



Ninth annual

CELEBRATION OF **SCHOLARSHIP**

CONFRONTING CHALLENGES THROUGH SCHOLARSHIP, FAITH, AND LOVE

THURSDAY, APRIL 15, 2021

The theme for this year's Celebration of Scholarship reflects an ongoing opportunity for members of the Lewis University community to search for the intersection of meaning and purpose with their academic pursuits.

Through concurrent, poster, creative works, and business pitch presentations students and faculty will have the opportunity to share their scholarship, celebrate a milestone in their academic experience, and consider paths that remain to be explored.

PROGRAM

PLENARY SESSION

05 **Dr. Lisa Burkhart** (*Keynote Speaker*), Virtual/Zoom 11 AM-Noon

CONCURRENT SESSIONS

06 **Session I**, Virtual/Zoom 1–2 PM

07 **Session II**, Virtual/Zoom 2:15–3:15 PM

09 **Session III**, Virtual/Zoom 3:30–4:30 PM

10 **Session IV**, Virtual/Zoom 4:45–5:45 PM

BR. JOEL DAMIAN, FSC BUSINESS PITCH COMPETITION

11 **Judging**, Virtual/Zoom

CREATIVE WORKS

12 **President's Art Exhibition Works**, Oremus Fine Arts Center Noon–5:30 PM

12 **Gallery Talk**, Virtual/Zoom 2-3 PM

13 **Creative Works Performances**, Virtual/Zoom 3-5 PM

POSTERS

14 **Session A**, Virtual/Zoom 2–3 PM

16 **Session B**, Virtual/Zoom 3:15–4:15 PM

17 **Session C**, Virtual/Zoom 4:30–5:30 PM

AWARDS PRESENTATION

Awards will be announced, Virtual/Zoom 6–6:30 PM
*Sponsored by **Schulze & Burch Biscuit Company***

PRESENTERS

19 *Index of Presenters*

COORDINATING COMMITTEE

20 2021 Celebration of Scholarship Coordinating Committee

THEATER PREVIEW

21 **"The Romancers"**, Virtual/Livestream 7 PM Curtain



GENERAL INFORMATION

Lewis University is proud to sponsor the Ninth Annual Celebration of Scholarship. Providing an opportunity for the University to showcase the scholarly and artistic work of its graduate students, undergraduate students, and faculty, this annual scholarly event is co-sponsored by the **Culture of Inquiry Coordinating Committee**; the **School of Graduate, Professional, and Continuing Education**; the **Colonel Stephen W. and Lyla Doherty Center for Aviation and Health Research**; the **Lowell Stahl Center for Entrepreneurship and Real Estate Studies**; the **History Center: Urban, Cultural and Catholic History of the Upper Midwest**; the **Center for Ministry and Spirituality**; the **University Faculty Development Committee**; and the **Scholars Academy**.

The theme for this year's Celebration of Scholarship, *Confronting Challenges Through Scholarship, Faith, and Love*, reflects an ongoing opportunity for members of the Lewis University community to search for the intersection of meaning and purpose with their academic pursuits. Through concurrent, poster, creative works and business pitch presentations, students and faculty from across the University will have the opportunity to share their scholarship, celebrate a milestone in their academic experience, and consider paths that remain to be explored.

The Lewis University Celebration of Scholarship will present scholarly work in the following virtual formats throughout the afternoon.

CONCURRENT SESSIONS

Students and faculty will give a 15-minute presentation on a research topic or paper they have written, unless otherwise noted as a panel discussion. Concurrent sessions will be scheduled in Zoom Rooms from 1-5:45 PM.

POSTER SESSIONS

Research posters will feature the results of research projects, internships and class presentations. Posters will be displayed with virtual presentations on Zoom from 2-5:30 PM with the authors present at times as designated in this program.

CREATIVE WORKS

These include any piece that has been written, published and produced in a fine arts field, including: music, art, theatre, literary reading, poetry, etc. Art exhibits will be displayed from Noon-5:30 PM in the Art Gallery. A Gallery Talk, representing winners from the President's Art Exhibition, will take place on Zoom from 2-3 PM, immediately followed by creative works on Zoom from 3-5 PM.

BR. JOEL DAMIAN, FSC, BUSINESS PITCH COMPETITION

The Br. Joel Damian, FSC, Business Pitch Competition, hosted by the Lowell Stahl Center for Entrepreneurship and the College of Business, encourages entrepreneurship among students throughout the Lewis community. The College of Business recognizes that potentially successful business ideas can come from a wide range of disciplines and may originate from an individual or a group of individuals.



2021 CELEBRATION OF SCHOLARSHIP
CORPORATE AWARDS SPONSOR



Dear Colleagues:

It is my privilege to welcome everyone to the ninth Annual Celebration of Scholarship. I am pleased to be a part of this important Celebration that recognizes the scholarly accomplishments of the undergraduate and graduate students and faculty members of Lewis University. This year's event will be held in a completely virtual format with a theme of *Confronting Challenges Through Scholarship, Faith, and Love*.

Students have been working with their respective faculty mentors for the last year to investigate, create and present the new ideas and knowledge that you will experience as a part of this year's Celebration of Scholarship. This year's celebration will include 35 virtual concurrent sessions, 35 virtual poster presentations, 2 business pitch competitions, and 7 creative works. Additionally, artwork from the President's 13th Annual Art Competition will be on display, and winners will participate in an afternoon virtual gallery talk.

The virtual Plenary Session at 11AM will feature keynote speaker, Dr. Lisa Burkhart, Associate Professor in the Marcella Niehoff School of Nursing, Loyola University Chicago and Research Health Scientist in the Center of Innovation for Complex Chronic Healthcare at the Edward Hines, Jr. VA Hospital. Following her remarks there will be multiple sessions, posters, displays and presentations, all of which will be available in a virtual format. To conclude today's events, a virtual Award Ceremony will take place at 6PM. At this time, the winners of today's Poster and Concurrent session presentations will be announced, and one student project will be recognized as the winner of the Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award, which provides a \$2,000 scholarship to a student who performs and presents outstanding research.

This day is possible because of the commitment of many faculty and staff. Thank you to the Office of Graduate Studies, the Coordinating Committee, the subcommittees and the many volunteers who give their time to make this event a success. And, special recognition and gratitude to co-chairs Dr. Mary Desmond, Assistant Professor and MSN Graduate Program Director, and Dr. Matthew Domico, Assistant Professor of Psychology.

Faculty and student research, scholarly pursuits and creative works are fundamental to the life of the University. It is with great pride we celebrate the work that has been done and with great hope we look to the future to see these efforts continued.

