



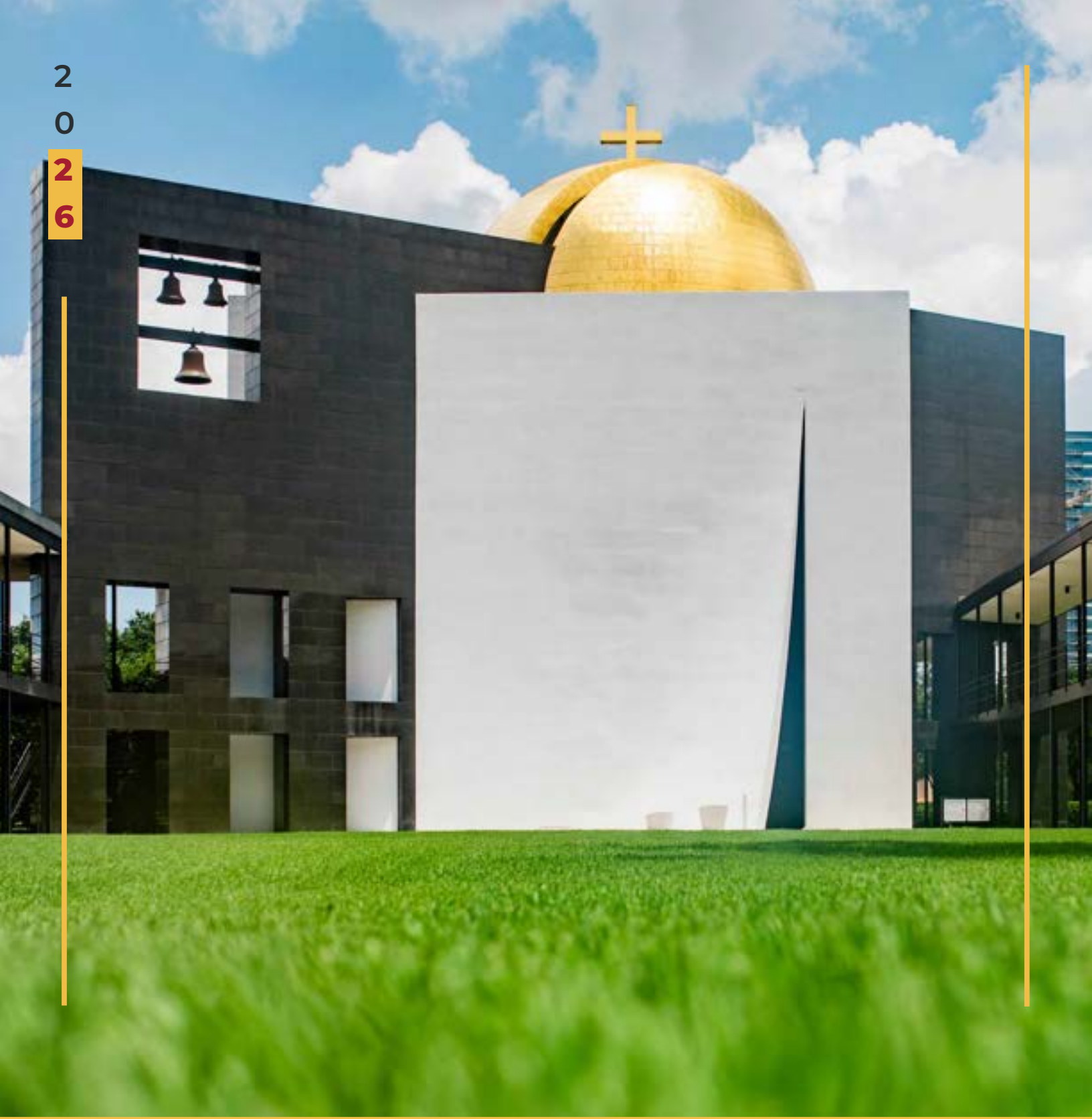
UNIVERSITY OF  
ST. THOMAS

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# RESEARCH SYMPOSIUM

APRIL 23-24, 2026





**The fear of the LORD is the beginning of wisdom, and the knowledge of the Holy One is understanding.**

**(Proverbs 9:10)**

# SCHEDULE OF EVENTS

THURSDAY, APRIL 23

**5:00 pm  
to 6:30 pm**

**CLICK HERE!**  
**Virtual Keynote  
Access Link**

## Welcome & Opening Remarks:

Dr. Sinda K. Vanderpool, President

## Keynote Lecture Part I:

### External Speaker:

Ilya R. Espino de Marotta, Marine Engineer  
“Expanding Frontiers in Engineering: 40 Years of  
Research Informed Leadership & Sustainability at the  
Panama Canal”

## Keynote Lecture Part II:

### Distinguished Alumni Panel Speakers:

Jacquelyn DiStefano ‘14, Ana Hernandez ‘18, Danielle  
Herrera ‘97, & Ronana O’Malley ‘00, ‘06.

“Power of Student Research in Exemplary Career Tra-  
jectory & Distinguished Leadership”

### Location: Jones Hall & Virtual

*(Open to Public - Free)*

**6:30 pm  
to 6:45 pm**

## Keynote Reception

**Jones Hall Foyer & Academic Mall**

**6:45 pm  
to 8:00 pm**

## Poster Presentations

**Location: Academic Hall  
Outside Jones Hall**

FRIDAY, APRIL 24

**9:00 am  
to 12:00 pm**

## Oral Presentations & Capstones

**Location: Malloy Hall Basement  
& Welder Basilian Boardroom**

# COMMITTEE ON STUDENT RESEARCH (CSR)

Undergraduate and graduate students at UST have the opportunity to collaborate with faculty on original research work. Student-faculty research work embodies our mission to pursue academic excellence, the thrill of discovery, and the creation of an authentic learning community. The Committee on Student Research strives to ensure faculty-mentored student research projects remain a key ingredient of the UST experience.

