater for Very Young Audiences to Our Community: EMU Theatre will produce "Chicken Story Time," a delightful new play for very young audiences (ages 3-6) by Sandra Fenichel Asher. MCACA funds will support a tour of this production to underserved communities in our area and to bring the playwright to Michigan. The play supports early literacy in our community through an interactive theatre arts project focused on the importance of stories and reading. EMU students and area community members will have the opportunity to interact with an internationally recognized author and playwright. The play offers the opportunity for student performers, faculty and community members to participate in the development of a new work of art since the EMU production will be the mid-western premiere of the play. The production will extend EMU Theatre of the Young's usual outreach, which is typically limited to elementary schools.

**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 ( $\text{Na}^+$ ) 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  $\text{Na}^+$ -taste transduction. Here, an optogenetic approach is used to determine whether Type I cells within taste buds are responsible for  $\text{Na}^+$  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  $\text{Na}^+$ . 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  $\text{Na}^+$  taste and drives  $\text{Na}^+$  appetite in  $\text{Na}^+$  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  $\text{Na}^+$  intake. Such discoveries would have a positive impact on human health and disease afflicted by excess  $\text{Na}^+$  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 Lightening 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 Place-Based 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 Sayler**, 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

**Office of Research Development and Administration**  
**Award Report, April 2018**  
**\$975,486**

**Olivia Ford**, School of Health Sciences

U S Department of Agriculture – USDA; Grant to University of Tennessee, (\$3,000)

Get Fruved: A peer-led, train-the-trainer social marketing intervention to increase fruit and vegetable intake and prevent childhood obesity: EMU is taking part in a University of Tennessee study on fruit and vegetable intake at colleges and universities across the country.

**Wade Tornquist**, Graduate School

State of Michigan, (\$9,773)

King-Chavez-Parks (KCP): Visiting Professors Program FY2018: The Martin Luther King, Jr.-Caesar Chavez-Rosa Parks (KCP) Visiting Professors Program was created by the Michigan State Legislature to stem the downward spiral of college graduation rates for students underrepresented in postsecondary education. The KCP Visiting Professors Program is intended to increase the diversity of instructors in Michigan higher education institutions to provide role models for underrepresented students.

**Wade Tornquist**, Graduate School

State of Michigan 2, (\$103,362)

King-Chavez-Parks (KCP) Future Faculty Fellows FY2018: The purpose of the King-Chavez-Parks Future Faculty Fellowship Program is to increase the pool of traditionally underrepresented candidates pursuing careers in postsecondary education and subsequently promote inclusivity and diversity in US colleges and universities. The KCP Future Faculty Fellowship Award provides a maximum of up to \$20,000 for master's level Fellows and up to \$35,000 for doctoral Fellows. Future Faculty

**Nelson Maylone**, Teacher Education

The Woodrow Wilson National Fellowship Foundation, (\$12,000)

Woodrow Wilson Mentoring Project (Year 6): The purpose of the project is to provide mentoring to EMU's working Woodrow Wilson Teaching Fellows. The objective is to assist in their professional development during their induction years. The mentoring (by a faculty member in Teacher Education) includes field observations and feedback, virtual support, and funding of their various professional development opportunities.

**Ethan Lowenstein**, Institute for the Study of Children, Families, and Communities

UPS Foundation, (\$5,000)

Place-Based Stewardship Education in Action: This program has three primary goals: 1) to help the SEMIS Coalition to develop a systematic approach to supporting educators as they integrate arts, history, and civic action in place-based stewardship education projects, 2) to strengthen two, high impact partnerships with arts organizations in our region, 3) to share the impacts of student projects with the larger community.