Enjoy this Celebration of Scholarship and blessings to all.

Sincerely,

A handwritten signature in black ink, appearing to read "David J. Livingston". The signature is fluid and cursive, with a large, sweeping flourish at the end.

David J. Livingston, Ph.D.
President



Dear Colleagues:

I'm pleased to introduce Lewis University's Annual Celebration of Scholarship, which highlights the research, scholarship and creative accomplishments of our students and faculty.

The Celebration brings to life our Mission values of knowledge, wisdom, justice, fidelity and association. In concert with our Mission values, we highly value academic excellence grounded in research and scholarship, work that responds to the needs of society, and a transformative student experience that emphasizes impact and experiential learning. The Celebration embodies this vision in inspiring and meaningful ways.

This year's Celebration is like no other before it, as our faculty and students have gone to incredible effort to celebrate and engage virtually, maintaining the health and safety of our community while also revealing the extraordinary accomplishments of our students. And, I'm delighted that we will continue many of the traditions, both old and new, including the Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award, honoring our former provost who supported the Celebration in countless ways as it came to life during her tenure. Three finalists for the award will be named in the Celebration's program, and one project will receive a \$2,000 award.

I'm also very pleased to welcome our keynote speaker for this event, Dr. Lisa Burkhart, whose talk entitled "Confronting Challenges Through Scholarship, Faith and Love," promises to both inspire and ground us in the values that underpin our research and scholarship.

I am grateful for all those who have worked diligently to make this Celebration a reality and a success. Thank you to the many faculty and staff who serve on the Celebration of Scholarship Coordinating Committee, various sub-committees and in other volunteer capacities. A special thanks to co-chairs Dr. Matthew Domico, Assistant Professor in Psychology, and Dr. Mary-Beth Desmond, Assistant Professor in Nursing.

The spirit of association permeates this day and speaks to our commitment to academic excellence, collaboration, and community.

Sincerely,

A handwritten signature in black ink, appearing to read "C Sindt". The signature is fluid and cursive, written over a light blue horizontal line.

Dr. Christopher Sindt
Provost

PLENARY SESSION

11 AM – NOON

WELCOME

Dr. William Chura, Associate Provost for Research and Faculty Development

OPENING PRAYER

Brother Philip Johnson, FSC, Office of Mission and Identity

OPENING REMARKS

Dr. David Livingston, President, Lewis University

INTRODUCTION OF KEYNOTE

Dr. Mary E. Desmond, Assistant Professor and MSN Graduate Program Director;
Co-Chair, 2021 Celebration of Scholarship

KEYNOTE ADDRESS

Lisa Burkhart, Ph.D., RN, ANEF, Associate Professor, Loyola University Chicago
and Research Health Scientist, Edward Hines, Jr. VA Hospital

AUDIENCE QUESTIONS

Facilitated by Dr. Matthew Domico, Assistant Professor, Psychology;
Co-Chair, 2021 Celebration of Scholarship

CLOSING REMARKS

Dr. Chris Sindt, Provost, Lewis University

CONFRONTING CHALLENGES THROUGH SCHOLARSHIP, FAITH, AND LOVE

LISA BURKHART, PHD, RN, ANEF



Lisa Burkhart holds a joint appointment as an Associate Professor in the Marcella Niehoff School of Nursing, Loyola University Chicago and as a Research Health Scientist in the Center of Innovation for Complex Chronic Healthcare at the Edward Hines, Jr. VA Hospital. She earned a PhD in nursing from Loyola University Chicago and a master's in public health from the University of Illinois Chicago. Clinical experiences cross the healthcare continuum in acute, ambulatory, and community-based adult and geriatric care. She has taught medical/surgical nursing, research and ethics at the undergraduate, masters, and doctoral levels; and her research foci include spirituality, informatics, interprofessional practice, and health services research.

Dr. Burkhart is a Fellow in the National League for Nursing Academy of Nursing Education, a prestigious recognition for expertise, leadership, mentorship, and advocacy in nursing education.

Dr. Burkhart's passion is to build bridges across chasms. This included developing spiritual, religious and ethics terms in international standardized healthcare terminologies used in electronic health records, thereby providing the ability to document and measure the effect of spiritual care on patient outcomes. She authored a middle range theory of spiritual care in nursing practice that has been used in research and guides nursing education in undergraduate and graduate textbooks. Currently, she is Principal Investigator on three research studies bridging acute and community-based care to support interprofessional and whole person care. Dr. Burkhart uses mixed methods research to reveal the complexity of Veteran life experiences to inform health system processes to better meet the needs of Veterans within the context of life. Currently she leads a team to develop a decision support tool to prevent community-acquired pressure injuries in Veterans living with spinal cord injury (SCI) for use in the SCI clinic. Dr. Burkhart has served on grant review boards for the Paralyzed Veterans of America and the Agency for Health, Research and Quality.

Through her dedication to teaching, research and service, Dr. Burkhart has touched many hearts. With her students, she promotes the pursuit of knowledge and wisdom through scholarship, faith, and love. In practice and research, colleagues value her commitment to achieve better health outcomes by confronting challenges in processes and systems. Dr. Burkhart's work resonates with the Lasallian values of fidelity, justice, and community that are so essential to discovering meaning and making a difference in our world. We welcome the opportunity to Celebrate Scholarship with Dr. Burkhart.



SESSION I 1-2PM

ZOOM ROOM 1

Moderator: Dr. Osama Abuomar

1490 Glyph: A Binary Analysis Tool for Function Fingerprinting Using NLP

Graduate Student Project Math & Science

We have developed a web-based tool for malware analysis, which uses machine learning to perform function fingerprinting with higher accuracy.

Corey Hartman

Dr. Jason Perry

1527 Using Mathematical Models to Predict the Impact of the Coronavirus in the Chicagoland Area

Undergraduate Student Project Math & Science

Finalist, Dr. Stephany Schlachter
Excellence in Undergraduate Scholarship Award

A striking number of cases of the SARS-COV-2 coronavirus in the United States, and more particularly in the state of Illinois, has highlighted the need to better understand how to reduce its spread while vaccines are distributed. We present a compartmental model of COVID-19 transmission using a combination of the data available to us, and the estimated parameters, to predict how well different disease prevention scenarios will lower the transmission of the coronavirus.

Joseph Drozek

Dr. Brittany Stephenson

1544 Water Consumption Monitoring System

Undergraduate Student Project Math & Science

The project presents the design of an in-house water consumption monitoring system. Such a system is used to control, monitor, and predict in-house consumption. It can be configured to take actions such as water consumption limitation.