We fund students conducting research and to present at local and national conferences. Each year hundreds of UST students in the sciences, education, business, nursing, business, and humanities share their discoveries and creations with peers and the community at the UST Research Symposium. UST students advance their research, extend classroom learning into the larger community, hone communication skills, gain valuable professional development, and expand interdisciplinary networking opportunities.

As students engage in UST academic and community oriented experiential applied learning programs, they learn the essential elements of collaborative scholarship and inquiry. Through faculty-led research and service mentoring relationships, students progress to become contributors of knowledge in their fields of study with opportunities to publish in noteworthy publications. Each faculty-student and student student relationship is a collaborative endeavor towards discovery, growth, and mastery. Our Committee invites students to apply for funding and encourages faculty and staff to become a part of this unique and impactful experience.

## 2025-2026 COMMITTEE FOR STUDENT RESEARCH SUMMARY

The Committee funded eighty four (84) student research proposals across thirteen (18) departments supporting all 84 students. This 2026 Research Symposium has received research submissions from 242 students this year. Of these, 77 students submitted single research presentations and 165 submitted group research presentations, with 77 requesting poster presentations and 95 requesting oral presentations. Numerous students have also presented at regional, national, and global external conferences, with several receiving prestigious recognition for outstanding research.

## **2025-2026 COMMITTEE FOR STUDENT RESEARCH MEMBERS**

- **Dr. Dan Hu**
- **Dr. Hok W. Wong**
- **Dr. Michael Boler**
- **Ms. Kaitlyn R. Carpenter**
- **Dr. Olbelina A. Ulloa**
- **Dr. David Squires**
- **Dr. Charles Thangaraj**
- **Dr. Lucindra Campell-Law**
- **Dr. Marek Dojs**
- **Ms. Lauren DeLumpa**
- **Dr. Mayra Paredes**
- **Ms. Alexandria A. McGhee**
- **Dr. Timothy A. Brookins**
- **Dr. N. Anne Gichuri (Chair)**

## **ACKNOWLEDGEMENTS**

- **Lizen Merino**
- **John Reyes**
- **Amy Garcia**
- **Sean Manbode**
- **Paula Marsh**
- **Adalgiza Canjinji**
- **Urias Merino**
- **Katherine Caravantes**
- **Dr. John Palasota**
- **Dr. Jennifer Hughes**
- **Cindy Viaud**
- **Alexis Scates**
- **Kelley Hopkins**
- **Sharon Hopkins**
- **Peter Hurtgen**
- **Jo Anne Meier-Marquis**

# KEYNOTE SPEAKER 1

**Ilya R. Espino  
de Marotta**



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## TITLE

“Expanding Frontiers in Engineering: 40 Years of Research Informed Leadership & Sustainability at the Panama Canal”.

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## ABSTRACT

Ilya R. Espino de Marotta, a Marine Engineer, graduated from Texas A&M University, Galveston in 1985, and her Master of Economic Engineering in 1996 at Santa María La Antigua University, Panama.

Ilya is Deputy Administrator and Chief Sustainability Officer of the Panama Canal Authority, currently, leading the integration of sustainability into the Canal’s corporate strategy. Under her leadership, the Panama Canal has reinforced its commitment to responsible water resource management, decarbonization, climate resilience, and sustainable development of the Canal’s watershed.

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## BIO

Ilya R. Espino de Marotta earned her Master of Economic Engineering in 1996 at Santa María La Antigua University, Panama. She advanced her Management Development studies at INCAE Business School in 2000, and The Kellogg School of Management in 2006. Her Panama Canal experience of over 40 years, includes her 2012 appointment as Executive Vice President for Engineering and Program Management leading the Canal Expansion Program, and as Vice President for Transit Business in 2019 overseeing all Canal operations. In addition, Ilya has served on the Board of Directors for Ronald McDonald Children’s Foundation of Panama from 2017 to 2023, is a member of the Association of Women Directors of Panama and the International Women’s Forum, and also served as a judge for the Queen Elizabeth Prize for Engineering in 2018. Ilya was elected to serve as International Fellow of the Royal Academy of Engineering, United Kingdom, in 2025

## MORE INFORMATION

**Website:** <https://pancanal.com/en/ilya-espino-de-marotta/>  
<https://www.txamfoundation.com/News/Ilya-and-the-Canal.aspx>  
<https://www.marinelink.com/news/first-woman-deputy-administrator-panama-474250>  
<https://www.iadc-dredging.com/article/interview-panama-canals-deputy-administrator-ilya-espino-de-marotta/>

# KEYNOTE SPEAKERS 2

## Distinguished Alumni Panelists



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### TITLE

Power of Student Research in Exemplary Career Trajectory & Distinguished Leadership.

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### ABSTRACT

Our diverse array of Distinguished Alumni Panelist Speakers, will discuss how UST studies and engagement with research informed each of their careers. .

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Distinguished Alumni Panel Speakers: Jacquelyn DiStefano '14, Ana Hernandez '18, Danielle Herrera '97, & Ronan O'Malley '00, '06, will speak on how their studies across a range of disciplines at University of St. Thomas, and their research engagement helped propel their exemplary career trajectories and professional advancement into their current distinguished careers.

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## BIO'S

**Jacquelyn “Jacque” DiStefano**, who graduated in 2014 from our School of Education and Human Services (8-12 Initial Licensure, with English & Philosophy minors). She currently serves as the Senior Manager of Membership at the Houston Museum of Natural Science, where she leads efforts to engage and grow the museum’s community of more than 80,000 member households.

