Fred Muller
Vessel 2
Ceramic and steel, 22”x6”x6”. Part of the 2017 Juried Student Exhibition.
Refreshments can be found on the 2nd floor during the Conference Ice Cream Social at 3:30
<table>
<thead>
<tr>
<th><strong>APRIL 20th</strong></th>
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| 5:00 | Reception for Juried Student Exhibition  
LA first floor |

<table>
<thead>
<tr>
<th><strong>APRIL 21st</strong></th>
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<tr>
<td>11:00</td>
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<td>12:30</td>
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### SUB 134 Presentations

**Faculty Moderator: Tami Haaland**

| 1:15 | Readings  
Rick Lindholm, William Segerstrom, Cat Sullivan |
| 1:30 | Poetry Reading  
Julia Anderson, Shelby Huffman, Thomas Mendenhall, Malia Schoenenberger, Matt Winter |
| 2:15 | Catharine Brown  
Rian St. Pierre |

### SUB 135 Presentations

**Faculty Moderator: Bernard Quetchenbach**

| 2:15 | Splitting the Mobius: A Twisted Operation  
Wade Kerner |
| 2:30 | “Transparency”  
L. Ruhiiyyih Olsen-Bradley |
| 2:45 | Cli-fi in the 21<sup>st</sup> Century Panel Discussion  
Desiree Kling, Thomas Mendenhall, Jerimiah Tretin |

### Music Presentations

| 3:15 | MSU Billings Jazz Combo  
Patrick LaFountain, Drew McDowell, Noah McCann, Dillon Steiger, Ryan Supola |
| 3:30 | Triohhh  
Danielle Branson, Belle Horman, Mady Johnson |

3:30 – ICE CREAM SOCIAL – RIMROCK CAFE
KEYNOTE SPEAKER

Dr. Joe Shaw
Director, Optical Technology Center
Montana State University

Learning to see; seeing to learn

The world around us is rich with lessons for those who learn to observe carefully and critically. In this talk, I will show photographs of rainbows and other beautiful optical phenomena and help the audience learn to see more of the detail that is always there, but often goes unnoticed. The talk will conclude with some thoughts on how the lessons involving optical phenomena in nature can be extended to learning how to see the world in new, creative ways.

Dr. Shaw received his Ph.D. in Optical Sciences from the University of Arizona and, since then, has been an electro-optical engineer at the National Oceanic and Atmospheric Administration and a professor in the Electrical and Computer Engineering Department at MSU.

THANK YOU
TO ALL FACULTY WITH STUDENT PARTICIPANTS

Dr. James Barron
Dr. Melissa Boehm
Dr. Salem Boumediene
  Dr. David Butler
Ms. Reno Charette
Dr. Christopher Craig
  Dr. Brent Finger
Dr. Lynn George
Dr. Susan Gilbertz
Ms. Tami Haaland

Dr. Mark Hardt
Dr. Ambrin Masood
  Dr. Matt Queen
Dr. Bernard Quetchenbach
  Mr. John Roberts
  Dr. Alex Shafer
Mr. Andrew Sullivan
  Dr. Kurt Toenjes
  Dr. Don Gayan Wilathgamuwa
  Dr. Cheryl Young-Pelton
Anderson, Joey
Title: LEO Body-worn Cameras
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: This sociological study examines the thoughts and feelings of law enforcement officers toward the use of body-worn cameras. This subject that has gained attention as a result of recent reports of police brutality and use of force.

Anderson, Julia
Title: Poetry Reading
Faculty Mentor: Tami Haaland
Major: Public Relations
Project Narrative: Students from the Poetry Writing class will read and discuss their original work.

Baumgartner, Steven
Title: Police Use of Force
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: The police have used force for years when apprehending a suspect, and police departments have many tools, from lethal to non-lethal, to assist with apprehension. This project attempts to answer the question: Is the use of force appropriate or are police tactics too aggressive and needing improvement?

Bieber, Amy
Title: Big Oil in a Small Town: The Effects of a Large Economic Event on Small Business Sales
Faculty Mentor: Salem Boumediene
Major: Accounting
Project Narrative: The purpose of this research was to determine whether a relationship existed between the sales of small business and the large economic event when it occurred in the area and, in this instance, the sales examined were those of a small auto parts store located within the Bakken Shale formation during the rise and fall of the Bakken Oil Boom. Data from the business’s sales along with historical oil price and area production were gathered.

Bighorn, Paula
Title: Qualitative Analysis of the Traditional Native American Healing Practices to Promote Cultural Awareness
Faculty Mentor: Ambrin Masood
Major: Human Services
Project Narrative: This study aims at performing a qualitative analysis of different healing practices within Native American Tribes in Montana.
Boggio, Denise
Title: The Acceptance of Non-traditional Students on College Campuses
Faculty Mentor: Mark Hardt
Major: Criminal Justice, Sociology
Project Narrative: This research investigates whether traditional students and faculty accept non-traditional students on college campuses. The purpose of this study is to help non-traditional students be able to have the same college experiences as traditional students. As a result of this research, the hope is that all students and faculty will be encouraged to have open minds for change and acceptance.

Bone, Jacob
Title: Cardiac and Perceptual Responses to Performing Tandem Cardiopulmonary Resuscitation
Faculty Mentor: Alex Shafer
Major: Health and Human Performance
Project Narrative: Thirteen healthy male and female students (age 26.5+/−4.3 years) were tested using a repeated measures, counter-balanced experimental design. Participants carried out a solo and a tandem CPR bout with a rest period separating the two. Participants’ heart rates and perceived exertion were monitored for comparison.

Boumediene, Synda
Title: Behavioral Ecology in the Northern Scorpion, Paruroctonus boreus
Faculty Mentor: James Barron
Major: Mathematics, Biology
Project Narrative: In the field, Northern Scorpions are rarely seen sharing cover objects even in areas with high population density, so we wanted to determine if this is due to territoriality and, if so, whether there are any demographic patterns in territorial behavior. We kept pairs of scorpions in experiment boxes with a single shelter item to observe whether they shared the cover or one excluded the other.