Fidel Herrera

Dr. Lucien Ngalamou

ZOOM ROOM 2

Moderator: Dr. James Oakley

1438 Exploring the Use of Internal Coaches

Graduate Student Project Business

A review of the expanding use of internal coaches in organizations, as well as an examination of the real-world application of the use of internal coaches to gauge how internal coaching may fit the future of the coaching profession.

Dusti Baldwin

Dr. Michael Cherry

1443 Exploring Group Coaching and Leadership Development

Graduate Student Project Business

By exploring and integrating the existing literature on group coaching, this article seeks to create a clearer understanding of the group coaching concept and its relationship to leadership development.

William Bassett

Dr. Michael Cherry

1471 Leadership Strategies for Today's Workplace: Charismatic and Servant Leadership Styles

Graduate Student Project Business

Leadership is needed for organizations and employees to reach their greatest potential. Organizational outcomes and employee engagement can be fostered by different leadership styles. This panel presentation will focus on the impact of charismatic and servant leadership. Each leadership style will be discussed and compared using current research and literature to evaluate its impact in meeting the needs and challenges of organizations and employees in the 21st century.

Mariah Washington, Emily Muscato

Dr. Lesley Page

SESSION II

2:15-3:15PM

ZOOM ROOM 3

Moderator: Dr. James Rago

1463 Cybercrime: Technology and Impact

Graduate Student Project Math & Science

This presentation will address the increase in cybercrime and its impact on the economy and society. We will also discuss the technology used by cybercriminals and how to combat it.

Anthony Soria

Dr. Rami Khasawneh

1469 Securing UNIX Servers Using Active Directory Bridging Technology

Graduate Student Project Math & Science

Securing UNIX servers using Active Directory Bridging technology will be addressed using a use-case approach in a security implementation in the enterprise.

Randi Abraham

Dr. Rami Khasawneh

1483 Azure Cloud Services as a Solution

Undergraduate Student Project Math & Science

As the popularity of cloud services increases, we think it's important to get more familiar with them. We'll explore the possible services on Azure with the free trials in order to create and host a network/app. We'll note the benefits and the differences when working with the cloud rather than on-premise.

Tyler Yang, Aaron Michalski, Krzysztof Dziedzic, Zachary Offerman

Dr. Rami Khasawneh

ZOOM ROOM 4

Moderator: Dr. Cynthia Stevens

1538 Prison Organ Donation: Life After Death

Undergraduate Student Project Humanities

This research demonstrates that the National Organ Transplant Act, which restricts organ donations from people in prison, needs to be reformed. I argue that those within the prison system should be given the option to donate their organs -- with conditions to combat the worries many have about coercion, manipulation, and dishonesty.

Taylor Perry

Dr. Karen Davis

1464 Educational Discipline: Which Method Contributes and Upholds True Education?

Undergraduate Student Project Humanities

This research paper examines and analyzes the punitive disciplinary approach which is an umbrella category for zero-tolerance punishment and the use of seclusion rooms and the positive disciplinary approach. School discipline should promote growth by giving students the necessary resources and guidance to take accountability for their actions, while fostering a growth-mindset, in that failure provides students the opportunity to learn from their mistakes and strive to do better in the future.

Grace Crumbaugh

Dr. Karen Davis

1528 Reporting While Biased: A Content Analysis of Media Bias

Undergraduate Student Project Humanities

With the circulation of the term, "fake news," media bias has been a well-known issue. This content analysis investigates clips of left-leaning and right-leaning news sources, to determine how many instances of agenda-based reporting, factual inaccuracies and truth-stretching were present. The race, socioeconomic status, and political affiliation of the host were also analyzed to reveal how reliable mainstream and niche news sources really are.

Emily Krivograd, Derek Swanson, Kyle Morrell

Dr. David Anderson

ZOOM ROOM 1

Moderator: Dr. Hannah Klein

1447 "The Curious Incident of the Dog in the Night-Time" Sound Design

Undergraduate Student Project Performing Arts

Finalist, Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award

A presentation on my sound design concept from the Philip Lynch Theatre's 2020 production of "The Curious Incident of the Dog in the Night-Time" includes a presentation, sound cues from the show, and a video example.

Katie Horn

Mr. Andrew Nelsen

1454 "These Shining Lives" Sound Design

Undergraduate Student Project Performing Arts

This is the sound design that I created for the Philip Lynch Theatre's production of "These Shining Lives." I presented my work at the KCACTF 2021 Festival and was a finalist in the Sound Design Competition.

Katie Szymkiewicz

Mr. Andrew Nelsen

ZOOM ROOM 2

Moderator: Dr. Jennifer Buntin

1485 Dispelling Eating Disorders Myths Through Social Media Advocacy

Graduate Student Project Social Sciences

Eating disorders have the highest mortality rate of any mental illness, yet there is a lack of awareness as to how a weight centric society increases their prevalence and severity. Nationwide efforts to decrease obesity have normalized disordered eating, increased negative food-body relationships, and placed an unhealthy emphasis on dieting. This presentation will explain the importance of eating disorder prevention and demonstrate how social media can be a powerful tool for education and advocacy.

Megan Compton

Dr. Gretchen Hoge

1500 Confidence in the Courts and Legal System

Undergraduate Student Project Social Sciences

It is well known that there is a lack of confidence in the courts and legal system. As the lack of confidence continues to grow, in order to address the problem, the factors that contribute to the lack of trust must be identified. The aim of this work is to help identify factors that may contribute to the lack of confidence in the courts and legal system.

Rayna Farias

Dr. Steven Nawara

ZOOM ROOM 3

Moderator: Dr. Michael Cherry

1486 Implementing CIS 20 Controls Efficiently in Local Government

Graduate Student Project Math & Science

This paper will dive into Cybersecurity efforts by local government and talk about how utilizing a framework for security can strengthen the security posture of an organization.

James Farrell

Dr. Rami Khasawneh

1487 Physical Data Centers, a Thing of the Past?

Graduate Student Project Math & Science

This presentation will address how the epidemic COVID-19 changed the meaning of cloud computing and its definition. There are many cloud service providers out in the world, Azure will be the technology platform used in this presentation.

Idriss Rahma

Dr. Rami Khasawneh

1488 Coalescence of Information Security Policy, Governance, and Frameworks

Graduate Student Project Math & Science

This presentation will report on how various standards written on information security have similar goals in mind of protecting data, and investigate how to merge these goals into a scalable plan.