**Cory Emal**, Chemistry

U S Department of Agriculture - USDA, (\$149,996)

Strengthening student readiness for internships and the workforce via Fermentation Science curriculum development and implementation: The current rapid growth in interest in fermented foods and beverages, such as beer, wine, yogurt, and fermented vegetables, has created an increased demand for employees with technical training related to their production. In response to this demand, Eastern Michigan University has created new major and minor degrees in Fermentation Science, intended to provide students practical, hands-on training in the science as it relates to the process of fermentation. Given the infancy of the field of Fermentation Science, there is not a standard curriculum to be used as a template, nor are there numerous standard experiments or textbooks available. The goal of the proposed project is to create and integrate additional practical experiments and experiences into the first-year introductory and third-year analytical Fermentation Science courses, with the goal of better preparation of students for their senior-year internships/collaborative research projects. The beneficiaries of this project will be the students within the program as they receive a greater amount of contextually relevant training, and our external partners in the fermentation community who host our internships and hire our graduates will benefit from a student/employee with a larger base of practical training. Curricular materials and procedures will be disseminated and made available to the education community for use or adaptation.

**Christine Deacons**, Academic Programming

State of Michigan 1, (\$136,905)

EMU Edge: Pathways to Completion: Edge supports first-generation low-income students who are academically at –risk with a 4-year program of structured support that begins with adoption of the EMU Engage app that helps students start to make connections before arriving on campus. This is followed by a 4-day early orientation prepping students for college life - including workshops related to finances, motivation and goal setting, and introduction to native electronic systems to help students more easily navigate the challenges they face as they transition to college and beyond. Over the course of the 4-year program, students participate in service and leadership activities, Edge Advance student organization events, and have the opportunity to join an Edge-specific study abroad trip.

**Christine Finch**, Child Care Center

Washtenaw Intermediate School District, (\$13,485)

Great Start Readiness Program Amendment: This program makes preschool programs available to EMU students and the surrounding community. It can make it possible for the EMU students to complete their education and community members to attend EMU and/or become employed. The program's funding is for four-year-olds who would otherwise be at risk of becoming educationally disadvantaged and this amendment is for two additional students.

**David Pawlowski**, Physics and Astronomy

U S Small Business Administration, (\$29,075)

Understanding the effects of solar flares on the upper atmospheres of Mars and Venus – (Year 3): This work will primarily focus on the development and use of the Mars Global Ionosphere-Thermosphere Model (M-GITM) as well as the Venus Global Ionosphere-Thermosphere Model

(V-GITM). Tasks include: 1) Assisting in the development of V-GITM; 2) Simulating the response to both realistic and idealized solar flare cases within M-GITM and V-GITM; 3) Work closely with other team members to compare results and observations that illustrate how traveling atmospheric disturbances facilitate the transport of energy and momentum throughout the Mars and Venus upper atmosphere; 4) Model results and observational analysis.

**Kristin Judd**, Biology

Mill Creek Research Council, (\$850)

Two student projects with Mill Creek Research Council: Funding is for two student research projects on human impacts on stream ecosystems in the Huron River Watershed. The first project addresses the impacts of low doses of pharmaceuticals that enter natural systems directly from wastewater treatment facilities and indirectly through leaky wastewater treatment infrastructure. This study is the Masters Thesis research of Elizabeth Stover. She will cultivate stream biofilms on tiles to discover which various common pharmaceuticals found in waste water effluent are added to biofilms. The second project examines the impact of road salt inputs on stream ecosystem function, and will be carried out by Caleb Willette, an undergraduate student. Both studies include Mill Creek as the focal stream, but will also study other streams located in the upper Huron River Watershed to better understand how land use interacts with low doses of pharmaceuticals and road salt inputs. Both projects will be carried out during the spring and summer of 2018.

**Tricia Finger**, School of Health Sciences

Early On Center for Higher Education, (\$6,918)

In-Home Observations of Early Intervention Services: Interactions Between Providers and Families: The field of early intervention has shifted from a child-centered approach to a more family-centered approach in recent years. While early intervention providers have strong values and beliefs about delivering family-centered care, their day-to-day practices don't always reflect these values. This study takes an in-depth look at early intervention services as they unfold in the natural context of a child's home within the family system. Direct observation through wearable video cameras will enable the collection of detailed data on the complex interactions that take place during early intervention visits. Through this approach, we will be able to answer the following primary research questions: 1) What role does the parent/caregiver play during the intervention visits? What is the level of family engagement in the process? 2) What activities/contexts do the early intervention services take place in? Which family routines are utilized? Secondary research questions include: 3) What are parent/caregiver perspectives on their role in the early intervention process? Are they satisfied with the level of engagement they experience? 4) Is there a relationship between perceived parent/caregiver engagement and their reported levels of family stressors and other potential barriers to family engagement?

