

BOARD OF REGENTS

EASTERN MICHIGAN UNIVERSITY

REPORT

REPORT: WINTER 2017 and SUMMER 2017 UNDERGRADUATE RESEARCH STIMULUS PROGRAM AWARDS

ACTION REQUESTED

It is recommended that the Board of Regents accept and place on file the Report on the Winter 2017 and Summer 2017 Undergraduate Research Stimulus Program Awards.

STAFF SUMMARY

The Undergraduate Research Stimulus Program is intended to facilitate research partnerships between undergraduate students and Eastern Michigan University faculty. Student awardees will receive a \$2,000 fellowship in support of their research efforts. This award will be in the form of a credit to the student's university account. The collaborating faculty member may receive \$500 to be used for lab/studio supplies or equipment, professional travel, or other professional expenses. The goal of the program is to provide initial support that can be leveraged for future grant and dissemination opportunities.


The Provost and Executive Vice President has awarded a total of \$44,000 to twenty-two (22) undergraduate students and \$9,070 to nineteen (19) Eastern Michigan University faculty for research and creative projects under the Undergraduate Research Stimulus Program for Winter 2017 and Summer 2017.

FISCAL IMPLICATIONS

The cost of Undergraduate Research Stimulus Program awards will be funded from the Provost's indirect cost recovery.

ADMINISTRATIVE RECOMMENDATION

The proposed action has been reviewed and is recommended for Board approval.


University Executive Officer

6/6/17
Date

EASTERN MICHIGAN UNIVERSITY
Academic Affairs
Office of the Provost and Executive Vice President

Undergraduate Research Stimulus Program Award
Winter 2017 and Summer 2017 Winners

1. Ronith Chakraborty (majoring in Biochemistry). "Self-Association of Atg11 in Autophagosome Biogenesis: Which Sections of Atg11 are Required?" Faculty mentor: Steven Backues (Department of Chemistry).
2. Janell Couperthwaite (majoring in Biology). "Characterization of CcMANS1, a Mannan Synthase, from *Coffea Canephora*." Faculty mentor: Aaron Liepman (Department of Biology).
3. Hunter Daymon (majoring in Engineering Physics). "Testing Drag Models with a Pendulum Oscillator." Faculty mentor: Ernest Behringer (Department of Physics and Astronomy).
4. Nicholas Drews (majoring in Biology). "Determining Genetic and Phylogenetic Relationships within *Megistohibiscus* on Madagascar." Faculty mentor: Margaret Hanes (Department of Biology).
5. Anna Elkins (majoring in Piano Performance). "Russian Nationalism in the Art and Music of "Pictures at an Exhibition." Faculty mentor: Joel Schoenhals (School of Music and Dance).
6. Lul Gayre (majoring in Public Health). "Collaboration Across the Curriculum: Urban Planning and Public Health." Faculty mentor: Sarah Walsh (School of Health Sciences).
7. Alyssia Hence (majoring in Social Work). "Making Youth Matter: Exploring the Impact of Zero Tolerance Policies on the School Lives of African American Students." Faculty mentor: Celeste Hawkins (School of Social Work).
8. Demarco Johnson (majoring in Criminology & Criminal Justice). "Victims of Environmental Crimes: Exploring the Consequences of Air Pollution." Faculty mentor: Kimberly Barrett & Tricia McTague (Department of Sociology, Anthropology, and Criminology).
9. Emily Katynski (majoring in Instrumental Music Performance). "Transformation of Renaissance Art into Romantic Era Music." Faculty mentor: Joel Schoenhals (School of Music and Dance).
10. Samantha Malley (majoring in Biology). "Behavioral Repeatability of the Red-Rump Tarantula in its Natural Environment (*Brachypelma vagans*)." Faculty mentor: Cara Shillington (Department of Biology).