Branson, Danielle
Title: Triohhhh
Faculty Mentor: John Roberts
Major: Music Education & Performance
Project Narrative: Triohhh is a student lead chamber ensemble consisting of clarinet, horn, and euphonium. The music played by the trio was adapted by the performers from woodwind and brass trio music for their own musical growth and to share with the community.

Brown, Savannah Janelle
Title: Medical Terminology in Grey’s Anatomy: A Textual Analysis
Faculty Mentor: Melissa Boehm
Major: Organizational Communication
Project Narrative: This project uses a media representation theory to demonstrate how realistic (or unrealistic) Grey’s Anatomy is. Through textual analysis, the accuracies and inaccuracies of medical terminology used on the program are examined.
Buksch, Richard
Title: Comparing a House-made Visible Spectrometer to a Commercially Available Ultra-violet Visible Spectrometer
Faculty Mentor: Matt Queen
Major: Biology, Chemistry
Project Narrative: Visible spectrometers are used in many areas of science for a wide variety of measurements. In this project we compared a house-made spectrometer that was made with commercially available components to a commercially available model. We quantified the limit of detection, limit of blank, and limit of quantification of both spectrometers in order to compare the effectiveness of the instruments.

Buksch, Richard
Title: Using Trichostatin A to Rescue TrkA+ Neurons in a Mouse Model of FD
Faculty Mentor: Lynn George
Major: Biology, Chemistry
Project Narrative: Familial Dysautonomia results in a decreased number of nociceptor (pain sensing) neurons in the dorsal root ganglia of both a mouse model and patients with the disease. In order to rescue these neurons, Trichostatin A, a histone deacetylase inhibitor, was tested for efficacy in the mouse model using immunohistochemistry. Familial Dysautonomia model embryos treated with Trichostatin A showed a significant increase in nociceptor neurons over vehicle only injected model embryos.

Casey, Mehmet
Title: Advising & Career Services: A Social Media Plan
Faculty Mentor: Melissa Boehm
Program: M.S. Public Relations
Project Narrative: This project worked with Advising and Career Services to create a social media plan that focused on Facebook and Twitter to engage students, alumni, and partner employers using these concepts: how-to videos, inspirational quotes, informative infographics & instructographics, images and videos from events, funny memes & gifs, live streaming, student success stories, polls, surveys, and contests.

Cox, Adam
Title: The Mastery of Course Material vs A High GPA and How it Affects Views of Cheating
Faculty Mentor: Mark Hardt
Major: Criminal Justice, Sociology
Project Narrative: This research study examines whether there is a correlation between the different focuses on mastery of material or simply trying to get a high GPA and the acceptability or rejection of cheating or plagiarism. This study will measure the extent to which MSUB students accept or reject cheating and what aspects of their education they deem important.

Crowley, Abigail
Title: Body Image Issues and Eating Disorders on Campus
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: This research project examines the prevalence of eating disorders among the students at MSUB’s campus. Through a survey, information was gathered on how students use methods to “better” their physical body. This study’s main question is: Are eating disorders and body image issues an obstacle for students at MSUB?
**Dawson, Nicholas**  
Title: The Empowerment of Minority Groups by Recording Artist Lady Gaga: A Semiotic Analysis  
Faculty Mentor: Melissa Boehm  
Major: Business Management & Marketing  
Project Narrative: It is only in recent years that minority groups such as immigrants and the LGBTQ community have received recognition and praise from prominent artists like Lady Gaga. This project provides a semiotic analysis, drawing from the Media Representation Theory, in order to understand the growing empowerment of minority groups in American pop culture.

**Deavila, Kaz**  
Title: Advising and Career Services: A Social Media Plan  
Faculty Mentor: Melissa Boehm  
Major: Mass Communication  
Project Narrative: This project worked with Advising and Career Services to create a social media plan. In order to reach their desired audience, the project focused on Facebook and Twitter to distribute information on important events and services, provide links to useful resources, and initiate photo competitions.

**Dotson, Tyler**  
Title: Remote Supervision/Observation of Applied Behavior Analysis (ABA) Techniques  
Faculty Mentor: Cheryl Young-Pelton  
Program: M.S. Special Education Advanced Studies with Applied Behavior Analysis emphasis  
Project Narrative: The purpose of Remote Supervision/Observation of Applied Behavior Analysis (ABA) Techniques is to measure if remote supervision of employees at a mental health organization using an iPad and Bluetooth headset leads to an improvement of the implementation of ABA techniques. This study examines a possible method to implement ABA techniques remotely.

**Drain, Karson**  
Title: Constraint Busting, Economic Maximization, and Distillation Optimization  
Faculty Mentor: Andy Sullivan  
Major: Process Plant Technology  
Project Narrative: Maximizing throughput, product quality, and energy efficiency is important to industry so it can remain competitive. Operations of an authentic pilot scale distillation plant in the PPT lab are improved through the systematic application of scientific and mechanical principles.

**Dutcher, Michael**  
Title: *House of Cards* and Gender Representation: A Textual Analysis  
Faculty Mentor: Melissa Boehm  
Major: Mass Communication  
Project Narrative: This project analyzes the first episode of season four of *House of Cards* and the gender representation in the show. The completed textual analysis reveals how the program portrays women, and compares their portrayal to that of men. Feminist theory was used in this analysis.
Dvorak, Jeremy  
Title: A Semiotic Analysis of Three of Rihanna’s Music Videos  
Faculty Mentor: Melissa Boehm  
Major: Public Relations  
Project Narrative: This project showcases a semiotic analysis of Rihanna’s music videos for “Needed Me,” “S&M,” and “Bitch Better Have My Money.” These visuals provide backing to songs with explicit material, and two out of the three showcase Rihanna killing people. Media representation theory shows how violence and sexuality in these music videos creates a unique representation of Rihanna’s brand, distinguishing her from other women in her field.

