



**PennState**  
Mont Alto

CELEBRATING THE SCHOLARLY RESEARCH AND  
ACHIEVEMENTS OF PENN STATE MONT ALTO STUDENTS

PENN STATE MONT ALTO  
**ACADEMIC  
FESTIVAL**



**FRIDAY, APRIL 22, 2022**



**PennState**  
Mont Alto

## SCHEDULE OF EVENTS

### **Opening Remarks**

12:10 p.m.

Multi-Purpose Activities Center, Gym

### **Posters and Exhibits**

12:20 – 3 p.m.

Multi-Purpose Activities Center, Gym

### **Oral Presentations**

1 – 1:40 p.m.

Multi-Purpose Activities Center, Room 122

### **Reception**

3 – 3:30 p.m.

General Studies Building, Academic Support Center

### **Awards Presentation**

3:30 p.m.

General Studies Building, Auditorium

*Student names are listed with each project.*

*Faculty advisers for each project are included in parentheses.*

PENN STATE MONT ALTO

# ACADEMIC FESTIVAL

## RESEARCH POSTERS

### #1 CRISPR Technology and Congenital Disordered Development

We present the topic of CRISPR-Cas9 technology and how it is used to manipulate genome sequences. The focus is the influence of this technology on the development of embryos who are suspected of or confirmed to possess congenital disorders in mothers who are undergoing in-vitro fertilization processes. It will also examine how CRISPR-Cas9 technology will influence nursing care in the future. The research question is: in mothers undergoing in-vitro fertilization of embryos suspected of or confirmed to possess congenital disorders, will CRISPR technology be effective in reducing the occurrence of disordered development? **Maegan Aleshire, Abigail Keiser, Taylor Peachey (Project Adviser: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program)**

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### #2 Effects of Maternal Marijuana Use on the Mother and the Infant Within the First Year of Delivery

This study focuses on the effects that marijuana use during the pregnancy has on the infant within the first year of life as well as the postpartum mother within the first year after birth. Utilizing marijuana during pregnancy has negative effects on not just the baby, but the mother as well within the first year after birth. Our research question is: In pregnant women, how does cannabis use compared to non-cannabis use affect the child as well as the mother within the first year after birth? **Payton Ilgen, Hope Sprecher, Kaitlyn McCollum, Katelyn Smith (Project Advisers: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program; Carranda Barkdoll, program coordinator and assistant teaching professor, Nursing)**

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### **#3 Infant Feeding Method and Asthma**

Many women choose an infant feeding method without being fully informed of how it may affect their infant's health. Public awareness is important to improve the health of children. The question being addressed is: What is the effect of breastfeeding compared to formula feeding on the prevalence of asthma in infants to adolescents? **Hannah Kertes, Maria Burkett, Sofia Perez-Espinosa, Kathryn Herr (Project Advisers: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program; Tom Reinsfelder, head librarian, Library)**

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### **#4 Paternal Postpartum Depression**

This study explores how common paternal postpartum depression is, the associated clinical manifestations, effects of the family and father, and why men do not seek help and make it more commonly known. This study can be answered by our PICOT question: How does the stereotype against men trying to identify the cause of their paternal postpartum depression compared to men who are not experiencing postpartum depression affect their overall wellbeing? **Skye Strayer, Laikayn Wagner, Summer Sellers (Project Adviser: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program)**

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### **#5 LGBTQ+ Coping Strategies and Mental Illness**

LGBTQ+ youths often lack the resources for mental health services and have increased stress related to bullying and discrimination. In healthcare settings, many providers feel underequipped to address the issues specific to LGBTQ+ youths. We compare mental health issues among sexual minority and non-LGBTQ+ youths. This study also aims to answer: What is the effect of coping strategies in LGBTQ+ youths with mental illness compared to non-LGBTQ+ youths on mental health and/or wellbeing? **Erica Johnson, Camille Flack, Amanda Bingham (Project Adviser: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program)**

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## **#6 Racial Disparities of Pain Management**

The question guiding our evidence-based practice is: In adults, how does pain management differ among races in order to reduce disparities of pain management for minorities? We expect that minority races receive less pain management than those of the majority. **Kylee Gooding, Serena Feese, Drew Faust, Tyler Moreland (Project Adviser: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program)**