**Hitomi Oketani**, World Languages

Japanese School of Detroit, (\$20,622)

2018-19 Japanese School of Detroit Teaching Contract: Through an educational affiliation between JSD and EMU, EMU will provide JSD with qualified student(s) who will teach Japanese language at the off-campus location of Detroit Ringo Kai, Japanese School of Detroit.

**Wendy Thomas**, Small Business Development Center

U S Small Business Administration, (\$484,500)

Small Business Development Center (SBDC) Host, 2018: The Michigan Small Business Development Center (MI-SBDC) at Eastern Michigan University is part of a statewide program that is primarily funded by the U.S. Small Business Administration to provide assistance to entrepreneurs at start up stage and existing businesses seeking to grow and improve their operations. The MI-SBDC offers one-on-one counsel, training seminars and secondary research support to its clients. We also make presentations and outreach in the communities we serve to provide information about business support resources that are available to small business.

**Office of Research Development and Administration  
Award Report, May 2018  
\$935,219**

**Nancy Bryk**, Geography and Geology

Cranbrook Educational Community (\$6,750)

2018 Historic Preservation Field School at Cranbrook (A17-0038-002): The EMU Historic Preservation Program will undertake hands-on preservation of Tower Cottage, an Albert Kahn building on the campus of Cranbrook Educational Community (CEC) for six days in May 2018. Twenty students and three professors will work with graduate students to restore exterior elements including windows and stucco; document the landscape as well as the interior changes to this much-altered building. Additionally, students will assist with registration of artifacts in another CEC site, the Frank Lloyd Wright Smith House. This funding supports a construction manager/field school manager with extensive knowledge of historic preservation building systems and techniques.

**Elise Buggs**, Academic Partnerships

Michigan Workforce Development Agency (\$107,111)

Michigan King\*Chavez\*Parks (KCP) State-wide GEAR UP (A16-0069-004): The Gear Up (Gaining Early Awareness and Readiness for Undergraduate Programs) is a federal program to increase the number of low-income students who are prepared to enter and succeed in post-secondary education. The program serves at least one grade level of students beginning no later than 7<sup>th</sup> grade and follows the cohort through their first year of college. GEAR-UP services include tutoring mentoring, academic preparation, financial education and college scholarships to improve access to higher education. GEAR UP EMU serves 1,200 students from 3 school districts in Wayne County.

**Jamie Cornelius**, Biology

National Science Foundation - NSF (\$266,585)

Collaborative Research, RUI: Social modulation of migratory timing and endocrine mechanisms of migration in two flexible migrants (A18-0045-001): The objective of this project is to address large gaps in knowledge of the regulatory mechanisms underlying the expression of a migratory phenotype in birds. To do this, a series of captive experiments will be carried out focusing on two songbird species with flexible migration patterns: the pine siskin (*Spinus pinus*) and the red crossbill (*Loxia curvirostra*). The project will capitalize on extensive previous work by PI Watts

(Washington State University) with the siskin system and by PI Cornelius (Eastern Michigan University) with the crossbill system. Aim 1 of the project is to evaluate the influence of social cues on the timing of the initiation and termination of the migratory life history stage. Aim 2 of the project is to advance our understanding of the role of changes in circulating steroid hormones and the availability of their receptors in the brain and periphery in the transition into and out of a migratory state and to investigate the role of these mechanisms in mediating the effect of social cues on migratory transitions. Dr. Cornelius will also oversee the design and implementation of an elementary school outreach program for Ypsilanti area schools.

