Dear Colleagues:

It is my privilege to welcome everyone to the sixth Annual

PLENARY SESSION

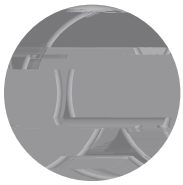
11 AM – NOON

SANCTA ALBERTA

Welcome

Dr. Nan Yancey,

Wan Yancey



SESSION I

1-1:45 PM

AS-150-A

Moderator: Dr. Suling Li

Developing a History of Fairmont, Illinois: Oral History as a Bridge to the Past

Undergraduate Student Project in Humanities

Troy Costabile & Jared Domenico

Dr. Dennis Cremin

Students will present research on the history of Fairmont, Ill. Students used qualitative research methods, including oral histories. ey considered, in part, the African American experience in the context of urban and rural settlement patterns.

A Study of the Sistine Chapel

Undergraduate Student Project in Humanities

Karina De Avila

Dr. Dominic Colonna

Religious art should be a connection from humanity to the divinity. In the ceiling of the Sistine Chapel, Michelangelo portrays the highest point of humankind, represented by the creation, to the lowest point, represented by the drunkenness of N1pu1(r)6 (e)-9 (a)9 (tion, t)6.1 (o t)6 (he lowe)-se7S8 (l, Mic)BDC BTopa02#6$DMicunkenness of

AS-158-A

Moderator: Dr. Mallory Havens

Inhibiting the Growth of Microorganisms on Contact Lenses through a Novel Extended-Wear Lens Design

Undergraduate Student Project
in Math & Science

Courtney Dial

Dr. Jason Keleher

isoforms, one containing exon 5 and one excluding exon 5, in cancerous and non-cancerous cell lines to determine if the cells were a ected. We have specifically looked at changes in growth rate and are now studying the e ect of exon 5 on cell migration and invasion, additional properties of cancer.

Healthcare Informatics Management: A Machine Learning Approach for Cancer Diagnosis

Canal Diggers-Church Builders: Irish Canal Workers and the Founding of Roman Catholic Parishes

Faculty Project in Humanities

Eileen McMahon

Irish canal workers build first parishes along the I&M Canal route.

AS-157-A

Moderator: Dr. James Houlihan

Self-help as a Positive Psychology Intervention for Depression

Undergraduate Student Project in Math & Science

Rebecca Kla

Dr. Mary Vandendorpe

Evidence reveals that self-help interventions

Disorientation

Undergraduate Student Project in Visual Arts

Larissa Barnat

Dr. Mark Swain

Art and design are the center of my life. As an artist, passion and self-improvement are my motivation. I strive to create art that engages others with matters beyond what is immediately visible. My chrome oil painting series titled 'Disorientation' shows dreamy scenes of blended portraits and abstraction to evoke emotion and confusion. My series serves purpose as a consistent collection that complements each other.

Poison: The Silent Killer

Undergraduate Student Project

SESSION A

2-3 PM

1 Economics of Political Revolutions

Undergraduate Student Project in Humanities

Mary Huggins

Dr. Steven Nawara

e research looks at the di erent economic factors that can influence the overthrow

49 Catalyst for the Metabolization of Ethanol in the Human Body

Undergraduate Student Project in Math & Science

Zachary Struzik

Dr. Jason Keleher

is project looks to identify a catalyst to assist in the metabolization of ethanol in the human body.

103 Latin Squares and Their Applications

Undergraduate Student Project in Math & Science

Elizabeth Geier

Dr. Amanda Harsy Ramsay

is project explores Euler's conjecture and its impact in the math world. It will also relate the correlation between Latin squares and magic squares.

106 Characterization of Phenyl-Treated Silica Mesopores

Undergraduate Student Project in Math & Science

Mikayla Bertrand

Dr. John Parker

Silicate sol-gels contain mesopores and have applications in areas such as drug delivery, flavoring agents, and food dyes. Phenyl-treated zinc oxide nanoparticles integrated into and dissolved out of the gel leave behind the phenyl functionality in the pore. Dyes added to the gel help identify behavior and structure of the gel and the treated pores, which can be characterized through physical observation and FTIR spectroscopy.

109 Prediction Accuracy: Constructive Feedback Plays a Positive Role in Reducing Student Overconfidence

Undergraduate Student Project in Social Sciences

Eric Leong

Dr. Susan Sheffer

is study examined student overconfidence regarding exam preparation. roughout the semester, students were asked to predict their exam scores prior to each exam. Prediction accuracy was operationally defined as the 'predicted score' minus the 'actual score.' e goal of this study was to help students improve their prediction accuracy and subsequently to improve their studying e ciency. Results showed that student prediction accuracy did tend to improve throughout the semester.