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## **#7 Nursing Burnout Due to COVID-19**

The COVID-19 pandemic changed the world, including a monumental impact on the medical world. Nursing burnout was already a problem prior to the pandemic along with the nursing shortage. This leads to the question: Are nursing staff who practice during the COVID-19 pandemic experiencing burnout? If factors are discovered about how the pandemic is contributing to burnout policies, programs can be put in place to help decrease burnout. **Layken Barrows, MaKenzie Llewellyn, Meagan Smith (Project Advisers: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program; Lisa Ward, assistant teaching professor, Nursing)**

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## **#8 Exploring the Tangent Line**

Many things about the relationship between the tangent line to a function at a point  $(a, f(a))$  and the tangent line to the inverse function at the point  $(f(a), a)$  are well established. However, in graphing these functions and tangent lines, less obvious patterns begin to emerge. I will investigate these lesser-known patterns and relate them back to the well-known relationships. **Ian M. Kepner (Project Adviser: Kira Hamman, assistant teaching professor, Mathematics; director, Honors Program)**

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## **#9 Spring Phenology of Common Landscape Trees**

I measured the phenological characteristics of trees in the Bartlett Landscape Tree Research Plot for several weeks during the last three semesters. The characteristics measured include leaf buds, canopy leaves, canopy flowers, pollen release, and the presence of fruit. The data collected is also compared to growing degree days, or the number of heat units in our area. I will be presenting the findings from the two Spring semesters. **Donald Yealy (Project Advisers: Kimberly Bohn, assistant teaching professor, Forest Technology; Beth Brantley, plant pathologist, Bartlett Tree Experts)**

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## **#10 Fall Phenology of Common Landscaping Plants**

I collected data weekly in the Bartlett Landscape Tree Research Plot on established landscaping trees on leaf color, leaf drop, and presence of fruiting. Data was compiled by genus for species and compared to local weather. There was variability in the timing of leaf color change and leaf drop within the individuals of some genera, including ash (*Fraxinus* genus). There was also significant variation in leaf color, leaf drop, and fruiting between cultivars of crab apples (*Malus* spp). **Emily Saltzer (Project Adviser: Kimberly Bohn, assistant teaching professor, Forest Technology)**

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## **#11 The Effectiveness of Different Cleaning Agents on Cloth Masks**

In the COVID-19 pandemic, research has proven that mask wearing is one of the most effective ways to prevent the transmission of the COVID-19 virus. We tested the effectiveness of various cleaning agents in their ability to disinfect cloth masks. We found that soap, bleach, and hydrogen peroxide all showed a reduction in microbial growth, with hydrogen peroxide being the most effective. Our research also proved that drying with heat was more effective than air drying, probably due to the sterilizing effects of heat. **Andrea Fox, Madalyn Burton (Project Adviser: Ed Hipkiss, lecturer, Biology)**

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## **#12 Trust in Healthcare and Health Information Avoidance Among LGBTQ+ Individuals**

LGBTQ+ individuals have often faced discrimination within the healthcare system, which may influence their decisions to seek or avoid health information. In a survey assessing past health information avoidance behavior, experiences, and attitudes among LGBTQ+ young adult participants, we examined the relationship between levels of trust within healthcare and health information avoidance. Hierarchical logistic regression analyses revealed that healthcare trust was a significant predictor of past information avoidance behavior. Consistent with predictions, this study found that lower levels of trust within healthcare were associated with higher levels of information avoidance, suggesting important implications for health and wellness among LGBTQ+ individuals. **Kamila Najafzade (Project Adviser: Nikolette Lipsey, assistant professor, Psychology)**

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## **#13 Social Media use and Undergraduate Students' Mental Health, and Adjustment to College During Times of the Current COVID-19 Pandemic**

This literature review exhibits current information regarding the use of social media among undergraduate students and how it affects mental health and adjustment to college during the current COVID-19 pandemic. Reviewing this literature is important considering social media use is becoming more prevalent especially among undergraduate students. **Abigail Stine, Samantha Sibold (Project Adviser: Jacob Sawyer, assistant professor, Psychology)**

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# **INFORMATIONAL EXHIBITS**

## **#14 Dream Analysis and the Unconscious**

This literature review covers information published over the last few years regarding dreaming and the unconscious mind. Studies detailed in this analysis show the important role that dreams can have in better understanding one's thoughts, feelings and even disorders. The accuracy of dream analysis also seems to have the potential to improve with the advancement of technology. Reviewing this literature is important in understanding a major part of everyone's lives that is often overlooked.