**Nathan Kearns**, Health Promotion and Human Performance

American Academy of Orthotists and Prosthetists (\$3,400)

Outcome Measure "How To" Video Project (A18-0046-001): To increase understanding and facilitate the use of outcome measures in the orthotic and prosthetic profession clear and concise instructional videos will be created. Annually, more than 795,000 people experience a stroke, making it one of the primary causes of serious long-term disability. Similarly, Cerebral Palsy is the leading cause of physical disability in children. Orthotic interventions are commonly prescribed to treat motor deficiencies for these patients. Traditionally, the effectiveness of these orthotic devices has been judged by clinical observation and patient feedback. While clinical skills, judgment and experience are irreplaceable aspects of patient care, modern healthcare is trending toward objective, repeatable functional tests called outcome measures. Outcome measures are a direct and quantifiable way of measuring treatment effectiveness and providing evidence of change in the patient's functional status. This project will produce two videos with the aim of providing clear and concise instructions to O&P clinicians on how to perform the Edinburgh Visual Gait Score and the Modified Emery Functional Ambulation Profile. The videos will also provide information on how to interpret the results of the test, when to administer them, what pathologies they are validated for and how long they should take to administer.

**Ethan Lowenstein**, Teacher Education

NoVo Foundation (\$50,000)

Fostering Social-Emotional Learning Through Place-Based Education (A18-0044-001): The project further supports the integration of Social Emotional Learning into the work of the South East Michigan Stewardship (SEMIS) Coalition. The SEMIS Coalition's Placed-Based Education (PBE) curriculum methodology is an ideal model for developing social-emotional learning. The funding will be used for teacher professional development, fostering partnerships with transformational community organizations that focus on Detroit, and conceptualizing social-emotional learning's relationship to PBE.

**Rebecca Sipe**, English Language and Literature

National Writing Project (\$12,000)

National Writing Project i3 - Upper Elementary Advanced Institute (A18-0042-001): The Eastern Michigan Writing Project will conduct an Advanced Institute for Upper Elementary Teacher-Leaders in the summer of 2018-2019 school year. Teachers will implement the C3WP/College, Career, and Community Writers Program in their classrooms in preparation for working as professional development presenters and thinking partners in a rural school the following year.

**Rebecca Sipe**, English Language and Literature

National Writing Project (\$65,000)

National Writing Project - i3 - Rural Schools Professional Development (A18-0043-001): The Eastern Michigan Writing Project will collaborate with the Madison School District in Adrian, Michigan to launch an intensive professional development initiative around source-based argument writing in 2018-2019. Teachers in grades 7-10 will implement the C3WP/College, Career, and Community Writers Program during the first year, with the help of EMWP teachers as thinking partners and workshop facilitators.

**Roderick Wallace**, Upward Bound

U S Department of Education - USDE (\$420,498, Year 2 of 5 Years)

Upward Bound 2017-2022 (A17-0041-002): Eastern Michigan University (EMU) has successfully sponsored the Upward Bound (UB) program since 1967 and will continue providing needed services to target area students with the support of the Federal TRIO program. The EMU UB program is designed to identify, select, enroll, and maintain 89 eligible participants and focuses on preparing students to successfully graduate college within six-years of their high-school graduation. EMU UB programming meets the specific needs of target students in the form of an integrated academic year, a pre-collegiate summer residential program including an algebra Jumpstart program for rising 9th graders, and a collegiate bridge and work-study/internship for seniors transitioning to college.

**Tsu-Yin Wu**, School of Nursing

Asian & Pacific Islander American Health Forum (\$3,875)

All of Us Community Outreach, Education, and Communication Campaign (A18-0047-001): In this NIH All of Us Outreach Project, the Health Asian Americans Project (HAAP) will support community outreach and education about the NIH All of Us Research Initiative to include more minority groups in federally sponsored research. This can include a mix of individual outreach, group outreach, and community event outreach to promote All of Us in local Asian American and Native Hawaiian/Pacific Islander communities. HAAP will also participate in a joint digital communications campaign targeting English-speaking Asian American and Native Hawaiian/Pacific Islander communities.