**Ana Victoria Hernandez, MD**, who graduated in 2018 from our School of Arts and Sciences (Biochemistry, with Theology minor & Honors Program completion). She is currently completing her Obstetrics and Gynecology residency at Tulane School of Medicine in New Orleans, Louisiana in June 2026. She will transition into a Surgical NaPro Technology Fellowship in Omaha, Nebraska with Saint Paul VI Institute.

**Danielle “Dani” Herrera**, who graduated in 1997 from our Cameron School of Business (Business Administration in Marketing, & Honors Program completion). She currently serves as our Director of Alumni Relations working to advance alumni engagement and strengthen meaningful connections between graduates and the University community.

**Ronan O'Malley**, who graduated in 2000 from our School of Arts and Sciences (International Studies, with History minor), before earning his 2006 Master’s in International Business (MIB). He currently serves as the Chief Program Officer for the World Affairs Council of Greater Houston, where he oversees the large variety of speakers and events the Council hosts and teaches the Council’s continuing education and professional development classes on global affairs and foreign policy of the United States.

# POSTER

# PRESENTATIONS

## BIOLOGY

1. Amanda Stanley, **Formation of Reproductive Organs in the Brown Anole (*Anolis sagrei*)**, Dr. Amin Shivas
2. Khanh Linh Tran, **Role of Early Volunteer Experience in Career Motivation Among Nursing and Pre-Nursing Students**, Dr. Raj Ramakrishnan
3. Dua Nayab, Amber Hall, **Christian Trinh, Contamination Unleashed: A Microbial Mystery in Dog Water**, Dr. Maia Larios-Sanz
4. Meseille Faye Calonia, Briana Barbosa, Emely Gaytan, **From Tongue to Bowl: Identifying Unknown Microbes in Canine Drinking Water**, Dr. Maia Larios-Sanz
5. Theresa Nguyen, Caelyn Pham, Emily Pham, Samantha Vo, **Uncovering the Superpowers of Unknown Pond Microbes**, Dr. Maia Larios-Sanz
6. Kevin Reyes, Dustin Huynh, Gustavo Lerma, Emely Gaytan, **Microbial Life in Extreme Environments: Implications for Astrobiology**, Dr. Rajesh Ramakrishnan
7. Thomas Dinh, Dustin Huynh, Faith Nishimoto, Angelica Romero, **From the Ground Up: Microorganisms in Houston Garden soil**, Dr. Maia Larios-Sanz
8. Emma Luna, **Water Quality and Public Health: Microbial Indicators and Treatment Methods**, Dr. Erik Stricker, Dr. Amin Shivas.
9. Aryana Duenez, Stephanie Reyes, Shiza Azeem, Katherine Figueroa, **The Secret Life of Your Kitchen Sponge**, Dr. Maia Larios-Sanz
10. Christian Trinh, **Water Quality and Public Health: Microbial Indicators and Treatment Methods**, Dr. Rajesh Ramakrishnan
11. Laura Lopez Salinas, and Lizabeth Wences, Katherine Ortiz, **Characterization of Antibiotic-Producing Bacteria from Soil**, Dr. Maia Larios-Sanz
12. Ryan T. Cao, Trang K. Hoang, **Stress Upregulation of Macrophage Migration Inhibitory Factor (MIF) Cytokine Involved in Melanoma Invasion**, Dr. Gabriel Villares
13. Angelica Romero, Theresa Nguyen, Moosauddin Ahmed, Dua Nayab, **Fermented Dairy Consumption and Its Effects on Gut Microbial Diversity and Health**, Dr. Raj Ramakrishnan
14. Evalyn Navarro, Ayaan Shaik, & Graduated members: Kevin Nickl, Kristen Kruger, Peter Tran, Maxwell Pham, Emma Burris, Harshdeep Lamba, **Testing if Ku70 Binds to Certain Protein Families in an Acetylation Dependent Manner**, Dr. Albert Ribes Zamora.
15. Christopher Gnaim, Angelika Jordan, Audrey Tran, Diego Valenzuela, Alessia Barandiaran, Alexandria McGhee, Emilio Parker, **Metagenomic Viral Identification of Houston (TX) Mosquitos**, Dr. Rosmarie Rosell, Dr. Maia Larios-Sanz.
16. Michael Harkins, **Investigations of the viability and feasibility of in vivo reimplantation procedures as treatment for ectopic pregnancy**, Dr. Ramakrishnan Rajesh.
17. Caitlyn Nguyen, Caroline Wells, Giselle Lopez, Adam Addam, Jessica Le, Ella Mullins, Dr. Olbelina Ulloa, **Recalibration of Exposure System for Consistent Delivery of Toluene to *Drosophila melanogaster***, Dr. Rosemarie Rosell.”
18. Theresa Nguyen, Moosauddin Ahmed, Amanda Stanley, Angelica Romero, Emilio Aguilar, Thomas Dinh, Caelyn Pham, Anissa Perales, Anthony Ha, Samantha Vo, Carlos Trujillo, Vincefil Javier, Amabeli Vega, Hannah Pham, Jessica Garcia, Rayyanuddin Ahmed, **Characterizing the Cytotoxicity of a Novel Methionine Aminopeptidase Inhibitor on Mammalian Cells**, Dr. Rosemarie Rosell.”
19. Faith Nishimoto, Meseille Faye C. Calonia, Jessica Garcia, **The Human Microbiome After Death: An Emerging Aid in Forensic Techniques**, Dr. Ramakrishnan Rajesh.”

