

Ninth Annual

# 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.

### 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

## **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**





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,

Dr. Christopher Sindt  
*Provost*

**11 AM – NOON**

**WELCOME**

Dr. William Chura

# CONFRONTING

# SESSION I

1-2PM

## ZOOM ROOM 1

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

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*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**

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*Undergraduate Student Project Math & Science*

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

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# ZOOM ROOM 3

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**ZOOM ROOM 2**

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# SESSION III

3:30PM-4:30PM

## ZOOM ROOM 1

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

*Undergraduate Student Project Math & Science*

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*

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

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### **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 Rocznik**

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



BR. JOEL DAMIAN, FSC  
**PITCH COMPETITION**

## 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 you BDC 017 I -1-t09.5602 Tm [ 2 a 5presented to the panel of summary of the idea, venture or service. The purpose of the business pitch is to share

# 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

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### "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

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## ZOOM ROOM 2

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### **A5** A Sleep Promotion Bundle in the Intensive Care Unit

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*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

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*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

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*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

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*Graduate Student Project in Nursing*

**Denise Sarpy, Marissa Pastori, Ann Brinkman, Jacqueline Gañey**

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

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

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*Undergraduate Student Project in Math & Science*

**Daniel Blanco**

Dr. Joseph Kozminski

Publicly available data will be utilized to analyze the degree Adverse ~~to~~ .



# SESSION B

3:15PM-4:15PM

## ZOOM ROOM 1

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

*Undergraduate Student Project in Social Sciences*

**Julie Heni**

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*

**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

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### **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.



## ZOOM ROOM 3

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### **B9** Ozone Disinfection and Decomposition Utilizing Activated Carbon and Zeolites

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*Undergraduate Student Project in Math & Science*

#### **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,

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*Undergraduate Student Project in Math & Science*

#### **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

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*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

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*Undergraduate Student Project in Math & Science*

#### **Trey Viramontes**

Dr. Joseph Kozminski

First, a simple point charge example will be used to investigate how fields are produced from a point charge. This will then be

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## A

**Abdurrehman**, Sayeed, 9  
**Abraham**, Randl, 7  
**Adams**, Richard, 10  
**Ahmad**, Raneem, 9  
**Albzour**, Ahmad, 10  
**Almuwallad**, Abdul, 17  
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**Casanova**, Jasmine, 16  
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**Cook**, Ryann, 10  
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**Dorencz**, Samantha, 18  
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**Erickson**, Anna, 16

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**Farrell**, James, 8  
**Feddes**, Joel, 14  
**Fiduccia**, Pasquale, 16  
**Florczyk**, Agnes, 10  
**Fosler**, Rachel, 13

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**Gallagher**, Kayla, 16  
**Georgiou**, Savas, 13  
**Gohari**, Mahnaz, 9  
**Graca**, Ben, 17  
**Guzman**, Olibia, 17

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**Harris**, Aaliyah, 17  
**Hartman**, Corey, 6  
**Heckert**, Shelby, 17  
**Heni**, Julie, 16  
**Henrichs**, Emmylou, 14  
**Heredia**, Alejandro, 18  
**Hernandez**, Mariana, 14  
**Herrera**, Fidel, 6  
**Higgins**, Michael, 17  
**Hooker**, Christopher, 17  
**Horn**, Katie, 13

## J

**Jack-James**



## **CO-CHAIRS**

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**Dr. Mary-Beth Desmond**

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**Dr. Marie Myer,**  
*Co-Chair, Abstracts*

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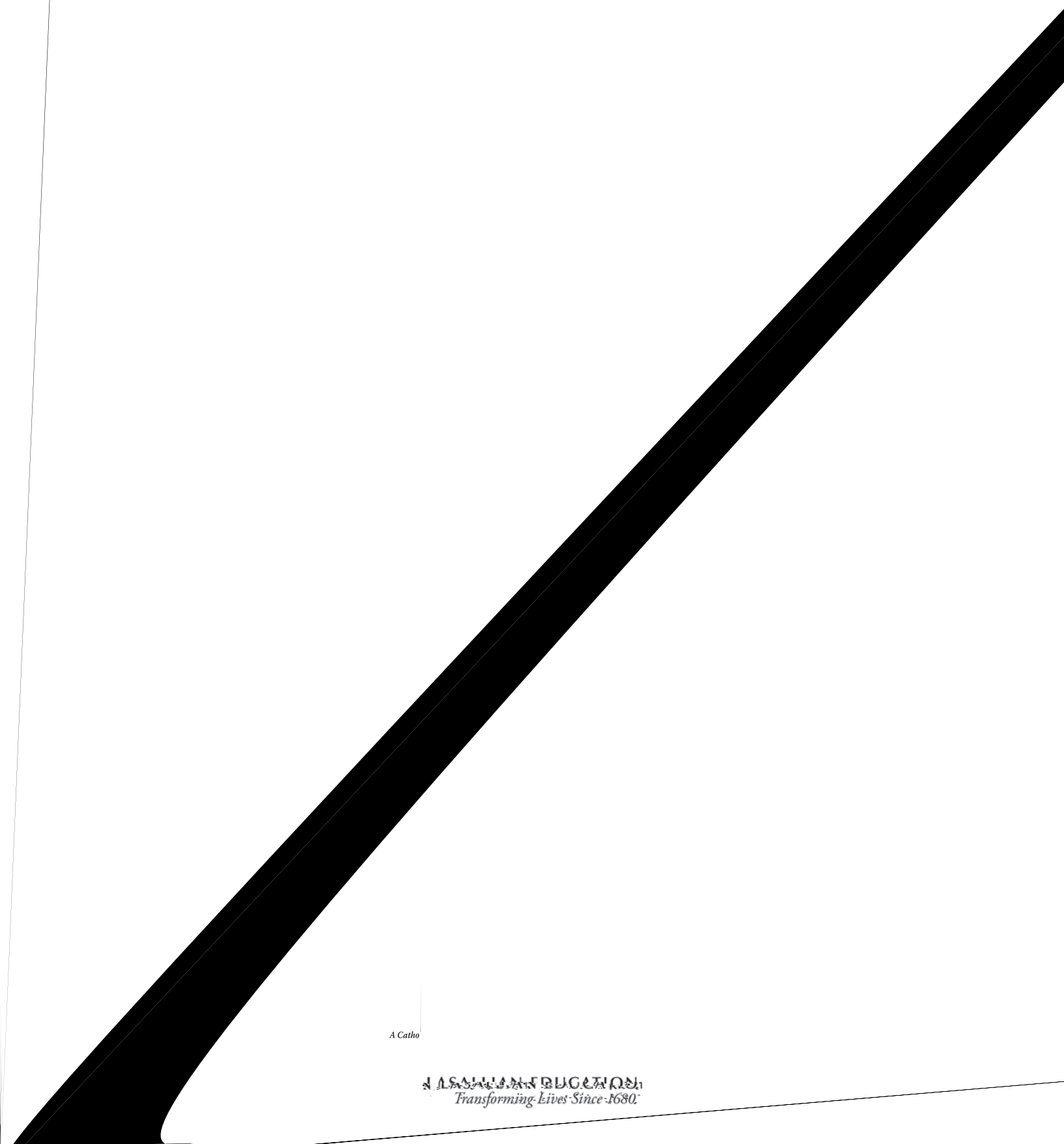
PHILIP LYNCH THEATRE  
PRODUCTION OF

## "THE ROMANCERS"

*Directed by Kevin Trudeau*

*April 16-18 & April 22-25, 7PM*

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.



A Catho

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