Felton, Amanda  
Title: Columbia River Dams: Utility vs Environment  
Faculty Mentor: Susan Gilbertz  
Major: Environmental Studies  
Project Narrative: The Columbia River Basin is one of the most highly dammed areas in the world. These dams provide hydro power, irrigation and recreational opportunities, but they also cause environmental harm. This project looks at both the utility and the environmental harm of these dams.

Fryett, Alexander  
Title: Analysis of BH3I-1 Derivatives Effect on Candida Species  
Faculty Mentor: Kurt Toenjes  
Major: Biology  
Project Narrative: The effect of BH3I-1 has been shown to inhibit hyphal growth in multiple Candida species. Since BH3I-1 acted as a broad-spectrum hyphae inhibitor, there is a possibility that a derivative of BH3I-1 will work more efficiently with a lower minimum inhibitory concentration than BH3I-1. The goal of this project is to find BH3I-1 derivatives that are broad-spectrum inhibitors of hyphal growth in Candida species that work at a lower concentration than BH3I-1.

Gallant, Tiffini  
Title: Dress for Success Billings: A Social Media Plan  
Faculty Mentor: Melissa Boehm  
Major: Public Relations  
Project Narrative: This project aided Dress for Success Billings by creating a social media plan that focused on growing the existing Facebook and creating Twitter and LinkedIn platforms to reach the organization’s clients, volunteers, supporters and donors. Dress for Success targeted audiences using these tools: integrating client testimony, engaging supporters in contests, educating clients with professional tools and information, and soliciting donations and participation in events.

Gallup, Sarah  
Title: Behavioral Ecology in the Northern Scorpion, Paruroctonus boreus  
Faculty Mentor: James Barron  
Major: Biology  
Project Narrative: In the field, Northern Scorpions are rarely seen sharing cover objects even in areas with high population density, so we wanted to determine if this is due to territoriality and, if so, whether there are any demographic patterns in territorial behavior. We kept pairs of scorpions in experiment boxes with a single shelter item to observe whether they shared the cover or one excluded the other.
Gambill, Kelsi
Title: Alumni Relations: A Social Media Plan
Faculty Mentor: Melissa Boehm
Program: M.S. Public Relations
Project Narrative: This project collaborated with Alumni Relations to create a Social Media Plan that focused on Facebook and Twitter to reach alumni and friends, from 18-to-80 years old. It was recommended that Alumni Relations post using these concepts: Outstanding Alumni spotlights, holiday themed posts, photo contests, and Yellowjacket pride.

Gantz, Jennifer
Title: Breastfeeding on Campus
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: Many people still view breastfeeding as taboo. People still stare at mothers who are just trying to feed their babies in the most natural way possible. How do Montana State University Billings (MSUB) students feel about mothers-breastfeeding babies in public on campus?

Gnerer, Mike
Title: Oil Press Alarm and Shutdown System for Unattended Operation
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: This work supports collaboration with a local boutique safflower oil producer who reports issues with disrupted pressing operations that are consistent with our experiences. The stalled mill will damage itself due to wear and high temperatures if not shutdown promptly, but the operations typically run unattended. Process Plant Technology students are designing and constructing a new alarm and shutdown system for our press and will share the results with our partners.

Gray, Seth
Title: Presidential Election Portrayals in Liberal & Conservative News
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: News stations are one of the main sources used to obtain information regarding the election process. This project compares the political messaging of liberal and conservative stations; the aim of this poster presentation is to present quantitative data on the message that surrounds the 2016 presidential election.

Gray, Zachary
Title: Campus Ministry: A Social Media Plan
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: This project recommended Campus Ministry create a social media plan that focused on Facebook and Instagram to reach students at MSUB using these concepts: goodwill, encouragement and guidance.
Haight, Sarah
Title: Building Support for Clean Energy among Millennials: A Community Resilience Approach
Faculty Mentor: Christopher Craig
Major: Business Administration: Management
Project Narrative: Drawing from the Theory of Planned Behavior and community resilience literatures, we studied relationships that perceptions about health and energy security risks, awareness about local clean energy initiatives, environmental messaging, and new environmental paradigm orientation (NEP) shared with millennial support for federal clean energy policy and taxes as mediated through local support.

Heidari, Mohammadreza
Title: [Cul(PDTC)] Synthesis
Faculty Mentor: Matt Queen
Major: Biology
Project Narrative: We are interested in studying potential CCl4 environmental remediation technologies. In the interest of creating better performing more soluble coordination compounds, we seek to understand the link between coordination compound electronic structure and reality.

Henderson, Lea
Title: Behavioral Ecology in the Northern Scorpion, Paruroctonus boreus
Faculty Mentor: James Barron
Major: Ecology
Project Narrative: In the field, Northern Scorpions are rarely seen sharing cover objects even in areas with high population density, so we wanted to determine if this is due to territoriality and, if so, whether there are any demographic patterns in territorial behavior. We kept pairs of scorpions in experiment boxes with a single shelter item to observe whether they shared the cover or one excluded the other.

Horman, Belle
Title: Triohhhh
Faculty Mentor: John Roberts
Major: Music Education
Project Narrative: Triohhh is a student lead chamber ensemble consisting of clarinet, horn, and euphonium. The music played by the trio was adapted by the performers from woodwind and brass trio music for their own musical growth and to share with the community.

Huffman, Shelby
Title: Poetry Reading
Faculty Mentor: Tami Haaland
Major: English
Project Narrative: Students from the Poetry Writing class will read and discuss their original work.