Brian Catanzaro

Dr. Rami Khasawneh

ZOOM ROOM 4

Moderator:

Dr. Christopher Wielgos

1467 The Senior Seminar Panel in English Studies: A Presentation of Scholarly and Creative Work

Undergraduate Student Project Humanities

This is a panel of six senior students from the English Studies capstone course Senior Seminar in Modern and Postmodern U. S. Literature from Fall 2020. Three of these students, from our Writing Track, completed original creative works of fiction and poetry. Three of these students, from our English Language Arts and Literature and Language Tracks, completed extensive research projects.

Christopher Wielgos, Madeline Brzeczek, Salvadore Martinez, Stephanie Karas, Vivian Kiliias, Gabrielle Wilk, Julie Nettles, Anna Laudizio

Dr. Christopher Wielgos

SESSION III

3:30PM-4:30PM

ZOOM ROOM 1

Moderator: Dr. Kami Tsai

1514 Optimizing Enzyme Immobilization via Crosslinking to a Metal-Organic Framework

Undergraduate Student Project Math & Science

Doherty Center for Aviation and Health Research

Optimizing enzyme immobilization via crosslinking to a metal-organic framework for a more stable and recyclable biocatalyst.

Raneem Ahmad

Dr. Kari Stone

1519 A Click Chemistry Approach to Co-immobilization of Enzymes on a Metal-Organic Framework

Graduate Student Project Math & Science

Co-mobilization of enzyme on a Metal-Organic Framework by click chemistry to produce biocatalyst composites.

Mahnaz Gohari

Dr. Kari Stone

1542 Investigating Ligand Design Characteristics in Copper Complexation Compounds Relevant to Alzheimer's Disease

Graduate Student Project Math & Science

Doherty Center for Aviation and Health Research

Alzheimer's disease (AD) is one of the leading causes of death in the United States and is characterized by memory loss due to neurodegeneration induced by reactive oxygen species (ROS). A series of sulfur containing ligands have shown promising results in their ability to combat the production of ROS by disrupting the redox cycling of amyloid-bound copper responsible for ROS production.

Erik Sanchez

Dr. Daniel Kissel

ZOOM ROOM 2

Moderator: Dr. Keith Lavine

1437 Fairness in Standardized Testing as a Predictor of College Success in Bilingual Students

Undergraduate Student Project Social Sciences

Standardized testing remains the most commonly used admissions criteria, yet research suggests a bias toward ESL students. Recently, focus has shifted toward more objective, holistic admissions factors as predictors of college success. The current study examined traditional vs. holistic criteria to predict college success and determine if these factors were influenced by students ESL status. Statistical analysis revealed that holistic factors were better at predicting college success and do not appear influenced by ESL status.

Oliwia Roczniak

Dr. Philip Blankenship

1453 Differentiating Patterns of Trauma and PTSD Symptomology Through Self-reported Trauma Exposure in Single-role Firefighters and Paramedics

Undergraduate Student Project Social Sciences

While both firefighters and paramedics fall under the label of first responder, the specific duties of paramedics and firefighters are different. The current study compares and contrasts traumatic event exposures in the two subgroups. This study finds that while levels of PTSD symptomology are similar across roles, paramedics experience higher levels of burnout and lower levels of compassion satisfaction as compared to firefighters.

Leah Siwinski

Dr. Philip Blankenship

1442 Who Asked the Children?: The American Welfare State and the Initial COVID-19 Response

Undergraduate Student Project Social Sciences

In Huck's Raft, historian of childhood Stephen Mintz lays forth a grim thesis - that America is not a child-friendly place. A further dive into the historical and contemporary contexts of the American

welfare state reveals much merit to this claim. This presentation extends that line of thinking by examining the impact that Federal economic relief and benefits, enacted in response to the novel COVID-19 pandemic, has had on children and families.

Alexciana Castaneda

Dr. John Halloran

ZOOM ROOM 3

Moderator: Kelley Plass

1489 NAS Server

Undergraduate Student Project Math & Science

We are creating a local storage center for data within our homes that can be accessed wirelessly for ease.

Sayed Abdurrehman, Syed Raza, Rehan Mirza

Dr. Rami Khasawneh

1492 Home Server: Unifying the Home

Undergraduate Student Project Math & Science

The goal of this project is to implement a storage solution that can provide ease of use and entertainment for my family, while utilizing what I have learned over the course of my degree, demonstrate my abilities as a technician, and benefit my family and home.

Trevor Kuhner

Dr. Rami Khasawneh

1468 Lewis University Safety Management System Inquiry

Graduate Student Project Math & Science

This research is to understand the reach of the Safety Management System in all programs of aviation-related studies at Lewis University. With our research we plan to make the data available, to assist the formulation of an improved Safety Management System that can be inclusive of all the Aviation Programs offered at Lewis University. This presentation will be a overview of the research project and outcomes.

Ansis Borg, Carlos Rivera, Sergey Vakhrushev, Conrad Sipiora, Fabian Bartos

Dr. Erik Baker

SESSION IV

4:45PM-5:45PM

ZOOM ROOM 2

Moderator: *Dr. Jason Perry*

1515 Development of a Low-cost Apparatus to Study Static Light Scattering

Undergraduate Student Project Math & Science

A fully 3D printed apparatus was designed and built to observe static light scattering from photons within a solution. Light scattering instruments are generally expensive for institutions to purchase for labs. However, this low-cost, compact build, allows for wider accessibility to observe and study this phenomena in high school and undergraduate physics courses.

Michael Vargas, Alexis Bibian

Dr. Joseph Kozminski

1531 Development of an Interactive Browser-Based Particle Physics Tutorial for High School Students

Graduate Student Project Math & Science

Nonprofit collaborations between universities and national laboratories are attempting to bridge the gap between high school students and currently researching physicists through online browser-based interactive labs. The goal of this project is to develop a “crash course” on high energy physics that will teach high school students important principles of particle physics, such as mass reconstruction and four-vectors, as well as build valuable computational skills through the use of resources such as Jupyter Notebook.

Richard Adams, Matthew Oliver

Dr. Joseph Kozminski

1512 Ecological Impacts of Apiaries

Undergraduate Student Project Math & Science

Apiaries are human-made hives that are enforced to house bees. They serve as a vital component to the reproduction and growth of bees which are essential to the local ecosystem. Apiaries will offer security, assist in pollination, and allow people to obtain a greater appreciation for bees. By having apiaries on campus, it allows for contributors to spread awareness about honey bees and create safe habitats.

Alyssa Walsh, Ahmad Albzour, Agnes Florczyk, Ryann Cook, Morgen Buell

Dr. Marne Bailey

ZOOM ROOM 3

Moderator: *Dr. Erik Baker*

1493 Parler: The Scrape Before the Shutdown

Graduate Student Project Math & Science

This document describes the social networking site Parler’s security vulnerabilities and how to prevent them.