11. Alexis Marsh (majoring in Chemistry, Biochemistry). "Synthesis of Novel Chalcone Derivatives as Anticancer Agents." Faculty mentor: Ingo Janser (Department of Chemistry).
12. Derek McPherson (majoring in Anthropology). "Threats of Environmental Damage and Exclusion: Ixil Maya Experiences with Xalalá Dam Project." Faculty mentor: Maria Garcia (Department of Sociology, Anthropology, and Criminology).
13. Rebecca McSorley (majoring in Biology). "Sensory Deprivation Reduces GAD67 Levels in the Olfactory Bulb." Faculty mentor: Tom Mast (Department of Biology).
14. Tim Petzhold (majoring in Professional Biochemistry). "Characterization of Reader Proteins, UHRF1 and UHRF2." Faculty mentor: Brittany Albaugh (Department of Chemistry).
15. Jonah Pollens-Dempsey (majoring in Physics Research). "Solar Influence on Variability in the Atmosphere of Mars." Faculty mentor: Dave Pawlowski (Department of Physics and Astronomy).
16. Stephanie Porcari (majoring in Elementary Education & Special Education – Cognitive Impairment). "What is the Ideal Elementary Science Learning Environment?" Faculty mentor: Katherine Ryker (Department of Geography & Geology).
17. Justin Powers (majoring in General Chemistry). "Design and Synthesis of Novel Biphenyl Amide Inhibitors of Plasminogen Activator Inhibitor-1 (PAI-1)." Faculty mentor: Cory Emal (Department of Chemistry).
18. Lauren Ridley (majoring in Secondary Education Mathematics). "Data Analysis in Secondary Education." Faculty mentor: Stephanie Casey (Department of Mathematics).
19. Maira Shoukat (majoring in Chemistry). "Adsorption and Oxidation of Carbon Monoxide on Rh(110) Surface." Faculty mentor: Ross Nord (Department of Chemistry).
20. Kimberly Solomon (majoring in Psychology). "Anxiety and Emotion Expression." Faculty mentor: Angela Staples (Department of Psychology).
21. Terry Stahl (majoring in Biochemistry). "The Effect of a Protecting Group on the Stereoselectivity of Two Different Substrates in the aza-Cope Mannich Reaction." Faculty mentor: Maria Milletti (Department of Chemistry).
22. Jaylen Taylor (majoring in Professional Biochemistry). "Using Peptides to Fight Cancer." Faculty mentor: Deborah Heyl-Clegg (Department of Chemistry).

RESEARCH SPOTLIGHT: UNDERGRADUATE RESEARCH STIMULUS AWARDS

Relevance

As part of our ongoing series to keep the Regents informed of research activities, we provide this description and update of the Undergraduate Research Stimulus Awards program. This program awards \$2,500 stipend to each of 22 undergraduate students to work on a faculty-mentored research project for a full semester, either winter or summer. Faculty are also awarded \$500 to their EMU IDC fund for the purchase of supplies and/or travel. Award winners are selected by a committee of faculty and administrators.

This is the 8th year of this award program. Winners for 2017 represent 10 departments/schools from three colleges. Information on them and their winning projects is found in the recommendation document. Recipients of the awards are required to submit a final report, which includes a one-slide PowerPoint document, called a "nugget," that summarizes the outcomes of their research. We provide an example nugget below.

Illustrative Highlights

Faculty mentor Steven Backues currently has \$297,000 in grant funding from the National Science Foundation from a special designation of support for Primarily Undergraduate Institutions. In his proposal, he explained how undergraduate students at EMU would be involved in and would benefit from and his research program. Another mentor, Brittany Albaugh, has a pending \$360,000 award from the same NSF initiative. These two narratives document how externally funded research provides a high-quality learning environment for undergraduate students and how our internal awards programs provide an environment that nurtures faculty in their efforts to compete for external funds.

Kinetic analysis of the aza-Cope-Mannich reaction of an oxazolidine protected by a tosyl group at the imine position

Andrew Durden

Maria C. Millett, Faculty Sponsor

Department of Chemistry