Ivanova, Miglena
Title: Attachment Matter
Faculty Mentor: Brent Finger
Major: Psychiatric Rehabilitation & Psychology
Project Narrative: This research focuses on the different attachment styles. It examines whether or not working mothers, daycare and single parenting influence the attachment styles children develop in early age.
**Johnson, Mady**  
Title: Triohhh  
Faculty Mentor: John Roberts  
Major: Music Performance  
Project Narrative: Triohhh is a student lead chamber ensemble consisting of clarinet, horn, and euphonium. The music played by the trio was adapted by the performers from woodwind and brass trio music for their own musical growth and to share with the community.

**Jones, Amy**  
Title: Online Relationships: Satisfying Our Needs?  
Faculty Mentor: Mark Hardt  
Major: Criminal Justice, Sociology  
Project Narrative: This project takes a look at the impact social media sites have had on relationships, comparing them to traditional, face-to-face relationships. From the research, I will assess if the satisfaction and longevity of online relationships are comparable to traditional relationships or if we are entering a new level of intimacy and companionship.

**Jones, Andrew**  
Title: Effects of Qualitative vs Quantitative Exercise on Memory Recall  
Faculty Mentor: Alex Shafer  
Major: Health & Human Performance  
Project Narrative: Studies show that exercise can facilitate greater memory and recall, but does the type of exercise matter? Participants will take a modified memory test after running and after a volleyball game to compare the effects that the two different types of exercise have on recall and memory.

**Kellinger, Hannah**  
Title: Determination of Solubility Limits for PDTC and [Cu(PDTC)Cl]  
Faculty Mentor: Matt Queen  
Major: Broadfield Science Education  
Project Narrative: This study investigates the 2, 6-pyridinedithiocarboxylic (PDTC) and its copper coordination complex [Cu(PDTC)X] as a carbon tetrachloride remediation technique. Using UV-Vis light spectroscopy, iron titration assays, and over saturation studies, the solubility limits of both PDTC and [Cu(PDTC)Cl] have been determined as a baseline for further solubility improvement. In addition, we hope to use this preliminary data to develop a high throughput solubility assay utilizing dynamic light scattering for further confirmation.

**Kerner, Wade**  
Title: Splitting the Mobius: A Twisted Operation  
Faculty Mentor: Don Wilathgamuwa  
Major: Mathematics Education  
Project Narrative: This project explains why cutting Mobius band (one half-twist) along lines parallel to the centerline creates interesting objects (paradromic rings). This also gives a mathematical formula to calculate the properties of the resulting paradromic rings and explain how these paradromic rings interact with each other in the resulting object. Furthermore, these results are generalized to the family of Mobius-like objects with N half-twists when split into M parts.
Kling, Desiree
Title: Cli-Fi in the 21st Century
Faculty Mentor: Bernard Quetchenbach
Major: English
Project Narrative: *Everything Change* is an international anthology of “cli-fi” short stories available as a free download created by Arizona State University’s Imagination and Climate Futures Initiative. The student panel will consider the possibilities and obligations Australian writer Shauna O’Meara encounters when placing her characters in the realistic projected future of her story “On Darwin Tides.”

LaFountain, Patrick
Title: MSU Billings Jazz Combo
Faculty Mentor: John Roberts
Major: Music Performance
Project Narrative: We will perform music from Bebop, Swing, and Fusion styles of small ensemble jazz.

Lane, Abena
Title: What would you do?
Faculty Mentor: Mark Hardt
Major: Sociology
Project Narrative: The Bystander Effect is a social physiological phenomenon that refers to cases in which individuals do not offer ANY means to help a victim when other people are around. Experiments done in the past show that not helping is prevalent in society today. The Bystander Effect has been the social norm.

Lemelin, Jeanann
Title: Maddie and Tae’s “Girl in a Country Song”: A Semiotic Analysis
Faculty Mentor: Melissa Boehm
Major: Public Relations
Project Narrative: Feminist theory grounds this semiotic analysis of “Girl in a Country Song” by Maddie and Tae, a music video that pokes fun at how women are portrayed in mainstream country songs.

Lindholm, Rick
Title: Readings
Faculty Mentor: Tami Haaland
Major: Pre-Professional Engineering
Project Narrative: Students will read original work from Fundamentals of Creative Writing class.

Lindquist, Austin
Title: The MSUB Library
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: Social media is one way to reach target audiences and gives them many gateways of communication. This project helped the MSUB library create a social media plan that focused on using Twitter and Facebook to reach students and faculty here at MSUB using these concepts: Buzz and books, faculty insider, tag and hashtag clients.
Lubieniecki, Dana
Title: Effects of Virtual Reality Balance Training on Older Adults
Faculty Mentor: Alex Shafer
Major: Health and Human Performance
Project Narrative: The purpose of this study is to determine the effect of an at-home virtual reality balance program on functional stability in older adults compared to a control group. The experimental group will complete a five-week virtual reality balance-training program with the use of the Google Cardboard virtual reality system.

Lueck, Brooke
Title: Gender, Ethnicity, and Sexual Representations of Broad City: A Textual Analysis
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: This project used textual analysis to describe gender, ethnicity, and sexual representations in Broad City. The three depictions are not usually explicitly stated, but are in underlying content. This research represents the true “melting pot” that the US strives for.

Lurie, Daniel
Title: Sophistication or Sexualization? A Rhetorical Analysis of Dead or Alive through the Male Gaze
Faculty Mentor: Melissa Boehm
Major: Organizational Communication
Project Narrative: Misconceptions of the video game series Dead or Alive are analyzed through Male Gaze and Feminist Criticism theories. Additionally, using rhetorical analysis, I will analyze how Dead or Alive appeals to audiences through their video game trailers. Through my analyses, I plan to shed light on the target base of the video game series Dead or Alive.

Lybeck, Logan
Title: Constraint Busting, Economic Maximization, and Distillation Optimization
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Maximizing throughput, product quality, and energy efficiency is important to industry so it can remain competitive. Operations of an authentic pilot scale distillation plant in the PPT lab are improved through the systematic application of scientific and mechanical principles.