Bethany Jacobson

Dr. Rami Khasawneh

1511 A Blockchain Solution for Medicine Distribution

Undergraduate Student Project Math & Science

A blockchain solution is used to create a public record of the production and transportation information for medicine to ensure validity and safety.

James Campion, Juan Ramirez, Aiden Onyejiaka, Michal Kania

Dr. Rami Khasawneh

1535 Achieving Higher Information Security Thresholds for Small/Medium Organizations in the Face of the Cybersecurity Talent Drought

Graduate Student Project Math & Science

Cybersecurity is understaffed for a vast majority of companies, especially small and medium-sized businesses (SMBs). This paper seeks to provide avenues for improving lateral efficiency through the use of automation (AI) in basic security measures and improving cloud management competency.

Abby Newman

Dr. Rami Khasawneh

BUSINESS PITCHES

The pitch requirement is to develop a strong and thorough business pitch, which will be virtually presented to the panel of judges, as well as submitting a one page executive summary of the idea, venture or service. The purpose of the business pitch is to share a concept with a group of entrepreneurial experts who will evaluate the entry on the feasibility of the business, the potential problems that may arise, the competition's strengths and weaknesses and a projection of whether there is a possible opportunity this idea could become successful. Share your idea by describing the problem and your business solution to the issue that you've just identified. Then work to convince the panel of judges that this idea could attract investors and subsequently customers to become viable; and finally share the projected impact your solution will have on the broader community.

Pitch: Edua: A Livestreamed Interactive Tutor Platform

Edua is a platform that provides livestreamed interactive tutoring at an affordable price.

Students learn by participating in livestreamed quiz game show format. Student then receives weekly learning recommendations to improve overall scores based on proprietary algorithm.

Juan J. Maturino

Computer Science major

Pitch: Recycling Plastic into Home Construction Bricks and Tiles

The product will be bricks and tiles from plastic waste. Plastics are everywhere, even in places they are not supposed to be. This is a unique recycling business model. There is no similar model in many parts of the U.S., especially not in Virginia.

Nzar Sharif

Computer Science major

PRESIDENT'S 13TH ANNUAL ART EXHIBITION WINNERS

**ON VIEW AT THE BRENT AND JEAN
WADSWORTH FAMILY GALLERY /
OREMUS FINE ARTS CENTER / NOON-5:30PM**

This important juried exhibition is hosted by the Department of Art and Design and President Dr. David Livingston.

1ST PLACE

Rachel Fosler

"Peas and Carrots" (but
without the carrots)
*Sculpture, Plaster and found
objects*

2ND PLACE

Brigid Fornek

"Isolation"
Drawing, ink/digital media

3RD PLACE

Samantha Sabalboro

"Flow"
Digital painting

HONORABLE MENTIONS

Lizet Audelo-Luna

"Matcha Roll with Strawberry"
*Colored pencil on toned tan
paper*

Kyla Chalmers

"Connecting Textures"
Acrylic on canvas board

Brigid Fornek

"Slow Contour of Lacrosse
Equipment"
Ink/digital media drawing

Rachel Fosler

"Old Fella"
*Sculpture, found object and
cheese wax*

Courtney Gray

"Arils"
Pencil drawing

Courtney Gray

"Adelaide"
Digital drawing

Sol Llanes

"Priestess"
*Digital illustration on smooth
matte*

Miranda Scifers

"The Choice to Fight"
Digital media

GALLERY TALK / 2-3PM

Zoom: <https://us02web.zoom.us/j/9733402369>

Featuring highlights of Lewis University student and alumni artwork.

EXHIBITS

ON DISPLAY OREMUS FINE ARTS CENTER / NOON-5:30PM

Mr. Wellington

Undergraduate Student Project in Visual Arts

Large Black Poodle with a pitchfork sticking out of the side of it. It is laying on its side with movable legs, head, ears, and paws.

Kelsey Papineau

Mr. Andrew Nelsen

Can I Have Some Bubble Gum?

Undergraduate Student Project in Visual Arts

I'd like to present a virtual exhibit showcasing some of the best of my most recent pieces that demonstrate my playful style of creating art, primarily through three dimensional forms. My goal is to get some exposure and feedback from viewers who can give me a fresh perspective on my work and some insight about how it resonates with them as an audience.

View Samples: <https://drive.google.com/folderview?id=1vEC2QQ5CfYOHthuULzztJBVinG6bbbsJ>

Rachel Fosler

Mr. Mark Swain, Ms. Leslie Colonna

PERFORMANCES

ZOOM ROOM 1 / 3-5PM

Moderator: Jo Slowik

“Dear Post-COVID World:” A Personal Monologue

*Undergraduate Student Project
in Performing Arts*

A personal monologue addressed to a post-COVID world. This monologue was written as a part of the Kennedy Center's American College Theatre Festival Region 3. Written and to be performed by Katie Horn.

Katie Horn

Ms. Jo Slowik

Professional Audition Package

*Undergraduate Student Project
in Performing Arts*

A presentation of what I would prepare and bring to a professional audition. Includes my headshot, resume, my professional website, and a performance of a selection of monologues.

Katie Horn

Ms. Jo Slowik

The Compatibility of Science and Faith

Undergraduate Student Project in Humanities

“The Compatibility of Science and Faith” is an essay that explores the relationship of these two seemingly opposite concepts under the light of Albert Einstein's proposed religion, the cosmic religion, giving a possible solution to their ages-old conflict. This new cosmic religion opens a new perspective that gives meaning not only to our individual lives but to the Universe as a whole.

Adan Martinez

Dr. Dominic Colonna

The Spirit of Competition: A Hearthstone Expansion

Undergraduate Student Project Visual Arts

My project is an exercise in game design. Its goal is to design 135 fun and unique cards similar to those that you would find in Blizzard's hit game “Hearthstone”. Each card serves as a great microcosm to explore many aspects of not only game design, but the process used in all forms of design. I hope to showcase some of these design insights in my presentation and how they were applied to specific card designs.

Savas Georgiou

Ms. Kristin Callahan

Virtual Exploration of Time

Undergraduate Student Project Visual Arts

This presentation will discuss the creation of VR (virtual reality) style frames created to define the aesthetic style and conceptual direction of a short film that explores the concept of time from multiple perspectives. Additionally, it will discuss the animation production process and the progress of the film.