112 Photo-Electrochemical Water Splitting Using Functionalized Nanocomposite Anodic Materials

Undergraduate Student Project in Math & Science

Jordan Shanahan

Dr. Jason Keleher

Photo-electrochemical (PEC) water splitting is the solar powered electrochemical reaction of water to produce hydrogen gas, an alternative fuel source. is project studies the hydrogen production capabilities of a PEC water splitting cell encompassing a new dye-particle complex design for photoanodic material and compares e ciency to more standard systems.

115 Proposed NQF eMeasure for Traumatic Brain Injury

Faculty Project in Nursing

Eleftheria Karapas

Traumatic brain injury (TBI) is one of the leading causes of death and disability in the United States. e severity of the brain injuries varies greatly as do the specific long-term needs of these individuals. It is proposed that an ongoing screening of patients with a history of TBI be implemented, using a uniform set of assessment instruments to determine quality of life issues. By aggregating as an NQF

interactions at the cosmetic-skin interface, which will ultimately provide insight into the amount of energy required to e ectively remove cosmetics from the skin. Investigations will be performed utilizing such analytical techniques as solubility tests, IR spectroscopy, contact angle, surface energy, and atomic force microscopy.

44 The pH Effect Influencing the Noncovalent Interactions Occurring Between 2,4-D Amine and Simulated Soil Conditions

Undergraduate Student Project in Math & Science

Jessica Tabert

Dr. Jason Keleher

e global epidemic of water contamination is partially attributed to the runo and drift e ects of herbicides, which are used largely in agriculture. Using simulated soil (silica particles) binding isotherms can be used to calculate the adsorption of 2,4-D A

74

12 Clinical vs. School Counseling: Ethical Dilemmas

Graduate Student Project in Social Sciences

Lindsay Cabay, Michael Twombly & Angelica Kladis

Dr. John Jurowicz

A comparison of the similarities and di erences concerning ethical dilemmas in a school counseling session and clinical counseling session.

15 Stress in High School Students

Graduate Student Project in Education

Gretchen Mayhood

Leonard Harsy

Stress is very common among high school students. As school counselors, we need to be able to help them cope. ere are severe e ects to chronic stress and pressure. However, there are coping methods available.

18 Determining the Efficiency of Advanced Wearable Technology

42 Designing a Photocatalytic Biomimetic Nanocomposite Material for Enhanced Water Filtration Applications

Graduate Student Project in Math & Science

Jacob Murray, Samuel Baker & Alan Braschinsky

Dr. Jason Keleher

e research presented herein looks at the removal of a model pollutant through the use of semiconducting nanoparticles. Initial results reveal that by functionalizing these particles with di erent chromophores and metals that the rate of pollutant remediation could be significantly enhanced. ese visibly active particles were then deposited into a biomimetic polymer and tested fod

66 Optimization of Nanocomposite Solar Cell/Liquid Crystal Matrix to Diminish High Intensity Laser Light Relevant to Aviation Safety Applications

Graduate Student Project in Math & Science

James Hofmann

Dr. Jason Keleher

is research seeks to understand the e ect of various organic dyes on the performance of dye sensitized solar cells. Additionally, work has been done to minimize the switching voltage of a liquid crystal cell. Link together, and the solar cells are capable of switching the

90 The Use of Hands-on Activities and Students' Attitudes Toward Mathematics

Graduate Student Project in Education

Caitlin Moeller

Dr. Erica Kwiatkowski-Egizio

With the ever-increasing demand for people to enter STEM fields and careers, interest in mathematics must be fostered in the classroom. Hands-on math activities allow students to become more actively involved in the learning process while demonstrating mathematical reasoning and giving a concrete representation of abstract concepts. is research aims to determine whether the implementation of hands-on activities in the high school mathematics classroom positively influences students' attitudes toward mathematics.

93 The Development of a Cross-Linked Cyclodextrin-Based Water Filtration System for the Removal of Metal Ions

Graduate Student Project in Math & Science

Katelyn Lanasky

Dr. Jason Keleher

is work focuses on the development of a cost-e cient water filtration system utilizing the supramolecular structure of β-cyclodextrin to rapidly remove metal ions.

96 Use of Video Orientation to Decrease Stress in Nursing Students Related to Simulation Participation

Graduate Student Project in Nursing

Angeline Brooker, Christine Blake & Christa Nelson

SESSION B

3:15-4:15 PM

4 Safe-Wear

Undergraduate Student Project

Nicholas Varman

Kristin Burton

Safe-Wear manufactures and resales a t-shirt life jacket that inflates when submerged in water along with a heating element to prevent individuals from becoming hypothermic upon falling into freezing water. is product would be light weight material to allow for layering and storage.