Mack, Tyler
Title: Furnace Efficiency Improvements for Lower CO2 Emissions and Improved Economics
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Furnace efficiency is an important consideration in industrial and residential furnaces to minimize fuel costs and greenhouse gas emissions. Energy recovery from stack gasses is explored on a highly instrumented furnace to quantify credits and determine payout time.
Marquez, Amelia
Title: Women’s and Gender Studies Center: A Social Media Plan
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: This project worked with the Women’s and Gender Studies Center to create a social media plan that focused on Facebook and Twitter to reach current students using these concepts: events that MSU Billings and the city of Billings are holding that are important to gender studies, images and quotes of gender equality advocates from MSUB, and political action memos which encourage the target audience to take direct action.

Maxwell, Stephanie
Title: Effectiveness of Small Molecule Inhibitors against Budded to Filamentous Growth in Aspergillus fumigatus
Faculty Mentor: Kurt Toenjes
Major: Biology
Project Narrative: Mortality associated with systemic candidiasis and invasive pulmonary aspergillosis (IPA) is greater than 90% and the number of cases is increasing as medical advances expand the spectrum of susceptible patients. The goal of this research is to expand upon our discovery of small molecules that inhibit the yeast from budded to filamentous growth transition in C. albicans and determine if they inhibit conidia germination and morphogenesis in A. fumigatus. New anti-fungal therapeutics are more desirable if they have efficacy against Candida and Aspergillus species.

Mazurkiewicz, Patti
Title: The Relationship between Culture-Specific Education/Ethnic Identity and Resiliency among Native American Youth
Faculty Mentor: Ambrin Masood
Program: Master of Clinical Rehabilitation and Mental Health Counseling
Project Narrative: This concept paper discusses the importance of retaining and reinstituting culture-specific education in Native American youth. Native Americans have historically struggled with adversity, and this pilot study will gather evidence to support the importance of including culture-specific education to the Native American youth in hopes of positively changing their outlook.

McCann, Noah
Title: MSU Billings Jazz Combo
Faculty Mentor: John Roberts
Major: Organizational Communication
Project Narrative: We will perform music from Bebop, Swing, and Fusion styles of small ensemble jazz.

McDowell, Drew
Title: MSU Billings Jazz Combo
Faculty Mentor: John Roberts
Major: Music Business
Project Narrative: We will perform music from Bebop, Swing, and Fusion styles of small ensemble jazz.
McKay, Liam
Title: NIR RAMAN Spectroscopy of Natural and Synthetic Pigments in Paintings
Faculty Mentor: Matt Queen
Major: Chemistry
Project Narrative: We performed an NIR RAMAN spectroscopy to identify pigments in paintings prepared by artists in the art department.

Mendenhall, Thomas
Title: Cli-Fi in the 21st Century
Faculty Mentor: Bernard Quetchenbach
Major: English
Project Narrative: *Everything Change* is an international anthology of “cli-fi” short stories available as a free download created by Arizona State University’s Imagination and Climate Futures Initiative. The student panel will consider the possibilities and obligations Australian writer Shauna O’Meara encounters when placing her characters in the realistic projected future of her story “On Darwin Tides.”

Mendenhall, Thomas
Title: Poetry Reading
Faculty Mentor: Tami Haaland
Major: English
Project Narrative: Students from the Poetry Writing class will read and discuss their original work.

Morast, Daisy
Title: Soap Making as a Value-Added Product from Montana Oil Seed Production
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Soap making is an opportunity to develop industry and agriculture in Montana by creating a value-added product from Montana’s agricultural crops such as camelina, canola, and safflower. Soap making is also potential high value and environmentally responsible outlet for biodiesel residue glycerin which is otherwise a waste stream.

Nickle, Emmet
Title: Why Fear Death?
Faculty Mentor: Mark Hardt
Major: Criminal Justice, Sociology
Project Narrative: This project studies the fear of death, its causes and concepts, through a survey of the students of Montana State University Billings.

Nielsen, Jared
Title: Poetry Reading
Faculty Mentor: Tami Haaland
Major: English
Project Narrative: Students from the Poetry Writing class will read and discuss their original work.
Oexmann, Sabine
Title: Northcutt Steele Gallery: A Social Media Plan
Faculty Mentor: Melissa Boehm
Program: M.S. Public Relations
Project Narrative: The Northcutt Steele Gallery would like to benefit from the great and free-of-charge opportunities that social media platforms offer to reach their target audience. This project worked with the gallery to create a social media plan that focused on Facebook, Twitter and Instagram to reach students and an audience in the community of Billings using these concepts: promote upcoming events by providing dates and high quality images of the art work that is to be seen, post education “how to…” videos about how to create your own art work, engage the audience by conducting photo and art contests.

Oldham, Kaydee
Title: Dress for Success: A Social Media Plan
Faculty Mentor: Melissa Boehm
Major: Public Relations
Project Narrative: This project worked with Dress for Success to create a social media plan that focused on Facebook, Twitter, and Instagram to reach potential donors, volunteers, and women in the Billings community in need of a job. Dress for Success posted to the above stated social media platforms using these concepts: #MotivationalMonday (emotional appeal quotes), links to donation sites, client success stories, and links to women’s styling/fashion blogs.

Olsen-Bradley, L. Rúhiyyih
Title: “Transparency”
Faculty Mentor: Bernard Quetchenbach
Major: Liberal Studies
Project Narrative: “Transparency” is a lyric essay, developed as a result of study of creative non-fiction. It explores physical and mental elements relating to the theme of transparency. It is a segmented piece, using theme and imagery to work together.

Olson, Rebecca
Title: Women in Special Forces
Faculty Mentor: Mark Hardt
Major: Criminal Justice, Sociology
Project Narrative: Research on the perceptions of women entering the Special Forces field held by students of MSUB. Research will explore positive and negative ideas of women entering these fields that were once exclusive to men.