**Office of Research Development and Administration**

**Award Report, June 2018**

**\$358,801**

**Yichun Xie**, Geography and Geology

Esri (\$1,000)

Esri 2018 ArcGIS Online Mapping competition (A17-0030-003): Recruit middle and high school students to participate in a state-wide ArcGIS Online mapping competition; recruit GIS professionals and community leaders to judge the competition; provide cash awards to 10 students who win the competition.

**Iktimal Hamed**, Academic Advising Center, College of Technology

DTE Energy Foundation (\$10,000)

Digital Divas (A16-0050-004): The Digital Divas program is an innovative approach created to encourage young women in Southeast Michigan to pursue STEM related disciplines and related careers. This one-day conference encourages and engages female middle and high school students in technology careers while giving them an opportunity to meet and network with professors and students. Beginning with under 100 attendees, the Digital Divas conference has grown to over 550 in the past five years. Over 4,000 girls from Southeast Michigan have attended a Digital Divas program.

**Allen Kurta**, Biology

Consumers Energy Corporation (\$1638)

Bat Habitat and the Rochester Replacement Line (A15-0005-010): Consumers Energy needs to replace a portion of a natural gas pipeline between Rochester and Sheldon Roads, Oakland County, Michigan. Dr. Kurta will evaluate the habitat along the 70-feet-wide corridor of the new pipeline, to determine whether the habitat is suitable for the endangered Indiana bat and provide a written report.

**Claudia Drossel and Alexandros Maragakis**, Psychology

Ann Arbor Area Community Foundation (\$10,180)

Establishing an Undergraduate Respite Program (A18-0051-001): The Center of the Advancement of Neurobehavioral Health (CANH) at EMU provides mental health services to seniors with dementia and their families. CANH addresses behavioral problems in dementia, so they do not become barriers to living at home. Doctoral students and faculty conduct home and clinic-based sessions. To support our clinical services and ensure care partners' focus on session content without disruption, concurrent respite is necessary. An undergraduate respite program will improve access to CANH's clinical services and reduce caregiver burden. Funding will allow us to hire graduate students who will develop a CANH-clinic procedure manual and curriculum for respite, network at EMU, and recruit and organize the first waves of undergraduates (volunteers, or students in field courses).

**James Sheerin**, Physics and Astronomy

National Aeronautics and Space Administration (\$5000)

Graduate Michigan Space Grant Consortium Fellowship: Investigating Radio Wave Reflection caused by Plasma Sheaths (A18-0048-001): A student will perform research on radio waves in plasma.

**James Sheerin**, Physics and Astronomy

National Aeronautics and Space Administration (\$1500)

Michigan Space Grant Operating Support: 2018-2019 (A17-0048-002): Annual operating funds for the EMU Space Grant.

**James Sheerin**, Physics and Astronomy

National Aeronautics and Space Administration (\$5000)

New Worlds (A17-0040-002): This project develops a new entry-level interdisciplinary course for pre-service teachers designed to meet state K-12 science education and teacher certification requirements using NASA resources integrated into each lesson module. The course lessons will address scientific knowledge of life, physical, and Earth systems and processes, encountered

from Earth throughout the solar system. Particular emphasis will be placed on application of new knowledge to the search for exoplanets beyond our solar system. Extensive use will be made of data from NASA's latest missions, including Kepler/K2 and the James Webb Space Telescope (JWST), and TESS due to launch during the project year, as well as ground-based searches. By integrating resources from the latest NASA missions into each lesson module, education students will become familiar with NASA's role in science education. Course modules will be designed to meet the science education needs of pre-service teachers and prepare them "to inspire the next generation of explorers" in partnership with NASA.

**Kristin Judd**, Biology

Mill Creek Research Council (\$1450 total, \$600 awarded in June)

Two Student Projects with Mill Creek Research Council. (A18-0040-002): Funding is for two student research projects on human impacts on stream ecosystems in the Huron River Watershed. The first project addresses the impacts of low doses of pharmaceuticals that enter natural systems directly from wastewater treatment facilities and indirectly through leaky wastewater treatment infrastructure. This study is the Masters Thesis research of **Elizabeth Stover**. She will cultivate stream biofilms on tiles to discover which various common pharmaceuticals found in waste water effluent are added to biofilms. The second project examines the impact of road salt inputs on stream ecosystem function, and will be carried out by **Caleb Willette**, an undergraduate student. Both studies include Mill Creek as the focal stream, but will also study other streams located in the upper Huron River Watershed to better understand how land use interacts with low doses of pharmaceuticals and road salt inputs. Both projects will be carried out during the spring and summer of 2018.