# POSTER PRESENTATIONS

## BUSINESS

1. Olivia Hearn, Landon Chau, Alexander Bardalez, Jared Espinosa, **Strategic Analysis of Rivian**, Dr. Beena George
2. Nicholas Foteh, Shane Higginbotham, Gabriela Clinton, Yasaman Dida, **A Strategic Analysis of TJ Maxx: Competitive Position and Business Strategy Recommendations**, Dr. Beena George
3. Brooke Hall, Elizabeth Mosqueda, Gabriela Sanchez, Jazira Conteras, **A Business Analytics Study of the Coca Cola Company's "Share A Coke" Campaign Using Data to Inform Marketing Decisions**, Dr. Beena George.
4. Sana Khan, Cynthia Cortes, Elizebeth Kannampuzha, Jasmine Alvarez, **A Business Analytics Study of Netflix: Data-Driven Insights for Operations Decisions on Content Strategy Evolution from Movies to Television Series**, Dr. Beena George
5. Emerson Ruiz, Patrick Harrison, MarcAnthony Mendoza, Carlos Hinojosa, **A Strategic Analysis of Peloton: Competitive Position and Recommendations for Sustainable Growth**, Dr. Beena George
6. Caleb Foster, Charles Henning, Salvador Longoria, Gael Tamez, **A Strategic Analysis of Quanta Services Competitive Position and Business Strategy Recommendations**, Dr. Beena George
7. Anya Gerdes, Luis Ochoa, and Jimmy Adum, **International Trade and GDP Growth: Cross-Sectional Evidence**, Dr. Ulyses Balderas

## CHEMISTRY & BIOCHEMISTRY

1. Katherine Ortiz, Lizabeth Wences, **Extraction and characterization of antimicrobial secondary metabolites in soil dwelling bacteria**, Dr. Rebecca Stubbert
2. Tatiana Kawula; Amiya Carter; Katherine Ortiz, **Bioanalytical Approach to Lipoprotein Profiling Density-Gradient Ultracentrifugation and Anion-Exchange HPLC Techniques**, Dr. Richa Chandra
3. Tiana Kovacevic, Alicia Sapon Say, Simon Tran, **Modification of Glassy Carbon Electrodes with Transition Metal Complexes**, Dr. Olbelina Ulloa
4. Tiana Kovacevic, Alicia Sapon Say, Simon Tran, **Modification of Glassy Carbon Electrodes with Transition Metal Complexes**, Dr. Olbelina Ulloa

## EDUCATION & CLINICAL MENTAL HEALTH

1. Samantha Jasso, **Veterans of Foreign Wars Self-Study: Local Program Design, Management, and Service Evaluation**, Dr. Anne Gichuri.
2. Ieshia Paige, **Counselor Perceptions: Mental Health Stigmas and Help-Seeking Behaviors of Students in Urban Title-1 Schools**, Dr. Michael Papadimitriou
3. John Trainor, **Grow Together Campus Community Garden Festival. A Student-Led Model for Funding Sustainable Food Systems and Campus Biodiversity**, Dr. Anne Gichuri.

# POSTER PRESENTATIONS

4. Victoria Hoffman, Noah Alexander, Cheyenne Humes, Adrianna Reyes, Colton Porras, **Roots and Scholars Campus Community Garden**, Dr. Anne Gichuri.

5. Daniella Farhangi, **Breaking the Cycle: Personality, Mental Health and Support Services in Female Post-Incarceration Success**, Dr. Anne Gichuri.

## MATHEMATICS AND COMPUTER SCIENCE

1. Sebastian Garza, **Atlas Scheduling Engine**, Dr. Carlos Monroy

2. Ronaldo Flores, **Segmentation of Aerial Cropland Imagery for Classification and Automated Image Stitching**, Dr. Carlos Monroy

3. Christopher Lee, **Modeling COVID-19 Mortality Using Time-Lagged Epidemiological Features**, Dr. Carlos Monroy

4. Joseph Troxler, **NeumeMaker: The Graphical Gregorian Chant Editor**, Dr. Carlos Monroy

5. Emmanuel Taboada, **Design and Implementation of a Dynamic Math Input and Evaluation System with Context-Aware Parsing and User Interaction**, Dr. Carlos Monroy.

6. Tiffanie De La Cruz, **PawCare: A Mobile Application for Pet Medical Record and Appointment Management**, Dr. Carlos Monroy

7. Emmanuel Taboada, **Ecosystem Simulation & Analytics Platform**, Dr. Carlos Monroy.

8. Jarvin Chavez, **Design and Implementation of a Dynamic Math Input and Evaluation System with Context-Aware Parsing and User Interaction**, Dr. Carlos Monroy.

9. Matthew Rodriguez, **A Platform Adventure Game**, Dr. Carlos Monroy.

10. Abdul Haidary, **Unsupervised Market Regime Detection in Solana Meme Coins Using K-Means Clustering and LSTM Prediction**, Dr. Carlos Monroy.

11. Carlos Monroy, Emma Luna, Joseph Troxler, Ramiro Galvan, Lynn Vu, Maia Larios-Sanz, Albert Ribes-Zamora, **Optimizing Parallel Batch Processing Pipelines: A Benchmark Study Using BLASTn.**, Dr. Carlos Monroy.

12. Carlos Monroy, Ramiro Galvan, Je'lin Smith, Raul Melendez, Maia Larios-Sanz, Albert Ribes-Zamora, **Visualization and Clustering of Motifs Cluster Domains (MCD's) in Proteins**, Dr. Carlos Monroy.

13. Lynne Vu, Carlos Monroy, **Leveraging Ontologies and Textual Corpus for the Integration of Photographic Evidence with Ancient Technical Documents**, Dr. Carlos Monroy.

