

Goshen College
18th Annual Student Academic Symposium
2016
Presenters and Titles

Anneliese U. Baer
Theodicy and Martyrdom: The Anabaptist Reception of the Book of Job
Department of Bible and Religion

Anne E. Buckwalter
Tradition: An Important Cultural Aspect of Jewish Community
Department of Music

Fiddler on the Roof contains important themes, particularly tradition, considered an important basis for the Jewish culture. Throughout the musical, certain members of the small Jewish group living in the village of Anatevka challenge the fundamentals of the group, resulting in disagreement within the community. At the time when the Jewish people are wrestling with tradition, another conflict arises, produced by an outer, more violent source. Change occurs in the group itself as they are being told to leave the place they know: the place of tradition. Remaining faithful to tradition in a time of change while experiencing systemic violence represents a fundamental cultural viewpoint in the musical, creating tension between and among groups, individuals, and families.

Brenner Burkholder and David L. Jantz
*Optical Density Accurately Predicts Dry Mass of Algae Produced
in a Buoyant-Lift Photobioreactor*
Department of Biology

Goshen College and Formco, Inc. have collaborated for several years to test and refine the buoyant lift photobioreactor (BLPBR). The buoyant lift photobioreactor is a novel, patented system for growing algae. The algae can be processed into an assortment of products and is a prime candidate as a source of alternative energy, feed, food, and bioremediation. The buoyant lift design reduces current photobioreactor limitations of high-energy input, low surface areas and high material costs. Previous work has focused on refining the buoyant lift photobioreactor to improve functionality. More recently, the project has focused on developing methods to measure the algal growth curve. Specifically, we designed an experiment to determine if we can use optical density to accurately predict the dry mass of

algae biomass. An Indiana Academy of Science grant has supported these efforts. It was hypothesized that determination of a correlation between dry mass and optical density would produce a means to quickly determine a sample's dried mass, expediting the data collection process. Results at the beginning of the project showed high variability in the relationship between optical density and dry mass. This observed variability was likely caused by excessively small sample volumes that were used to take dry mass. The experimental design was modified to take larger liquid samples for dry mass data. We found a statistically robust relationship between optical density and dry mass for the BLPBR system being examined. These data will enable further optimization of the buoyant lift photobioreactor design and harvesting techniques, with the goal of maximizing algal growth with limited energy inputs.

Jessica A. Davila

The Effects of the LY215 TGF-B inhibitor on Pancreatic Ductal Adenocarcinoma
Department of Biology

Jessica A. Davila, Amber N. Mosley, Michael J. Nivens

Priming and Memory: The Effects of Body Position, a type of Body Language Priming, on Memory of Affectively Connotated Words," Psychology Productions"
Department of Communication

Elizabeth Franks-North

*Social Justice in the English Classroom:
Investigating the Disconnect Between Theory and Practice*
Department of Education

Although the English classroom is a space that allows for many avenues of discussion about social justice issues, techniques to integrate these discussions are infrequent and inconsistent. This is particularly apparent as candidates in English education programs are transitioning from pre-service to in-service teaching and integrating these topics and approaches infrequently despite their previous focus on them theoretically. Interestingly, the national standards for teacher preparation for English were revised in 2012 to name social justice as one of seven core standards. This particular study examines the presence of social justice themes and strategies in in-service teachers' practice. Through individual and group interviews, the co-investigators examine the degree to which teachers' classroom practice aligns with the values and techniques described by related literature in English education and general curriculum and instruction. It was found that although many teachers did not have cut and dry social justice techniques in their classroom, they were

negotiating the meaning of social justice values in their school context, a first step in the direction of integrating social justice techniques consistently in secondary English classrooms.

Benjamin S. Ganger
Hamilton: An American Musical
Department of Music

Hamilton occupies a unique place in the history of the American musical, combining traditional musical forms with hip-hop. This presentation examines how Hamilton uses and combines these two styles to be the most successful and popular musical of the last decade.

Aaron N. George and Olivia M. Ginn
Gender Differences in Conformity to Group Behavior
Department of Psychology

Conformity is an underlying force that shapes the way people interact with one another on a daily basis. However, do females or males tend to conform more? Inspired by Solomon Asch's Conformity Study, this study addressed this question with the hypothesis that females are more likely than males to conform in a group situation. All of the participants were students at Goshen College, a small Mennonite liberal arts school in Northern Indiana, with ages ranging from eighteen to twenty-two years. The trials were conducted in groups of six, of which only one student was the true participant and the remaining five were confederates. The participants were shown nine cards with one vertical line on the left and three vertical lines of varying length on the right, one of which was the same length as the line on the left. The participant and confederates were then asked to verbally match the line on the left with one of the lines on the right. Using an independent samples t- test, we measured the true participants' tendency to give incorrect answers after observing the incorrect answers given by the rest of the group. We found that there was no significant difference between the means of the groups.

Keywords: conformity, gender differences, Asch, social pressure

Anya R. Kreider and Sarah J. Hofkamp
Exploring the Complexities of Imperialism: Our Role on the Northern Cheyenne Nation
International Education

Anya Kreider and Sarah Hokamp will share perspectives and insights they gained while spending time on the Northern Cheyenne Reservation in South East, Montana. They will investigate the manifestation of continuing racism, imposed poverty and collective

responsibility when entering cross-cultural environments, specifically exploring their encounters with power differentials, whiteness, time-investment, and Christianity.