Owen, Curry
Title: Contagious Shooting
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: This study examined findings for contagious shootings in Michigan, New York, and Pennsylvania to see if law enforcement have an actual problem. The purpose of this study is to see how many cases of contagious shootings officers have been in compared to the total amount of shootings from these states. By doing this, we can see if there is a problem of contagious shooting.
**Pawlowski, Kyler**  
*Title: Developing a Yeast Model of Amyotrophic Lateral Sclerosis Involving the SOD1 Gene*  
*Faculty Mentor: David Butler*  
*Major: Biology*  
*Project Narrative:* Amyotrophic lateral sclerosis (ALS), one of the most common neuromuscular diseases in the world, is an unremittingly progressive disease that degenerates motor neurons in the brain and spinal cord. The most common mutations in familial ALS occur in the SOD1 gene. We are developing a yeast model of ALS based on the expression of mutant human SOD1 proteins which will permit high throughput genetic screens to identify genes that enhance or suppress the toxic phenotypes associated with mutant SOD1 expression, as well as chemical screens to identify compounds that inhibit mutant SOD1 toxicity.

**Preeshl, Katie**  
*Title: The Department of Communication and Theatre: A Social Media Plan*  
*Faculty Mentor: Melissa Boehm*  
*Major: Mass Communication*  
*Project Narrative:* This project worked with the Department of Communication and Theatre to create a social media plan to increase its target audience. The plan focused on Facebook, Twitter, and Instagram to reach current and potential communication students by showcasing both faculty and students.

**Rachunok, Joshua**  
*Title: How MSUB Sees Blue*  
*Faculty Mentor: Mark Hardt*  
*Major: Criminal Justice, Sociology*  
*Project Narrative:* There are many different opinions on police, and these opinions vary by age, race, and sex. College campuses provide a very diverse group of individuals who present a multitude of different ideas. Through the use of surveys I aim to understand the variation of ideas given the factors of age, race, and sex.

**Raj, Aidan**  
*Title: Gender Representation in *Game of Thrones*: The Semiotic Analysis*  
*Faculty Mentor: Melissa Boehm*  
*Major: Public Relations*  
*Project Narrative:* A semiotic analysis of gender representation in the television series *Game of Thrones*. I will document signifiers and the signifieds within the series to draw inferences to what role each gender plays within the show and what they might mean to the viewer.

**Reinschmidt, Luke**  
*Title: Assessment of Benzophenone as Internal Standard in RP HPLC Monitoring of Caffeine during Coffee Brewing*  
*Faculty Mentor: Matt Queen*  
*Major: Chemistry*  
*Project Narrative:* This study tests the accuracy of Benzophenone as an internal standard for the monitoring of caffeine concentrations during coffee brewing.
Richardson, Davontae
Title: Discrimination between Race and Gender
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: This study focused on discrimination to see why we as a people discriminate and present scenarios (if any) where it is right to discriminate. The purpose is to see how big of a percentage see that they discriminate or at least admit it. This project will analyze data from students at MSUB using the availability method.

Ryan, Jesse
Title: Furnace Efficiency Improvements for Lower CO2 Emissions and Improved Economics
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Furnace efficiency is an important consideration in industrial and residential furnaces to minimize fuel costs and greenhouse gas emissions. Energy recovery from stack gasses is explored on a highly instrumented furnace to quantify credits and determine payout time.

Sailors, Sam
Title: Fuel and Feed Pellet Production from Montana’s Agricultural Crops
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Bio-based fuels offer an opportunity to increase manufacturing jobs and agriculture in Montana. A processing plant has been commissioned at City College capable of producing 150 lbs/hr of fuel pellets from agricultural and yard residues. Testing of the fuels in multi-fuel furnaces is underway.

Schoenenberger, Malia
Title: Poetry Reading
Faculty Mentor: Tami Haaland
Major: English
Project Narrative: Students from the Poetry Writing class will read and discuss their original work.

Scoles, Crystal
Title: Soap Making as a Value-Added Product from Montana Oil Seed Production
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Soap making is an opportunity to develop industry and agriculture in Montana by creating a value-added product from Montana’s agricultural crops such as camelina, canola, and safflower. Soap making is also potential high value and environmentally responsible outlet for biodiesel residue glycerin which is otherwise a waste stream.

Sedgwick, Ryan
Title: Gun Free College Campus: The Student and Faculty Opinions
Faculty Mentor: Mark Hardt
Major: Criminal Justice
Project Narrative: The project examines student and faculty opinions on gun free college campuses. The project used surveys to collect the data and SPSS software database to analyze the data.
Segerstrom, William
Title: Readings – Edwin’s Charity
Faculty Mentor: Tami Haaland
Major: Public Relations
Project Narrative: Students will read original work from Fundamentals of Creative Writing class.

Shanley, Tyler
Title: Fuel and Feed Pellet Production from Montana’s Agricultural Crops
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Bio-based fuels offer an opportunity to increase manufacturing jobs and agriculture in Montana. A processing plant has been commissioned at City College capable of producing 150 lbs/hr of fuel pellets from agricultural and yard residues. Testing of the fuels in multi-fuel furnaces is underway.

Shelton, Luke
Title: A Social Media Plan for the Yellowjacket Emergency Pantry
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: Working with Shayla Fox, this project devised a strategic social media plan that focuses on utilizing both Facebook and Twitter to promote and broadcast the YEP’s services using these concepts: providing information about food insecurity in America, providing encouragement for students facing food insecurity to visit the YEP and providing suggestions (low cost recipes, budget tips) for students facing any type of financial strain.

Shelton, Luke
Title: The Duality of Racial Representation in Mass Media: How Agenda Setting Theory Condemns and Perpetuates Racial Stereotyping, a Local Example
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: In a post to the Kat Country station’s website, Billings Kat Country host Paul Mushaben suggested that Native American high schools within the MHSAA (Montana High School Athletic Association) should host their own tournaments, essentially arguing for voluntary segregation. His short-lived remarks (his post was removed that same day) quickly received intense local and national press coverage, from the Billings Gazette to the Washington Post. This coverage spurred a great amount of public backlash and eventually led to Mushaben being suspended. This study will use agenda setting theory and textual analysis to explore how other media organizations reacted to Mushaben’s statements.

