



CSUSM LIBRARY AWARD for Undergraduate Research, Scholarship & Creative Activity

2016-2017 Award Winners

CREATIVE WORKS

“Curios of the Future (Weather on Steroids)”

Tiersa Cosaert, Visual and Performing Arts

Judit Hersko, Faculty Advisor

The sculptures that make up “Curios of the Future (Weather on Steroids)” explore the threat of climate change on oceans. Realistic corals placed inside acrylic globes are held, on the outside, by nudibranchs, which are large aquatic snails. Judit Hersko, the faculty advisor for Ms. Cosaert’s project, notes that this piece “visualizes how corals are threatened by current chemical changes in the oceans, while nudibranchs thrive under the same condition.” To complete her work, Ms. Cosaert used library database to investigate how climate change has led to toxic blue-green algae blooms that can harm a wide variety of organisms in the ocean. Her research helped her identify four species of fish to include in her installation to illustrate how “...fish common to us now could become curiosities of the future, while warm-water species once alien to this area could invade and become the norm.” At the encouragement of her advisor, Ms. Cosaert was invited to participate in an exhibition that is currently on view at the La Jolla Historical Society focusing on art that examines the effects of climate change on the California coast. Artists in this exhibit also work with scientists from the Scripps Institute of Oceanography. Such collaborations are increasing because they provide a means for scientific work to be represented and disseminated to wider audiences.

INTERPRETIVE ANALYSIS

“Monstrous Ambiguity and Desire in Otsuichi's *Goth*”

Elizabeth Jaffari, Literature and Writing

Rebecca Lush, Faculty Advisor

Elizabeth Jaffari’s submission provides a textual analysis of the Japanese novel, *Goth*. Her initial research on *Goth* retrieved only book reviews through the primary database for literary analysis, the MLA International Bibliography. In order to move forward on her analysis of this text, Ms. Jaffari had to find and then synthesize multiple scholarly discussions about horror in order to establish a foundation for her analysis. She found useful information in Michael Dylan Foster’s book, *Pandemonium and Parade*, in the University Library and was able to read Foster’s additional articles and books by using interlibrary loan services. Through her research, Jaffari identified the differences between the “...Western perspectives of monstrosity and the ambiguous monstrosity that is prevalent in *yūkai* [Japanese apparitions/ghosts].” According to Dr. Rebecca Lush, faculty advisor for Ms. Jaffari, this work is significant because it “...starts an important analytical conversation about a text that is gaining increasing critical attention.”

EMPIRICAL RESEARCH

“Perceptions of Socioeconomic Mobility & Risk-Taking Behavior”

Ivan A. Hernandez; Charlene Andreason;

Alondra Calva; and Caitline Castillo, Psychology

Wesley Schultz and Anna Woodcock, Faculty Advisors

Hernandez, Andreason, Calva, and Castillo are the first to “...show causal relationships between mindset regarding socioeconomic mobility and risk-taking behavior in a variety of domains [e.g.,] social, financial, health/safety, and recreational risk taking behavior.” The group’s study hypothesized that college students, who perceived socioeconomic mobility as fixed (genetically based and static), would be more likely to engage in risk-taking behaviors than students who perceived socioeconomic mobility as something that could change. Their comprehensive literature reviewed used primarily PsycINFO as well as other CSUSM library databases to access the existing research on how a pessimistic or optimistic perspective on one’s financial future could lead to more positive behaviors. Their review identified a gap in the literature: “...no study to date had experimentally manipulated mindset regarding socioeconomic mobility and examined how this mindset would influence risk-taking behavior (e.g. engaging in unprotected sex) in a sample of college students.” The students’ advisors, Dr. Wesley Schultz and Dr. Anna Woodcock note that “...their research is a truly exceptional example of the realization of students’ curiosity and their initiative in independently designing and deploying a quite complex experimental procedure” that has also resulted in their findings being shared at local and national conferences.

EMPIRICAL RESEARCH

“Synthesis and Characterization of the Doped Orthoferrite $\text{HoFe}_{0.5}\text{V}_{0.5}\text{O}_3$ ”

Josefa Gregorio; Lorena Aguirre; Jesus Perez;

and Alejandro Zafra, Physics

Stephen Tsui, Faculty Advisor

Gregorio, Aguirre, Perez, and Zafra were inspired by a recent article on the magnetic behavior of HoFeO_3 crystal (also known as holmium-based orthoferrite.) In the article, HoFeO_3 was “...synthesized by a solid state chemical reaction and characterized for its magnetic behavior.” Challenged by their advisor, Dr. Stephen Tsui, the group aimed to first replicate the synthesis and characterization of this compound as a test of their abilities. Next, they searched the literature to help determine whether they could make small chemical substitutions in the compound – a process known as doping – that had not been previously reported. The students used Google Scholar to connect to Library resources electronically and through interlibrary loan in order to find the necessary literature. The students performed original research that contributes to the understanding of this class of compounds and how to ‘tune’ the compound’s magnetic properties. This may ultimately lead to the development of a new class of magnetic-based devices. Dr. Tsui notes that the students “...have generated a body of work that makes a case that they have created a new compound based on rigorous literature review and measurement of several physical properties. More importantly, they worked as a team...in a professional manner that will serve as a template for other research efforts in their future careers.”