**Savannah Klozik, Maegan McElmeel,
Samantha Sabalboro, Mitchell
Schrimsher, Ashley Sota, Rhys
Taylor, Noah Troutman**

Ms. Kristin Callahan

SESSION A

2-3 PM

ZOOM ROOM 1

Moderator: Dr. Brittany Stephenson

A1 Classifying Fish Species Using Machine Learning Algorithms

Undergraduate Student Project in Math & Science

Kathleen Maurice, Joel Feddes, Daniel Laskero

Dr. Mahmood Al-Khassaweneh

In this project we use different machine learning algorithms to study a dataset that represents different types of fish species. This dataset has 160 samples and for each sample there are 6 attributes that represent different features. We used Logistic Regression, Random Forest, Neural Network, and Knn to classify the different types of fish in the dataset. We also studied how each attribute or feature contributes to the classification accuracy.

A2 Stock Price Prediction Model Using Machine Learning Algorithms

Undergraduate Student Project in Math & Science

Mariana Hernandez, Rudra Patel

Dr. Mahmood Al-Khassaweneh

The stock market is used primarily for investing money. Many people are investing their money in the market for the hope of making some profit. Many times and based on many factors, people end up losing money instead. To reduce the chances of losing and increase the winning chances, we will examine patterns in stock prices in certain companies. These patterns can be used to predict future stock prices. With the help of Machine Learning, we will research and develop a stock price prediction model to help investors make better investment decisions.

A3 Analysis of Cyclin D3-Mediated Gene Expression During T Cell Development

Undergraduate Student Project in Math & Science

Emmylou Henrichs

Dr. Sarah Powers

Cyclins are regulators of cyclin dependent kinases (CDKs) that control the development and division of cells. Proliferation of developing T cells is largely controlled by cyclin D3 which may also be important for the developmental progression as a regulator of gene expression. This research aimed to study expression patterns in T cells during their earliest stages of development which may provide insight on how cyclin D3 drives developmental progression and influences T cell functionality.

A4 Cyclin D3 and Conserved DNA Sequences in Transcriptionally Modified Genes

Undergraduate Student Project in Math & Science

Krystian Brzek

Dr. Sarah Powers

Cyclin D3 is important for proliferation, but putatively also indirectly regulates transcription. This research aimed to identify activators or repressors that cyclin D3 could interact with to modulate gene expression. Candidate genes were grouped by changes in expression, viewed with UCSC genome browser using GeneHancer and ENCODE Regulation tracks. USF1/2, FOXA1/2, and MAFF/MAFK were identified as potential repression factors, while SP1, MAZ, E2F1/3/4/6, and EGR1 were identified as potential activators working with cyclin D3.

ZOOM ROOM 2

Moderator: Dr. Emily Shayman

A5 A Sleep Promotion Bundle in the Intensive Care Unit

Graduate Student Project in Nursing

Zhaine Marie Samorro

Dr. Kathleen Fitzgerald

Critically ill patients in the intensive care unit are at high risk of sleep deprivation which is associated with ICU delirium. Implementing multicomponent multidisciplinary sleep promotion strategies shows to improve sleep quality and reduce delirium incidence. The purpose of this proposal is to determine the effects of a sleep promotion bundle which includes a scheduled nocturnal quiet time and noise and light reduction strategies on sleep quality and delirium incidence among ICU non-ventilated patients.

A6 Understanding Nature-Based Interventions for Mental & Physical Well-Being

Graduate Student Project in Social Sciences

Savannah Rucker

Dr. Liliana Burciaga

This presentation explores understanding the reciprocal relationship between a person's well-being and nature, nature-based interventions (NBIs) and their benefits, and developing successful NBIs. The aims of this project are to investigate the growing body of literature and provide a foundational understanding of nature-based interventions that can be applied in counseling practice.

A7 The Use of Lavender Aromatherapy to Decrease Procedural Anxiety

Graduate Student Project in Nursing

Jennifer Laheta

Dr. Kathleen Fitzgerald

This presentation will review literature on the use of lavender aromatherapy in the procedural and hospital environment and its effect on anxiety. Due to significant findings associating lavender aromatherapy with decreased anxiety in patients, a research proposal is described to determine if the use of lavender aromatherapy will enhance adaptation to pre-endoscopic procedure anxiety.

A8 Increasing School Nurses' Self-Efficacy to Support Student's Mental Health Needs

Graduate Student Project in Nursing

Denise Sarpy, Marissa Pastori, Ann Brinkman, Jacqueline Gaffney

Ms. Linda Gibbons

The purpose of this study was to provide school nurses education and guidance in the understanding of two common mental health problems, anxiety and depression through the use of a one-hour online webinar focused on increasing the ability to recognize signs and symptoms of common mental health disorders; motivational interviewing techniques; providing tools and resources to assist students in psychological distress; and access to mental health resources within the school and community.

ZOOM ROOM 3

Moderator: Dr. John Halloran

A9 Adverse Impacts of Climate Change and Pollution on Communities of Color in Chicago

Undergraduate Student Project in Math & Science

Daniel Blanco

Dr. Joseph Kozminski

Publicly available data will be utilized to analyze the degree to which persons of color (POC) communities are facing environmental discrimination within the city of Chicago. Black and non-white Hispanics face greater exposure to extreme heat, flooding, and pollution than their white community counterparts. Geospatial demographic, pollution, and climate change statistics for the region will be used to determine if this hypothesis is correct in that POC communities face environmental racism within the city.

A10 Wrong Site Surgery

Undergraduate Student Project in Nursing

Ellysa San Pedro, Daniel Lennox

Ms. Mary Eileen Kloster

Preventing the occurrence of wrong site surgeries involves the identification of errors that lead to these sentinel events. Identifying these errors leads to the creation of policy or improvement of policy in order to reduce the chance of wrong site surgeries to zero. Reaching zero is possible by following the recommended and highly specific policies. They are clinically proven to decrease the incidence of wrong site surgeries and allow the nurse to provide safe and quality care for their patients.

A11 Biometric Car Lock System

Undergraduate Student Project in Math & Science

Jonathan Rayo

Mr. Lucien Ngalamou

The project presents the design of Biometric Car Lock System. Such system is used to reinforce car access security. It can be deployed as a new car key system or reconfigured to provide more security to existing infrared car keys.

A12 Investigation of Wireless Power Transmission with Dual Pancake Coils

Undergraduate Student Project in Math & Science

John Kim

Dr. Joseph Kozminski

Wireless power transmission using pancake coils is a simple and effective system for demonstrating electromagnetic field relationships. By providing a solid foundation about loosely coupled induction, we will be able to pave the path to the future with optimized power transfer systems. This study, in particular, investigates different factors that may significantly affect the efficacy of power transmission.