14. Tung Vo, Stephano Cotsoradis, Cole Rutherford, **Competitive Zero Forcing: A New Two-Player Graph Coloring Game**, Dr. Mary Flagg

## PHYSICS AND ENGINEERING

1. Jasmine Vera, Richard Avalos, Nadia Gonzalez, Michelle Aguilar, **Instrumentation and Parameter Space for Study of CO<sub>2</sub> Gas Liquid Absorption**, Dr. Vahid Taghikhani, Thomas L. Ciavatti, Dr. Ernestina Rodriguez. Physics and Engineering.

# POSTER PRESENTATIONS

2. Emily Hernandez, Anahi Guerrero, Julian Estrada, Victor Sanchez, **Bridging Kinetics and Design: CSTR vs PFR Performance in a Model Saponification Reaction**, Dr. Vahid Taghikhani, Dr. Ernestina M. Rodriguez, Thomas L. Ciavatti. Physics and Engineering.
3. Sofia Naranjo, Brandon Tran, **Design and Simulation of a Liquid–Liquid Extraction System for the MIBK–Acetone–Water Ternary Mixture**, Dr. Vahid Taghikhani. Physics and Engineering.
4. Sophia Carpio Vergara, **Measurement of the Coulomb Constant using a Torsion Balance**, Thomas L. Ciavatti. Physics and Engineering.
5. Roberto Sandoval, Kevin Reyes Gonzalez, Viet Huynh, Cregg Calhoun, Jocelyn Munguia, **Effects of 5-Aminolevulinic Acid (5-ALA) & Methyl aminolevulinate (MAL) Photodynamic Therapy (PDT) on gram-negative Escherichia Coli and gram-positive Staphylococcus Aureus**, Dr. Maia Larios-Sanz, Dr. Amanda J. Taylor
6. Alwin Clase, **Double-Slit Experiment at Oblique Incidence Angle**, Dr. James Sanders
7. Edgar Rubio, **Hydrothermal Synthesis of Fe-Doped ZnO Micro-Particles**, Dr. Amanda Taylor, Dr. Olibelina Ulloa
8. Abel Chavez, Ysabella Zuniga., **Standard Quantum Limit to Heisenberg Limit Using Quantum Computation**, Dr. Lillian Lo
9. Timothy Montemayor, Leonardo Quintero Fuenmayor, Nia Mcgee, Miguel Sanches,, and Sophia Blake, **Design and Evaluation of an Arduino-Based Sensor Parking Monitoring System**, Dr. Amanda Taylor

## PSYCHOLOGY

1. Ashley Hinojosa, Katherine Rivera, **The Relationship Between Proficiency Level, Age of Acquisition, and Code-Switching Patterns Among Bilinguals**, Dr. Crystal D. Tran.
2. Samyia Summers, Nelsy Angulo Vera, **Job Satisfaction and Burnout Among Intermediate School Teachers and College Professors**, Dr. Crystal D. Tran.
3. Caleb Chan, **Mental Health Benefits of Pickleball in Emerging Adults**, Dr. Victoria Wagner.
4. Auden Griffiths, **Effects of Social Media Usage on Cognitive Function in College Students**, Dr. Victoria Wagner
5. Avery Pinz, **Is there a correlation between PTSD caused by war exposure and physical health symptoms of war veterans?**, Dr. Timothy Reilly.
6. Celine Mahabir, **The Association Between Test Anxiety and Neuroticism Amongst College Students**, Dr. Timothy Reilly. Psychology.
7. Andrea Ibarra Salazar, Belonging, **Ethnic Identity, and Resilience in First-Generation College Students**, Dr. Victoria Wagner
8. Madison Davis, **Relation Between Cognitive Styles, Academic History and Performance Among College Students**, Dr. Victoria Wagner
9. Diem Vuong, **Structural Power Asymmetry and Identity Erosion in Romantic Relationships: The Mediating Role of Structural Autonomy Violation**, Dr. Timothy Reilly.

# POSTER PRESENTATIONS

10. Sophia Venegas, Aiden Crawford, **The Relationship Between Types of Empathy and Hope in Adults**, Dr. Victoria Wagner
11. Sarah Hodgdon, **How Grief and Student-Stress Impacts Self-Esteem and -Efficacy among College Students**, Dr. Victoria Wagner
12. Yadira Castillo, **Career and Relationship Goal Sacrifice Among College Juniors and Seniors**, Dr. Timothy Reilly.
13. Charles Delano Stepp, **Evaluation of Stress, Wellbeing, Mindfulness, and Job Satisfaction in EMS personnel**, Dr. Victoria Wagner
14. Raul De Anda., **Levels of Eudaimonia and Hedonia in Liberal Arts institutions vs. non-Liberal Arts institutions**, Dr. Timothy Reilly.
15. Emily Odle, **Comparing Mouse and Touchpad in Fitts Task and Usability Ratings**, Dr. Timothy Reilly.
16. Carlos Pena, **Experience in Sports Betting and the Hot-Hand Fallacy Among Young Adults**, Dr. Victoria Wagner
17. Rida Zubair, **Exploring the Relationship Between Neuroticism and Physical Activity in Undergraduate Students.**, Dr. Timothy Reilly.
18. Ruth Urquiza, **Validation of an Active Recall Strategy Use Measure Across Academic Disciplines Among Tertiary Students**, Dr. Timothy Reilly.
19. Kashala Kapyamba, **Analyzing Social Media and Medical Mistrust Among BIPOC and non-BIPOC College Students**, Dr. Crystal D. Tran
20. Sarah Hodgdon, **Exploring Gender Differences among Different Self-Esteem Constructs**, Dr. Crystal D. Tran.
21. Ethan Nguyễn, **The Relationship between Attention, Work Modality, and Job Satisfaction**, Dr. Crystal D. Tran.
22. Monica Ortiz, **Exploring the Relation Between Institutional Accommodations and Educational Satisfaction**, Dr. Crystal D. Tran.
23. Rida Zubair, **Psychometric Validation of Neuroticism Scales in Undergraduate Samples: Major Differences and Academic Outcome**, Dr. Crystal D. Tran.
24. Sophia Venegas, Raul De Anda, Monica Ortiz, **Examination of Empathy Scales Across Different Cultural Identities**, Dr. Crystal D. Tran.
25. Zoe Acosta, **Social and Personal identity and its Relation to Mental Well-Being Among Athletes**, Dr. Crystal D. Tran.