**Samantha Sibold, Abigail Stine (Project Adviser: Jacob Sawyer, assistant professor, Psychology)**

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## **#16 Mindfulness Strategies for Prevention and Coping with Burnout in Healthcare Professionals**

Burnout syndrome is characterized by an array of negative behavioral and physical symptoms. It is a common problem among healthcare professionals that poses a concern due to the dangerous consequences that can occur. This is why it is important to develop strategies for prevention and coping with burnout in this profession.

**Danielle Barnhart (Project Adviser: Jackie Schwab, program coordinator and associate professor, HDFS)**

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## **#17 Project MISTS**

We are setting up a server that all IST students can connect to that has all the software they need to complete IST assignments. The server can be connected to either from a Penn State lab computer, or their own devices. Students do not have to risk installing the software on their own devices to complete IST assignments. We have also worked with ITS to enable remote access, so students can connect even from home.

**Wade Corun, Paxton Shatzer, Dylan Rhodes, Jared Pine (Project Adviser: John Henry, lecturer, Information Technology)**

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## **#18 Internship Database Capstone Project**

For our project, we collaborated on creating a database on an already existing server from another group. This database hosts information about alumni internship experiences and will host current student experiences as well. Along with the database, there is a website that displays this information. **Mariah Martin, Paola Tellez-Herver, Kyah Rucker, Jacob Geesaman, Logan Zeigler (Project Adviser: John Henry, lecturer, Information Technology)**

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## **ORAL PRESENTATIONS**

**1 – 1:20 p.m.**

### **#20 Induction of Labor and Cesarean Sections: An Ethical Issue**

Our research is focused on the ethical issues related to health care providers and the time between a pregnant patient being induced and receiving a cesarean section. We interviewed labor and delivery nurses across the United States to get their standpoint on if they believe health care providers are waiting an appropriate amount of time before they perform a cesarean section after an induction takes place. **Hannah Kertes, Maria Burkett, Sofia Perez-Espinosa, Kathryn Herr (Project Adviser: Stephanie Unger, assistant teaching professor, Nursing; faculty, Honors Program)**

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**1:20 – 1:40 p.m.**

### **#21 How Accessible are We?**

Although we as a society are required to follow ADA rules and regulations, how accessible are we really? From bathroom stalls in stores to school buildings, ADA regulations are put in place most everywhere. I will be examining and discussing the downfalls of accessibility both locally and country-wide and how it impacts those who are disabled. **Maegan Aleshire (Project Adviser: Alice Royer, assistant teaching professor, English and Women's Studies)**

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## 2022 Academic Festival Sponsors



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**Kira Hamman**, assistant teaching professor, Mathematics;  
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**Ed Hipkiss**, lecturer, Biology

**Thomas Kramer**, lecturer, Business

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**Greg Mahlon**, associate professor, Physics

**Jacob Moore**, associate professor, Engineering;

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**Tom Reinsfelder**, head librarian, Library

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**Jacob Sawyer**, assistant professor, Psychology

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**Robin Yaure**, program coordinator and professor of teaching, HDFS;

faculty, Honors Program

## Thanks to the following for their assistance:

**Francis Achampong**, campus chancellor

**Randall Ackerman**, director, Campus Development

**Brandi Biesecker**, development assistant, Campus Development

**Michael Doncheski**, chief academic officer, Academic Affairs

**Courtney Gotham**, director, Public Relations and Marketing

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**Kendra Wolgast**, director and disability coordinator, Academic Support Center

**Physical Plant staff**, the **Housing and Food Services staff**, the **IT Department**, the

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**This publication is available in alternative media on request.**

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