SESSION B

3:15PM-4:15PM

ZOOM ROOM 1

Moderator: Dr. Ellen Thursby

B1 Replicating the Framing Effect: Effects From COVID-19 and Political Rhetoric

Undergraduate Student Project in Social Sciences

Finalist, Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award

Julie Heniff

Dr. Spencer Campbell

This study examines risk assessment in the framing effect and polarizing political news articles on gun control. Politically biased news articles may influence decisions and impact whether issues in society are reformed or maintained. This study involves reading and decision-making tasks and takes approximately 30 minutes to complete.

B2 A Markov Chain Model for Predicting College Baseball

Undergraduate Student Project in Math & Science

Finalist, Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award

Megan Vesta

Dr. Amanda Harsy

Ranking sports teams can be a challenging task and using straight win percentage can be misleading at times. Among the many mathematically inspired sports ranking systems, linear algebra methods are among the most elegant and simple. In this research, we focus on applying a Markov chain method to predict the future results of NCAA Division 1 College Baseball. In particular, we investigate whether win streaks can help predict the final standings for college baseball.

B3 The Effect of Inhibitors on the Enzyme Aminoacylase

Undergraduate Student Project in Math & Science

Nicole Staszak

Dr. Kari Stone

This research looks at the effect of inhibitors on the activity of the enzyme Aminoacylase.

B4 Exploring the Applicability of an Iron-Containing Metal-Organic Framework with Octaethylporphyrin for Photodynamic Therapy

Undergraduate Student Project in Math & Science

Jasmine Casanova

Dr. Kari Stone

Photodynamic therapy involves using a light on a photosensitizing chemical substance to produce cytotoxic reactive oxygen species to target cancer cells. Metal-Organic Frameworks are hybrid crystalline porous materials with a large internal surface area making it an excellent drug delivery system. The study observed will be tested for effectiveness and will be adjusted based on data collected.

ZOOM ROOM 2

Moderator: Dr. Eleftheria Karapas

B5 Aviation and Occupational Therapy: On Campus Student Partnership to Assess Physical Demands and Ergonomic Risk During Aircraft Maintenance Work

Graduate Student Project in Occupational Therapy

Ashley Buksa, Anna Erickson, Esmeralda Cordova-Vargas

Dr. Susan Charnley

Occupational therapy education programs often use experiential learning activities to facilitate the development of entry-level occupational therapy skills and clinical reasoning. This poster describes an on campus collaboration between a master's level occupational therapy program and an undergraduate aviation program to both improve task analysis and ergonomic evaluation skills of the OT students as well as improve body mechanics and safety for aviation students during aircraft maintenance.

B6 Comparing Edema Control with Electrical Stimulation and Kinesiotape

Graduate Student Project in Occupational Therapy

Nicholas Aschbrenner, Pasquale Fiduccia, Kayla Gallagher, Jonathan Cruz, Sylvia Chun

Dr. Megan Eads

Physical agent modalities (PAMs) are often used in conjunction with occupational therapy treatment and intervention. PAMs make use of a variety of forms of energy to promote tissue elasticity, tissue and scar repair, pain regulation; and decrease edema or inflammation. Inclusion and exclusion criteria were used to search for clinical significance for the use of Kinesiotape compared to electric stimulation. Research findings did not indicate any clinical significance to use one over the other.

B7 Improving Quality of Life for Adults with Dementia

Graduate Student Project in Occupational Therapy

Kylie Carroll, Chloe Korst, Lindsay Caton, Kaylee Wickman

Dr. Megan Eads

This presentation will discuss the use of occupation-based activities as intervention in the treatment and management of dementia symptoms to determine the effectiveness of occupation-based intervention in improving the quality of life for adults with dementia. The preliminary findings of our literature review indicate that moderate evidence supports the application of occupation-based interventions on improving independence, well-being, and quality of life in older adults with dementia.

SESSION C

4:30PM-5:30PM

ZOOM ROOM 3

Moderator: Dr. Cindy Howard

B9 Ozone Disinfection and Decomposition Utilizing Activated Carbon and Zeolites

Undergraduate Student Project in Math & Science
Doherty Center for Aviation and Health Research

Alexandria Lanning

Dr. Daniel Kissel, Dr. Mallory Havens

The application of ozone in order to decontaminate an area followed by decomposition of the ozone through activated carbon- and zeolite-metal organic framework (MOF) membranes.

B10 A Novel Gaseous State Sterilization Technique Utilizing Ozone to Treat a Model Pathogen, *E. coli*

Undergraduate Student Project in Math & Science
Doherty Center for Aviation and Health Research

Christopher Hooker

Dr. Daniel Kissel, Dr. Mallory Havens

This research focused on the development of an open air sterilization method utilizing ozone.

B11 Development of the “Rolling With Rutherford” Simulation

Undergraduate Student Project in Math & Science

Aaliyah Harris

Dr. Joseph Kozminski

I wish to present a rolling with Rutherford simulation project that was created to expose high school students to high energy physics. This simulation is a representation of the Rutherford scattering experiment that was conducted by Ernest Rutherford which hinted towards the existence of the nucleus of an atom. We have been working on enhancing this simulation by implementing features such as control buttons. The features will make it easier for high school students to learn about the experiment conceptually, and it will also give them freedom to control certain aspects of the experiment

B12 Computational Activity Simulating Electromagnetic Fields and their Interactions

Undergraduate Student Project in Math & Science

Trey Viramontes

Dr. Joseph Kozminksi

First, a simple point charge example will be used to investigate how fields are produced from a point charge. This will then be built on by introducing multiple charge fields, such as forming a line of charge. A distributed charge field will be used to observe the change in electric fields. These distributed fields can also be changed into different shapes, such as a loop of charges. Finally, interactions can be observed by introducing an opposite sign charge with an initial velocity to the line of charge. This would produce an orbit effect that can be observed. The change in shape to a loop with an opposite charge introduced would allow for oscillations to be observed.

ZOOM ROOM 1

Moderator: Michele Ryan

C1 Comparing Preflight Accuracy with Flight Experience

Graduate Student Project in Math & Science

Thomas Buell, Daniel Miron Cossa, Bryan Doughty, Michael Higgins, Olibia Guzman, Stephen Taewon Kim

Dr. Erik Baker

Our group project is a part of the Research Methods Two course in the Aviation and Transportation Department. The research will consist of testing the hypothesis for a connection between flight experience and preflight inspection accuracy. We hope to provide significant recommendations to the flight training curriculum and place special emphasis areas on students' continuing preflight inspection performance.

