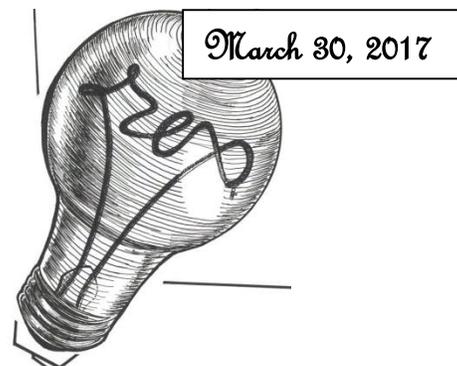


# 7<sup>TH</sup> ANNUAL USF RESEARCH EXHIBITION

MARCH 30, 2017



## EVENT DETAILS

The 7<sup>th</sup> Annual USF Research Exhibition for student and faculty research will take place on Thursday, March 30, 2017 in the USF Downtown Business Center. Registration will begin at 4:30 PM. Our keynote speakers, Kye Aestlinn and Brian Gabet, will be introduced at 4:45 PM. An evening intermission of snacks provided by Sigma Pi and the chemistry and biology programs will follow the key note speakers. Then the poster session will begin. Even-numbered poster presenters should stand next to their posters for the first portion of the session and odd-numbered presenters should do so for the remainder of the session. This will allow all poster presenters opportunities to mingle and view other posters. A trivia contest will follow the poster session. At the conclusion of the trivia, poster prizes will be presented.

Pre-Registration for poster presenters can be found at <http://tinyurl.com/REXinfo>. Attendees of the event do not need to pre-register.

## EVENT TIMELINE

<b>Begin</b>	<b>End</b>	<b>Activities</b>	<b>Location</b>
4:30 PM	4:45 PM	Registration	BUS 304
4:45 PM	4:55 PM	Opening Remarks and Introduction of Kye Aestlinn	BUS 304
4:55 PM	5:15 PM	Keynote Address #1	BUS 304
5:15 PM	5:30 PM	Intermission	BUS 301
5:30 PM	5:35 PM	Introduction of Brian Gabet	BUS 304
5:35 PM	5:55 PM	Keynote Address #2	BUS 304
6:00 PM	6:30 PM	Even number poster presentations	BUS 322
6:30 PM	7:00 PM	Odd number poster presentations	BUS 322
7:00 PM	7:30 PM	Trivia contest by PPHC Judges decide on winners	BUS 304
7:30 PM	7:45 PM	Poster prizes awarded	BUS 304

KyeLeigh Aestlinn

### **Research Analysis Article on LeAnne Howe's *Shell Shaker***

“I am Shakbatina! These are my Daughters and my Sons! You Will Hear Us!”

My research is an in-depth analysis on LeAnne Howe's *Shell Shaker*. Her novel, debuting in 2001, first came to my attention through an English Topics Course on Native American Literature. What separated LeAnne Howe's novel from the rest was its unique point of view. Some interpretations of the novel, claimed that it minimized certain elements of Native American life or emphasized violence. It was this negative interpretation that led me to write an article on the novel. Specifically, focusing and detailing how the novel gives value to Native American culture through the real and supernatural lives of her characters. Howe does this by focusing on the many issues of life rather than the problems that befall Native Americans in modern society or the issues of colonization. Instead of focusing on one portion of identity or a segment of life, she addresses the strength that Native American culture can bring in a very tumultuous world. Using the backdrop of Choctaw history, Howe uses the magical realism of Choctaw legends with the violence of the 20th century to show the reader the broad landscape of Native American life. She shows the influence of Native American culture and the struggles of modern Native Americans with symbolic cycles and a cyclic understanding of the world. The purpose of the novel is to explain the complexities of living a modern Native American culture based life. Instead of confining many elements of Native American culture to the past, Howe brings it into a modern timeline to prove that it is still relevant. By doing so, she provides the reader an example of how the Choctaw Tribe is a real living and breathing thing. My research concludes with the understanding that Howe's novel, utilizing some darker elements, is only a force for the positive viewpoint of Native American life and culture.

Brian Gabet

### **Design of a Novel Neuroprotection Agent**

Berberine, a naturally occurring compound, can be readily extracted from several species of plants and is believed to have a wide range of potential medical benefits. It has been used for centuries in Eastern medicine as a general healer and has known antibacterial, anti-inflammatory, and immune enhancing properties. Berberine has also shown promise as a cardiovascular, anti-diabetic, and anti-tumor agent. However, little research has been done on how berberine interacts in the brain. Current models suggest that the anti-inflammatory properties of berberine may be conducive to its use as a neuroprotection agent, particularly in the auto-immune disease multiple sclerosis (MS).

MS is a degenerative disease characterized by the attack and deterioration of myelin, the protective sheath around nerve fibers. In MS, excessive inflammation occurs around the myelin, causing the immune system to attack what it believes is a foreign body. This results in the destruction of myelin, causing noticeable communication problems between the brain and the rest of the body. Our research shows that berberine, a strong anti-inflammatory agent, can be used to hinder the production of the proteins that cause this excessive inflammation, thus decreasing the likelihood of the destructive auto-immune response.

Over the last eight months, at Manchester University – School of Pharmacy, I have been working with medicinal chemist Dr. Dennis Brown to design and synthesize several variations to the structure of berberine. The goal of this project is to discover what structural features of berberine are responsible for its activity and to use that information to create the most effective drug possible for multiple sclerosis.