# ORAL PRESENTATIONS

FRIDAY, APRIL 24

**MALLOY ROOM 014 | Moderators: Dr. Charles Thangaraj | Dr. David Squires | Dr. James Sanders**

**9:00 am**

Sebastian Martinez, **Does Not Compute**, Dr. Janet Lowery. English

**9:20 am**

Lieanna Clymer, **The Imagist and the Musician: Understanding the Role of Music in Jane Austen's Emma**, Dr. Anna Svendsen. English.

**9:40 am**

Dalila Tominaga, **Love, Grace, and Florence: Understanding Dante's Divine Comedy**, Dr. Clinton Brand. English.

**10:00 am - 10:10 am BREAK**

**10:10 am**

Andrew Duong, Caelyn Pham, Emily Pham, Jacqueline Tran, **Study of Bacteria Under Conditions of The International Space Station**, Dr. Rajesh Ramakrishnan. Biology.

**10:30 am**

Amber Hall, Christian Trinh, Michael Harkins, Samantha Vo, **Water Quality and Public Health: Microbial Indicators and Treatment Methods**, Dr. Rajesh Ramakrishnan. Biology

**10:50 am**

Michael Harkins, **Investigations of the viability and feasibility of in vivo reimplantation procedures as treatment for ectopic pregnancy**, Dr. Ramakrishnan Rajesh.. Biology.

**11:10 am - 11:20 am BREAK**

**11:20 am**

Shiza Azeem, Aryana Duenez, Briana Barbosa, Stephanie Reyes, **Azotobacter, Bacillus, and Rhizobium: Tiny Root Allies for Saving Our Soil**, Dr. Rajesh Ramakrishnan. Biology.

**11:40 am**

Denise Pineda, William Pham, **Biotechnology: History, Advancements, Uses, and Current Businesses**, Dr. Rajesh Ramakrishnan. Biology.

**MALLOY ROOM 021 | Moderators: Dr. Sujin Horwitz  
| Dr. Olbelina Ulloa**

**9:00 am**

Caleb Chan, **Mental Health Benefits of Pickleball in Emerging Adults**, Dr. Victoria Wagner. Psychology

**9:20 am**

Charles Delano Stepp, **Evaluation of Stress, Wellbeing, Mindfulness, and Job Satisfaction in EMS personnel**, Dr. Victoria Wagner. Psychology.

**9:40 am**

Avery Pinz, **Is there a correlation between PTSD caused by war exposure and physical health symptoms of war veterans?**, Dr. Timothy Reilly. Psychology.

**10:00 am - 10:10 am BREAK**

**10:10 am**

Tyler Webber, **“Gravel”**, Dr. Janet Lowery, English.

**10:30 am**

Lynne Vu, Carlos Monroy, **Leveraging Ontologies and Textual Corpus for the Integration of Photographic Evidence with Ancient Technical Documents.**, Dr. Carlos Monroy. Mathematics and Computer Science.

# ORAL

## PRESENTATIONS

FRIDAY, APRIL 24

**10:50 am**

Carlos Monroy, Ramiro Galvan, Je'lin Smith, Raul Melendez, Maia Larios-Sanz, Albert Ribes-Zamora, **Visualization and Clustering of Motifs Cluster Domains (MCD's) in Proteins**, Dr. Carlos Monroy. Mathematics and Computer Science.

**11:10 am - 11:20 am BREAK**

**11:20 am**

Carlos Monroy, Emma Luna, Joseph Troxler, Ramiro Galvan, Lynn Vu, Maia Larios-Sanz, Albert Ribes-Zamora, **Optimizing Parallel Batch Processing Pipelines: A Benchmark Study Using BLASTn.**, Dr. Carlos Monroy. Mathematics and Computer Science

**11:40 am**

Emely Lopez, **Employee Retention and Engagement - Trust & Psychological Safety in Generation Z**, Dr. Sujin K. Horwitz, Business.

**MALLOY ROOM 022 | Moderators: Marek Dojs, MFA | Dr. Victoria Wagner**

**9:00 am**

Anthony Sommer, **Τούτο ποιεῖτε εἰς τὴν ἐμὴν ἀναμνησιν: A Liturgical Christology of Holy Week**, Sister Theresa Marie Nguyen. Theology.

**9:20 am**

Cristina Rivera, **Burned Out or Spiritually Drained? Acedia and the Monastic Antidote**, Dr. Mirela Oliva. Philosophy.

**9:40 am**

Dillon Raum, **Another Problem of Evil in Aquinas**, Dr. Steven J. Jensen, Philosophy.

**10:00 am - 10:10 am BREAK****10:10 am**

Abdul Haidary, **Unsupervised Market Regime Detection in Solana Meme Coins Using K-Means Clustering and LSTM Prediction**, Dr. Carlos Monroy. Mathematics and Computer Science.

**10:30 am**

Matthew Rodriguez, **A Platform Adventure Game**, Dr. Carlos Monroy. Mathematics and Computer Science.