C2 Effect of Sleep Duration on Brain Training and PVT Performance

Graduate Student Project in Math & Science

Richard Jack-James, Shelby Heckert, Adan Marquez, Ben Graca, Laura Rauen

Dr. Erik Baker

This study will attempt to measure the effects of the duration and quality of daily sleep on the cognitive performance of brain training mobile applications and attentiveness measured by a psychomotor vigilance test.

C3 The Impact of Sleep and Mindfulness Practice on Brain Training Performance

Graduate Student Project in Math & Science

Chris Sheahan, Frank Lauth, Kevin Breakey, Jacob Stypa, Abdul Almuwallad

Dr. Erik Baker

This study explores if sleep duration and quality, and the practice of mindfulness have effects on cognitive performance measured by brain training mobile applications.

C4 A Comparison of Flight Training Quality in Lewis University's Single and Dual Block Flight Training

Graduate Student Project in Math & Science

Alexander Arias, Jeremy Dade, Ethan Kurtz, Alex Santillan, Matthew Moglia

Dr. Erik Baker

The purpose of this study is to compare the ratios of flight student to flight instructor (1:1 and 2:1) used at Lewis University flight training, through quantitative data of flight quality & quantity and feedback surveys.

ZOOM ROOM 2

Moderator: Dr. Elizabeth Belgio

C5 Effectiveness of “Handwriting Without Tears” on Handwriting Legibility

Graduate Student Project in Occupational Therapy

Hannah Kean, Sarah Mei, Lauren Rendak, Ashley Pak

Dr. Megan Eads

The purpose of this study was to examine the effectiveness of Handwriting Without Tears with improving handwriting legibility in typically developing school-aged children. Children are at risk for poor handwriting skills due to less training and time spent on handwriting in schools. This study found that Handwriting Without Tears is an effective intervention for typically developing children to improve handwriting legibility, which is important for occupational engagement and positive self-esteem.

C6 Effects of Therapeutic Dance Interventions on Quality of Life for Adults with Parkinson’s Disease

Graduate Student Project in Occupational Therapy

Melanie Kurzawa, Meghan La Marca, Anna Kate Nieman, Amy Melaniphy

Dr. Megan Eads

Parkinson’s Disease (PD) is a progressive, debilitating condition that affects motor movements of the body, as well as cognitive dysfunction, depression, anxiety, and poorer quality of life (QoL). A literature review was conducted to determine the effects of therapeutic dance intervention on QoL for adults living with PD. Findings provided moderate evidence to support dance interventions to improve psychosocial aspects of PD such as cognition, depression, motor symptoms, self-efficacy, decreased levels of fatigue, and QoL.

C7 Pediatric Neuro-Oncology Rehabilitation

Graduate Student Project in Occupational Therapy

Alexa Dickstein, Rachel Sitzmann, Jaelin Mankins

Dr. Megan Eads

This study aims to investigate the effectiveness of early rehabilitation in improving the physical and cognitive abilities of children recovering from brain cancer. Four articles were chosen for the appraisal. Results showed good support for the use of rehabilitation in improving physical and cognitive skills in participants. The main finding indicated that there is a considerable gap in the literature with limited evidence and statistically significant data related to rehabilitation for pediatric brain cancer patients.

C8 The Impact of Driver’s Rehabilitation Program for Spinal Cord Injury Wheelchair Users for Community Mobility

Graduate Student Project in Occupational Therapy

Angelika Bury, Dean Nazario, Megan Szczepanski, Alejandro Heredia, Nicole Ramotowski

Dr. Megan Eads

This critically appraised topic presentation aims to explore the PICO question: “Does driving rehabilitation increase community mobility in spinal cord injury wheelchair users as compared to no driving rehabilitation?” By reviewing relevant articles and assessing for quality and rigor, the research indicates there is no difference in driving behaviors between individuals with SCI and able-bodied drivers, demonstrating that driver rehabilitation programs can improve community mobility, social participation and quality of life for individuals with SCI.

ZOOM ROOM 3

Moderator: Craig Neville

C9 Benefits of Building Insect Hotels

Undergraduate Student Project in Math & Science

Lexi Banas, Samantha Dorencz, Patrycja Bafia, Liliana Tinoco

Dr. Marne Bailey

Insect hotels are an essential part in growing the environment and providing opportunities for others to educate themselves on the importance of insects in the ecosystem. They supply a safe place for insects, such as bees, which helps promote pollination to increase genetic diversity. These hotels are created from materials such as bricks, rocks and sticks; and serve as a shelter for insects. Insect hotels are a critical part in spreading awareness about the significance of insects.

C10 Metal-Organic Frameworks as a Drug Delivery System in Photodynamic Therapy

Undergraduate Student Project in Math & Science

Anthony Baudino

Dr. Kari Stone

The project aims to create a metal organic framework drug delivery system for use in photodynamic therapy.

C11 Metal-Organic Frameworks for Drug Delivery Vehicles for Photodynamic Therapy

Graduate Student Project in Math & Science

Ashley Barrera

Dr. Kari Stone, Dr. Daniel Kissel

The information this study will provide information in photodynamic therapy through the use of UV/vis spectroscopy data. Through this data the absorption of the phycocyanin photosensitizer in metal-organic frameworks will be investigated. Furthermore, pH release data is also provided to observe the release of the phycocyanin photosensitizer from the MIL metal organic frameworks. This study will determine if phycocyanin as a photosensitizer has potential in killing microbial cells after being released from its drug delivery vehicle.

C12 Decreasing the Prevalence of Surgical Site Infections

Undergraduate Student Project in Nursing

Jeremy Samuel, Dana Sobczyk, Vanessa Jaramillo

Ms. Mary Eileen Kloster

Objectively, the incidence of a surgical site infection [SSIs] can increase patient recovery times. In our presentation, we aimed to assess what could lead to an SSI, how to the mitigate effects of an SSI after it develops, and also how to prevent SSI’s occurrence. We believe that with the implementation of these certain interventions, SSI incidence can be decreased, and patient outcomes improved postoperatively.

PRESENTERS

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Directed by Kevin Trudeau

Streaming Live Dates:

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The plot follows two neighboring parents, who pretend to feud with each other to make their children fall in love and marry. The families are separated by a wall. The parents hire a fake swashbuckler to stage a kidnapping of the daughter, and scheme to have the son rescue her. Thereby the daughter would fall in love with the son. Filled with sword fights and puppet shows, all goes as planned, or does it? The play was written in 1894 by Edmond Rostand considered by many scholars as the father of romantic and creative writing.



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