Small, Zale
Title: Materialism and Philogyny in Migos’ “Bad and Boujee”: A Semiotic Analysis
Faculty Mentor: Melissa Boehm
Major: Liberal Studies
Project Narrative: Migos is an American rap and hip hop group based in Atlanta. The video for Migos’ recent release of “Bad and Boujee” will be the basis for this semiotic analysis. Marxism and feminism will be the theories that will be applied to this text because of the many underlying connotative signs portrayed by the performers. This video may be interpreted as a representation of materialism and misogyny.
Smiedala, Josey
Title: Jackets and Company: A Social Media Plan
Faculty Mentor: Melissa Boehm
Major: Public Relations
Project Narrative: Social media is one of the most useful tools utilized by businesses today. I worked with Jackets and Company to create a social media plan that focused on Facebook, Twitter, and YouTube to reach the students and alumni of the university. I recommend that Jackets and Company post at least once a week on Facebook using these concepts: interactive sweepstakes, daily buzz, and how-to videos.

Smiedala, Josey
Title: *Orange is the New Black*: Media Representations of Female Incarceration
Faculty Mentor: Melissa Boehm
Major: Public Relations
Project Narrative: The provocative Netflix series *Orange is the New Black* leaves nothing unsaid when it comes to the media’s representation of women in prison. Even though the imperfections of the prison system and women in the show seem ghastly, the series humanizes these “animals” (as described by the theme song) confined within. The portrayal of different types of race, gender, and sexuality could represent a microcosm of our society today.

Songstad, Alex
Title: Constraint Busting, Economic Maximization, and Distillation Optimization
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Maximizing throughput, product quality, and energy efficiency is important to industry so it can remain competitive. Operations of an authentic pilot scale distillation plant in the PPT lab are improved through the systematic application of scientific and mechanical principles.

Soucy, Tim
Title: Social Networking Sites and Suicide Ideation
Faculty Mentor: Mark Hardt
Major: Criminal Justice, Sociology
Project Narrative: This study will conduct randomized survey research among MSU Billings students to investigate a correlation exists between the frequent use of social media and suicide ideation.

Stalker, Richard
Title: Constraint Busting, Economic Maximization, and Distillation Optimization
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Maximizing throughput, product quality, and energy efficiency is important to industry so it can remain competitive. Operations of an authentic pilot scale distillation plant in the PPT lab are improved through the systematic application of scientific and mechanical principles.

Steiger, Dillon
Title: MSU Billings Jazz Combo
Faculty Mentor: John Roberts
Major: Music Performance
Project Narrative: We will perform music from Bebop, Swing, and Fusion styles of small ensemble jazz.
St. Pierre, Rian
Title: Does Case Management Work for Domestic Violence Victims?
Faculty Mentor: Mark Hardt
Major: Sociology
Project Narrative: This research will determine if the case management is effective in transitioning domestic violence victims out of shelter successfully. By successful we mean that the victim has a safe place either of her own or place to go after her said time with the shelter facility.

St. Pierre, Rian
Title: Catharine Brown
Faculty Mentor: Reno Charette
Major: Sociology
Project Narrative: Catharine Brown was the first Native American woman to convert to Christianity. Despite what little education she had, Catharine became the epitome of Christian values instilled among Native people. She lived a short life but also reached a spirituality that only few dreamed of.

Sullivan, Cate
Title: Readings
Faculty Mentor: Tami Haaland
Major: English
Project Narrative: Students will read original work from the Fundamentals of Creative Writing class.

Supola, Ryan
Title: MSU Billings Jazz Combo
Faculty Mentor: John Roberts
Major: Music Education
Project Narrative: We will perform music from Bebop, Swing, and Fusion styles of small ensemble jazz.

Talksabout, Michaela
Title: Reinforcement Theory in Harry Potter films: A Proppian Analysis
Faculty Mentor: Melissa Boehm
Major: Public Relations
Project Narrative: This project uses a Proppian analysis of the Harry Potter film franchise to document the traditional hero and villain themes. Reinforcement theory states that individuals seek media that avoids cognitive dissonance, and I argue that Harry Potter fans step into a work where their morals and ideas of good and evil are reinforced.

Tellez, Taylor
Title: Yellowstone Public Radio: A Social Media Plan
Faculty Mentor: Melissa Boehm
Major: Mass Communication
Project Narrative: This project worked with Yellowstone Public Radio to create a social media plan that focused on Facebook and Twitter to reach and unite listeners throughout Montana and Northern Wyoming. It was recommended that Yellowstone Public Radio post using these concepts: promotional or fundraising content, original niche new stories, and technical information about YPR.
Tombrink, LeAnne
Title: Perceptions of Oil and Gas Development in the Bakken of Montana
Faculty Mentor: Susan Gilbertz
Major: Environmental Studies
Project Narrative: This project investigates public perceptions of risks associated with oil and gas development. A random survey of households in the 6 Montana counties impacted by Bakken activities was designed and sent out by mail. Returned surveys are entered into an SPSS software database and numerous statistical analyses were conducted.

Tretin, Jerimiah
Title: Cli-Fi in the 21st Century
Faculty Mentor: Bernard Quetchenbach
Major: English Education
Project Narrative: Everything Change is an international anthology of “cli-fi” short stories available as a free download created by Arizona State University’s Imagination and Climate Futures Initiative. The student panel will consider the possibilities and obligations Australian writer Shauna O’Meara encounters when placing her characters in the realistic projected future of her story “On Darwin Tides.”