**10:50 am**

Emma Luna, **MosaicSim: A Hybrid Dataset Simulator For Mosaic Variant Detection**, Dr. Erik Stricker, Dr. Amin Shivas. Molecular and Human Genetics at Baylor College of Medicine Biology at UST.

**11:20 am**

Amal Shibley, **Teacher Self-Efficacy in Content-Based Language Instruction and Its Impact on Emergent Bilingual Student Achievement**, Dr. Ana-Lisa Gonzalez, Education

**MALLOY ROOM 023 | Moderators: Dr. Carlos Monroy | Dr. Kaitlyn Carpenter | Ms. Lauren**

**9:00 am**

Sebastian Garza, **Atlas Scheduling Engine**, Dr. Carlos Monroy. Mathematics and Computer Science.

**9:20 am**

Ronaldo Flores, **Recurring Subscription Tracker - SubTrack**, Dr. Carlos Monroy. Mathematics and Computer Science..

**9:40 am**

Christopher Lee, **Modeling COVID-19 Mortality Using Time-Lagged Epidemiological Features**, Dr. Carlos Monroy. Mathematics and Computer Science.

**10:00 am - 10:10 am BREAK****10:10 am**

Joseph Troxler, **NeumeMaker: The Graphical Gregorian Chant Editor**, Dr. Carlos Monroy. Mathematics and Computer Science.

**10:30 am**

Emmanuel Taboada, **Design and Implementation of a Dynamic Math Input and Evaluation System with Context-Aware Parsing and User Interaction**, Dr. Carlos Monroy. Mathematics and Computer Science.

**10:50 am**

Tiffanie De La Cruz, **PawCare: A Mobile Application for Pet Medical Record and Appointment Management**, Dr. Carlos Monroy. Mathematics and Computer Science.

**11:20 am**

Emmanuel Taboada, **Ecosystem Simulation & Analytics Platform**, Dr. Carlos Monroy. Mathematics and Computer Science.

**11:40 am**

Jarvin Chavez, **Design and Implementation of a Dynamic Math Input and Evaluation System with Context-Aware Parsing and User Interaction**, Dr. Carlos Monroy. Mathematics and Computer Science.

**MALLOY ROOM 024 | Dr. Vahid Taghikhani |  
Dr. Lilian L. Lo**

**9:00 am**

Carolyn Colindres Rodriguez, **Why Does Femicide Persist and What Factors Influence It? The Success or Failure of Prevention Efforts in Central America**, Dr. Vahid Taghikhani. Physics

**9:20 am**

Abel Chavez, Ysabella Zuniga., **Standard Quantum Limit to Heisenberg Limit Using Quantum Computation**, Dr. Lillian Lo. Physics and Engi-

**10:00 am - 10:10 am BREAK**

**10:10 am**

Christopher Lubrano, **Memory Meets Intelligence: The power of Retrieval-Augmented AI**, Dr. Gregory Smith, Chemistry and Biochemistry.

**10:30 am**

Tatiana Kawula; Amiya Carter; Katherine Ortiz, **Bioanalytical Approach to Lipoprotein Profiling Density-Gradient Ultracentrifugation and Anion-Exchange HPLC Techniques**, Dr. Richa Chandra. Chemistry and Biochemistry.

**10:50 am**

Christian Trinh, **Water Quality and Public Health: Microbial Indicators and Treatment Methods**, Dr. Rajesh Ramakrishnan. Biology.

**VIRTUAL/HYBRID SESSION ROOM**

**MALLOY ROOM 0241 | Dr. Anne Gichuri | Dr. Bilal Akash | Dr. Ting-Wei Weng [IL]**

**9:00 am**

Sebastian Martinez, Does Not Compute, Dr. Janet Lowery English

**9:20 am**

Thomas Ciavatti, Semiquantitative Measurement in Near Field Microscopy: A Case for Moderate Realism, Dr. Brian Carl. Philosophy (Center for Thomistic Studies).

**9:40 am**

Samantha Jasso, **Veterans of Foreign Wars Self-Study: Local Program Design, Management, and Service Evaluation**, Dr. Anne Gichuri. Business (Education).

**10:00 am**

Daniella Farhangi, **Breaking the Cycle: Personality, Mental Health and Support Services in Female Post-Incarceration Success**, Dr. Anne Gichuri. Education.

**10:20 am - 10:30 am BREAK**

**10:30 am**

Adrianna Matala, Kenneth Davidson, Kynedi Mallard, Madison Brooks, **Grow Green Campus-Community Garden Get Together**, Dr. Anne Gichuri. Business (Education).

**10:50 am**

Donavan Jackson, Victoria Tran, Devin Moultry, and Ariel Blackshure, **The Relationship Between Climate Change and Adverse Weather Events: Implications for Economic Growth, Employment, and Food Security**, Dr. Anne Gichuri. Business (Education).

**11:00 am**

Victoria Hoffman, Noah Alexander, Cheyenne Humes, Adrianna Reyes, Colton Porras, **Roots and Scholars Campus Community Garden**, Dr. Anne Gichuri. Education.

**11:20 am**

William Gallegos, **Strategic Alignment and Mediator Credibility: U.S. Military Action, Israeli Security, and Arab Views of U.S. Neutrality**, Dr. Ting-Wei Weng, International Studies & Modern Languages.

**11:40 am**

Genna Alpuche, **A Global Crisis: How legal policies address socioeconomic vulnerabilities needs to close the gap for risk of human trafficking among at-risk populations**. Dr. Ting-Wei Weng, Political Science.

**12:00 pm**

Grace Carmichael, **Algorithmic Persuasion in Politics: Implications of AI-Driven Voter Influence**, Dr. Ting-Wei Weng, International Studies & Modern Languages.