6 Blue Jellyfish Print

Undergraduate Student Project

Julia Zeler

Kristin Burton

Blue Jellyfish Print is a printing service aimed specifically at artists, providing a wide range of high quality prints ready for artist's conventions and artist allies, as well as products like custom cut stickers, pins, key chains, posters, etc. Our goal is to provide beginning and hobbyist artists a cheap but high quality service for getting their foot in the door, and also catering to professional artists by being a service that can save them time and money and being something they can rely on.

12 Fur-Bit

Undergraduate Student Project

Nicole Carli

Kristin Burton

e Fur-Bit is a collar that keeps track of your dog with GPS.

16

A

Abbasi, Adam – *9, 19*
Alfaro, Paul – *6*
Al-Hasni, Syed – *20*
Arcara, Zachary – *6, 19*
Avalos, Diego – *25*

B

Bachmann, AnnMarie – *20*
Bajek, Lauren – *20*
Baker, Samuel – *21*
Barnat, Larissa – *10*
Beckmann, Thomas – *17*
Bennett, Kristian – *17*
Berger, Matthew – *20*
Bertrand, Mikayla – *15*
Bieker, Abigail – *7*
Binion, Cache – *24*
Blake, Christine – *23*
Blatti, Ethan – *18*
Blatti, Wyatt – *17*
Braschinsky, Alan – *21*
Brooker, Angeline – *23*
Bueno, Liana – *23*
Bunnell, Kenneth – *18*

C

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Carli, Nicole – *25*
Castillo, Ashley –*21*
Ceplecha, Brandon – *22*
Cerda, Marc – *14*
Chavez, Jessica – *22*
Childs, Connor – *14*
Cobb, Melonee – *8*
Cochran, Tara – *6*
Cochran, Taylor – *6*
Cooper, Christopher – *24*
Costabile, Troy – *6*
Cremerius, Paige – *8*
Curry, Noelle – *22*
Curtis, Kaitlyn – *21*

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Day, Markie – *13*
De Avila, Karina – *6*
Deischer, Nicole – *22*
Dial, Courtney – *7, 12*
Domenico, Jared – *6*
Dominici, Angela – *13*
Doorneweerd, Erin – *16*
Douglas, Brian – *19*
Dubiel, Ivette – *8*
Dubiel, Matthew – *6, 14*
Dubovich, Teresa – *22*
Dudasik, Robert – *18*
Dundek, Tyler – *19*
Dunojute, Kornelija – *21*

E

Estrada, Angelica – *14*

F

Fekech, Joseph – *16*
Ferguson, Shauntel –*23*
Fernandez, Michelle – *12, 18*
Figus, Monica – *23*
Floyd, Arielle – *17*
Frederickson, James – *16*
Fuller, Mackenzie – *11*

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Galka, Elizabeth – *21*
Gannon, Kevin – *16*
Garcia, Carolina – *19*
Garcia, Joe – *19*
Gedzyk-Nieman, Stephanie – *12*
Geier, Elizabeth – *15*
Gennett, Samantha – *7*
Gieseler, Amanda – *7*
Gillis, Jacob – *19*
Gommel, William – *21*
Graverson, Carolyn – *12*
Green, Alison – *11*
Green, Kelly – *10*
Greminger, Caitlyn – *11*
Grimes, Tamara – *23*
Grossart, Brian – *15*
Guzman, Marleny – *24*

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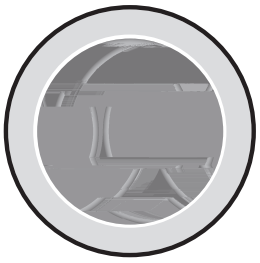
Harnett, Laurel – *11*
Hauert, Brittany – *13*
Hejja, Dina – *17*
Herrera-Rivera, Josephine – *9*
Hiller, Stephen – *18*
Hodul, John – *12, 19*
Hofmann, James – *22*
Holm, Andrea – *7*
Horeni, Mark – *14*
Huggins, Mary – *11*
Hyslop, Brenna – *17*

J

Jaworsky

M

Marker, Robert – *13*
Maska, Richard – *8*
Matocha, Donna – *20*
Mayhood, Gretchen – *20*
Mayotte, Darrin – *14*
Maza, Matt – *8*
McBride, Christina – *21*
McConathy, Matthew – *16*
McEvilly, Molly – *12*
McLawhorn, Kaley – *8*
McMahon, Eileen – *9*
Meeks, Kiara – *22*
Meilichson, Simon – *19*
Mescioglu, Ibrahim – *8*
Meyer, Jennifer – *15*
Meyer, Kyle – *23*
Mikos, Allie – *12*
Misischia, Cynthia – *7*
Mistry, Neera – *13*
Mlynarski, Amy – *13, 22*
Mock, Lauren – *20*
Moeller, Caitlin – *23*
Montgomery, Shinora – *8*
Morrison, John – *6*
Moustakas, Trace – *6*
Mrowczynski, Bill – *8*
Mulcahy, Lauren – *24*
Mulumbi , Habel –