Trogden, Tyler
Title: Furnace Efficiency Improvements for Lower CO2 Emissions and Improved Economics
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: Furnace efficiency is an important consideration in industrial and residential furnaces to minimize fuel costs and greenhouse gas emissions. Energy recovery from stack gases is explored on a highly instrumented furnace to quantify credits and determine payout time.

Urlacher, Dillon
Title: Game of Life: A Randomized Version
Faculty Mentor: Don Wilathgamuwa
Major: Mathematics
Project Narrative: A cellular automaton, named Game of Life, evolves through a series of predefined rules that depend only on the initial state. We utilize Markov Random Fields to generalize this game and use computer simulations to calculate the random evolution of states.

Van Tassel, Brandon
Title: Characteristics of the Effect of Exogenous cAMP on C. albicans Morphogenesis in Strains Lacking Nrg1p, Rfg1p, or Tup1p
Faculty Mentor: Kurt Toenjes
Major: Biology
Project Narrative: The opportunistic human pathogen Candida albicans causes both superficial and life-threatening systemic infections and is a leading cause of fungal disease in immunocompromised individuals. C. albicans can grow in different cell shapes or morphologies, including yeast-like cells and a variety of filamentous forms, such as true hyphae and pseudohyphae. The goal of this project is to characterize whether the addition of exogenous cAMP, as well as the small molecule BG31, will increase the expression of HWP1 in the absence of each of the negative regulators.
Walters, Joseph
Title: Elongator Function in the Anterior Pituitary and its Relevance to Familial Dysautonomia
Faculty Mentor: Lynn George
Major: Biology, Psychology
Project Narrative: Familial Dysautonomia is a devastating neurodegenerative disease caused by insufficient levels of Elongator, a complex needed for normal translation of codon-biased genes. FD patients exhibit a reduced number of autonomic neurons, and suffer from a multitude of autonomic symptoms including cardiovascular instability, gastrointestinal incoordination, and respiratory dysfunction, in addition to poor growth and weight gain. Here, we show expression of Elongator protein 1 (Elp1 or IKBKAP) in the anterior pituitary and investigate the possibility that many FD symptoms may result from aberrant pituitary regulation of the autonomic nervous system due to altered translation of codon-biased, pituitary specific genes.

Weaver, Isabel
Title: Rehabilitation vs Incarceration
Faculty Mentor: Mark Hardt
Major: Criminal Justice, Sociology
Project Narrative: This project was done to see how students in the Law Enforcement and Criminal Justice programs view rehabilitation vs prison time. The data would show whether rehabilitation could be a possible solution to help take the pressure off of prison and help rehabilitate prisoners.

Wester, Hunter
Title: Oil Press Alarm and Shutdown System for Unattended Operation
Faculty Mentor: Andy Sullivan
Major: Process Plant Technology
Project Narrative: This work supports collaboration with a local boutique safflower oil producer who reports issues with disrupted pressing operations that are consistent with our experiences. The stalled mill will damage itself due to wear and high temperatures if not shutdown promptly, but the operations typically run unattended. Process Plant Technology students are designing and constructing a new alarm and shutdown system for our press and will share the results with our partners.

White Plume, Talitha
Title: Student Union Activities: A Social Media Plan
Faculty Mentor: Melissa Boehm
Major: Liberal Studies
Project Narrative: Student Union Activities was advised to create a social media plan that focused on Facebook and Twitter to reach traditional students, non-traditional age students, and community members. Through these recommendations, Student Union Activities posted using these concepts: history or events and future events that promote school activities, a collage of students to show diversity at MSU Billings, and landmarks of Billings that incorporate the school campus.

Winter, Matt
Title: Poetry Reading
Faculty Mentor: Tami Haaland
Major: Liberal Studies
Project Narrative: Students from the Poetry Writing class will read and discuss their original work.
John Allenbaugh  
Chaos and Rhythm  
charcoal, henna paste, pencil, ink, colored plasticine, guitar string

Lauren Baum  
After Life  
acrylic painting

Meliah Bell  
Isolated Together  
oil on paper

Katelynn Burg  
Dream Apparatus  
photography (series of 3)

Lindsey Carrell  
Place Study  
acrylic and graphite on panel

Shayla Fiscus  
Not Your Grandmothers Doily  
ceramic - majolica glaze slab built bow

Hannah Harsha  
Misty Mountains  
charcoal

Zachary Hinkle  
Feds Shreds  
money and starch

Madalyn Johnson  
Life of the Party  
gouache

Michael Jones  
Peep Show  
mixed media

Michael Jones  
Table Saw  
mixed media

Glenn Kamamura  
Pamela’s Portrait  
artists oils and acrylics

Ellen Kuntz  
You Are The Blood. Self-Portrait  
photography

Brenna Lacy  
Holy Hand  
oil on canvas

Rebecca Lee  
Isolated In Open Spaces  
acrylic on paper

Vince Long  
Equality #3 – Perimeter  
colored pencil and ink on paper

Amy Mason  
Foundations  
ceramics, found objects, plexiglas (series of 3)

Elizabeth May  
Ordinary Dream  
Collage

Laura Meintjes  
Fence  
photography (series of 3)

Meagan Milton  
Strong Bodies  
ceramic and leather
Fred Muller  
*Vessel 2*  
ceramic and steel

Dacia Racine  
*States of Me (Triptych)*  
oil on paper

Tabetha Rindahl  
*Now You See Me, Now You Don’t*  
India ink and white pen on watercolor paper

Tabetha Rindahl  
*Just Another Pretty Face*  
mixed media

Angel Shandy  
*Untitled*  
charcoal

Stephanie Slavin  
*My Roots The Monster in Me*  
photography

Marsha Stewart  
*“Unbreakable” – She Series*  
paper collage

Marsha Stewart  
*“Lovely” – She Series*  
paper collage

Morgan Syring  
*Bitfrost*  
chainmail and aluminum

Michelle Williams  
*The Singer and Her Stage*  
oil on paper
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