Joseph B. Kreider

Love's Disport: Intemperate and Carnal Sexuality in Milton's Paradise Lost

Department of English

In *Paradise Lost*, John Milton bodies forth a unique conception of Edenic sexuality whereby human coition is debased by "man's first disobedience" rather than born of its corruptive side effects. By putting forth (anachronically) a triptych of sexual representations wherein each "scene" reveals the holy couple at different stages of socio-sexual development, Milton recasts the temptation narrative in the light of sexual growth and florescence, revealing the false god of humanity's disgrace not as the unholy fiend but the temptations of *mortal* humanity.

Lynelle M. Leinbach

Brewing Stereotypes: Apprehension of Partly Dave Coffeehouse, 1966-1975

Department of History

In the 1960s and 1970s the United States population was splits on many issues like race relations and the Vietnam War. Some people, labeled counterculturists, hippies, or radicals, were against the consumerism of the mainstream. The mainstream, in turn, saw these radicals as subversive to society at best and communists at the worst. In the midst of all this, Partly Dave Coffeehouse was established in Elkhart by local seminary students with the goal of providing a place of dialogue for the community. However, it quickly gained a reputation as a Hippie hangout because people who frequently attended Partly Dave actively protested the war in Vietnam, and worked with draft resistance. The coffee house was also a place where blacks and whites came to spend time together. The majority of the patrons used drugs and subscribed to the dress style of the counterculture. These actions made the mainstream community of Elkhart view Partly Dave with suspicion, and they feared an upset of the status quo. This mistrust culminated in August 1972 when the police made unwarranted arrests of Partly Dave patrons for loitering outside the coffeehouse.

Hayley A. Mann and Philip M. Longenecker

Por un Vito mas saludable: The State of Elementary Education in Vito, Peru

International Education SST Program

Healthcare is a basic right, but unfortunately an uncommon one. In Peru, the system of healthcare favors the centralized, wealthy, and educated. This means that the two-thirds of

the population, some 20 million people who live outside the mecca of Lima, receive sub-standard healthcare. That is if they receive any at all. Vito is one such place: a pueblo without restaurants, doctors, or clean water. A pueblo whose people work without cease every single day to put food on the table for their families, for families that often include aging grandparents, strong but tired parents, and malnourished children. A pueblo that is proud of what they can accomplish but discouraged by the amount they lack. The Puerto de Salud in Vito shows the attempts the population puts forth to modernize their ancient working town but in the same stroke shows the depth of need in many areas of health and wellbeing.

Jacob S. Roth

Synthesis of N-Acylated Phenylalanine and Tyrosine Derivatives as Antimicrobial Agents
Department of Chemistry

The development of novel antibiotics is an ongoing necessity. The Distributed Drug Design (D3) project (<http://d3.iupui.edu/>) developed at Indiana University–Purdue University Indianapolis (IUPUI), integrates computational design, organic synthesis and biological analysis to disperse the process of drug discovery among multiple universities. Students at Goshen College participating in the project used solid-state combinatorial synthesis to prepare N-acylated derivatives of amino acids that are analogs of a subset of known antibiotic compounds. The synthesized compounds are screened for biological activity.

Cassandra M. Sessa

The Necessity for Change: Promession
GC Seminar: CORE Program

Scholars have continually agreed that environmentalism is one of the most important issues of our time. However, when it comes to the burial industry's effect on the environment it is often ignored. Over the previous decades many solutions have been introduced to combat this problem and others that the current burial industry poses. Some of these problems include the impact on the environment and cemetery overcrowdings. However, they have not been adequately addressed, but an answer may be found in *promession*. Promession is an 100% ecologically friendly burial method that fixes all of the current burial industry problems. Despite promession's appearance to be a quick fix, it also introduces new problems. The major be the loss of a liminal state. However, as the space available to bury the dead becomes smaller and the state of the environment worsens, society must turn to a method, promession.

Jordan R. Waidelich

Gender Equality in Academia

Department of Communication

I talked with eight female professors here on campus in search of what it means to be a female professor at Goshen. I found that while GC students are working towards gender equality through things like GSWA, there are still unconscious biases that students hold for professors based on their gender. I also found that for the professors I spoke with, they didn't feel like there was inequality with their colleagues, but when it came to administration, they were worried about the lack of female representation on the President's Council. My paper addressed these findings after looking at what research had been done on this issue.

David A. Zehr

Systemic Racism and Mennonites: Genesis of a Conversation, 1968-1974

Department of History

The Minority Ministries Council, formed in 1968 as the Urban Racial Council, had a relatively short organizational life of six years until 1974. However, their work shaping conversations about race and racism for Mennonites started dialogues which reverberate to this day. Issues of race, nationality, religion, social environment, gender, and theology all affected their mission and goals. By simultaneously discussing issues through secular as well as theological lenses, the Minority Ministries Council swam upstream to bring the language of systemic racism into Mennonite life, church, and identity.

Paul A. Zehr and Christina J. Hofer

Gender Parity in GC Theater

Department of Theater

This presentation is based upon a gender analysis of of all GC Mainstage productions from Fall 2004 to Fall 2015 and interviews with students and faculty about how gender is viewed within the department and asked for suggestions on how the department could address this in the future. Our research shows that this abundance is often dependent on gender. In order to address this disparity, I suggest that the department takes gender into account in play selection, especially with regard to the gender of playwrights. Female playwrights tend to write for more women and, therefore, would automatically afford more roles to female actors. An equal balance of male and female playwrights is a measurable and significant change that could positively affect students.