**Roxanne Katus**, Mathematics

National Aeronautics and Space Administration (\$35,719; Year 2 of 2)

Magnetospheric Ion Temperature Derived From TWINS ENA - Data Upgrade (A17-0028-002): In the proposed work we will complete and archive a comprehensive database of magnetospheric ion temperatures derived from NASA's Two Wide-angle Imaging Neutral-atom Spectrometers (TWINS) Energetic Neutral Atom (ENA) instrument, provide critical metadata, and archive all of this at the NASA Space Physics Data Facility in a format compatible with the VxO architecture. We will collaborate with faculty at University of New Hampshire to create the data upgrade for the TWINS ENA flux.

**Tsu-Yin Wu**, School of Nursing

Susan G Komen for the Cure (\$175,000)

Evidence-based sustainable strategies for early diagnosis of breast cancer in China (A18-0049-001): The goal is to reduce incidence of late diagnosis in primary breast cancer cases and improve quality of life (QOL) for women in China affected by this disease by improving the rates for early diagnosis of breast cancer of women with symptomatic lesions, leading to prompt and effective treatment. A randomized controlled trial will compare the efficacy of study intervention with usual care on incidence and mortality of breast cancers among Chinese women aged 35-69. The study findings will provide critical information for planning effective cancer control programs, providing guidance and support in implementation of future screening programs that integrate health systems in an equitable and sustainable way.

**Christopher Herman**, Health Promotion and Human Performance

Becker Orthopedic (\$12,272)

Effects of sagittal plane ankle alignment, coronal plane support, and varying dorsiflexion/plantarflexion resistance on ramp gait in subjects with impaired neuromotor function (A18-0050-001): EMU's Orthotics and Prosthetics laboratory will conduct testing and analysis to assess the performance of a configurable ankle foot orthosis for Becker Orthopedic.

**Jessica Alexander**, Office of Academic Services

Michigan College Access Network (\$10,000)

MCAN College Coaching Corps 2017-2018 (A18-0032-003): The College Coaching Corps help Michigan students pursue postsecondary educational opportunities particularly students located in communities with low socio-economic status and low adult educational attainment rates. Working alongside school professionals and under the supervision of school counselors, Eastern Michigan University College Coaching Corps Graduate Assistants will support students as they make the transition from high school to postsecondary education by providing 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.

**Delbert Raymond III**, School of Nursing

Health Resources and Services Administration (\$72,453)

EMU Nurse Faculty Loan Program 2018 (A18-0001-002): The NFLP is a loan forgiveness program that prepares and trains qualified nurse educators to fill faculty vacancies. The EMU program supports graduate nursing student education costs toward matriculation of graduates who will serve as nursing faculty. and builds upon our current Nurse Faculty Loan Program funding for qualified EMU graduate students enrolled in our MSN in Nursing Education program.

**Sun Hae Jang**, Health Promotion and Human Performance

American Orthotic and Prosthetic Association (\$18,439)

Normative Values, Reliability, and Validity of the Global Visual Gait Assessment for Measuring Orthotic Biomechanical Outcomes for Use in Post-Stroke Patients (A18-0052-001): Various AFOs and shoe modifications are prescribed for gait rehabilitation of post-stroke patients. The ankle foot orthosis and footwear combination (AFO-FC) concept and its tuning process were recently introduced for cerebral palsy. As of now, there are no validated gait assessment methods available that are capable of visually assessing gait for orthotic biomechanical outcomes of the tuning AFO-FC concept, especially in individuals who have had a stroke. The purpose of this study is to investigate and establish the normative values, the reference score, the reliability, the concurrent validity, and the sensitivity of the Global Visual Gait Assessment (GVGA) for use in patients after a stroke.