**12:20 pm**

Herman Pio Herder-Conde, **Do International AI Safety Regulations Constitute a Prisoners' Dilemma, and Does the Answer Have Implications for International Cooperation**. Dr. Ting-Wei Weng, Political Science.

**12:40 am**

Jason Clark, **Marriage Intentions and Gender Role Expectations in Japan: Explaining the Gap Between Desire and Reality**, Dr. Steven Jensen. Philosophy.

**1:00 pm**

Iyari Casillas, **Inequality, Government Support, and Well-Being of Single Mothers: A U.S.–Mexico Comparison**, Dr. Ting-Wei Weng, International Studies & Modern Languages.

**1:20 pm**

Andrea Barrera, **Indigenous Livelihoods and Wildlife Population Trends: A Comparative Analysis of Wildlife Conservancy Models in Africa**, Dr. Ting-Wei Weng, International Studies & Modern Languages.

**SENIOR SEMINAR STRATEGY PRESENTATIONS  
BASILIAN BOARDROOM, WELDER HALL****Moderators: | Dr. Beena George | Dr. Dan Hu****9:00 am**

Renyssia Silva, Daniel Espinoza, Hantuan Salazar, Brandon Guerra. **This study presents a strategic analysis of Chevron Corporation, a global integrated energy company operating across upstream, midstream, and downstream segments of the oil and gas industry. The purpose is to evaluate the firm's competitive position and recommend a business-level strategy for sustained performance in its industry.** Dr. Beena George. Business.

**9:16 am**

Julie Tovar, Luis Ochoa, Paula Galvan, Alexandra De Dios, **A Strategic Analysis of Airbnb: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**9:32 am**

Jeremiah Hoover, Kamryn Nance, Nina Garcia, Jorge Robles, **A Strategic Analysis of United Airlines: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**9:48 am**

Caleb Foster, Salvador Longoria, Gael Tamez, Charles Henning, **A Strategic Analysis of Qanta Services: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**10:04 am**

Daniela Davila, Sierra Metoyer, Dayanara Martinez, Holly Mcleod, **A Positioning Ford for the Electrified Future,** Dr. Beena George. Business

**10:20 am**

Jackelinne Jimenez, Taylor Barnes, Jasmin Chavez, Emily Heusner., **A Strategic Analysis of Target Corp.: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**10:36 am**

Macy Shipman, David Fredette, George Gonzalez, Richard Palomo., **A Strategic Analysis of Boeing: Competitive Position and Strategy Recommendations in the Global Commercial Aircraft Manufacturing Industry.** Dr. Beena George. Business.

**10:52 am**

Gabe Garner, Irving Monegro, Rey Izaguirre and Mateo Chaparro, **A Strategic Analysis of Chewy: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**11:08 am**

Lily Nguyen, Audrey Cataline, Priscilla Gonzalez, and Karrington Kays, **A Strategic Analysis of Starbucks: Competitive Position and Business Strategy Recommendations** , Dr. Beena George. Business.

**11:24 am**

Amanda Nguyen, Binh Dao, Gabriella Nguyen, Abdul Haidary, **A Strategic Analysis of Nike: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**11:40 am**

Eric Castorena, Leslie Diaz, Amal Bihareth, Yutong Wu, **The A Strategic Analysis of Costco: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**11:56 am**

Marion Williams, Mason Wilen, Elijah Hinojosa, Daniel Lugo Molero, **A Strategic Analysis of Disney+: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**12:12 pm**

Gabriela Clinton, Yasi Dida, Nicholas Foteh, Shane Higginbotham, **A Strategic Analysis of TJ Maxx: Competitive Position and Business Strategy Recommendations,** Dr. Beena George. Business.

**12:28 pm**

Carmella Aquila, Jaime Pena, Camilo Barandiaran Yep, Alondra Castro, **A Strategic Analysis of Disney Resorts: Competitive Position and Business Strategy Recommendations**, Dr. Beena George. Business.

**12:44 pm**

Mason Robinson, Michael Garrido, Andrew Tran, Daniel Ibrahim, **Strategic Analysis of Take-Two Interactive**, Dr. Beena George. Business.

**1:00 pm**

Jade Dotterweich, Camila Lopez, Victoria Gitschel, Isamar Mendez, **A Strategic Analysis of Starbucks Corporation: Competitive Position and Business Strategy Recommendations**, Dr. Beena George. Business.

**1:16 pm**

Karen Chaverria, Emily Macedo, Jocelyn Ontiveros, Stephen Cravens, **Strategic Analysis of GameStop: Competitive Position and Business Strategy Recommendations in the Video Game Retail Industry**, Dr. Beena George. Business

**1:32 pm**

Patrick Harrison, Emerson Ruiz, Carlos Hinojosa, Marcanthony Mendoza, **A Strategic Analysis of Peloton Interactive: Competitive Position and Business Strategy Recommendations**, Dr. Beena George. Business.

**1:48 pm**

Olivia Hearn, Landon Chau, Alexander Bardalez, Jared Espinosa, **Strategic Analysis of Rivian**, Dr. Beena George. Business.

**2:04 pm**

Joseph Villarreal, Tracy Tang, Regina Garcia Perez, Jasmine Alvarez, **A Strategic Analysis of Disney's OTT Streaming Performance in the Face of External Pressures**, Dr. Beena George. Business.

**2:20 pm**

Xavier Figueroa, Bryan Rojas, Christian Aziz, Jimmy Adum, **A Strategic Analysis of Nike, Inc.: Competitive Position and Business Level Strategy Recommendations in the Global Athletic Apparel Industry**, Dr. Beena George. Business.

**HONORS COLLOQUIUM****Jones Hall | Moderator: Dr. Eric Mabry****3:00 pm  
to 5:00 pm**

**“Vita Machina: Truth, Technology, and the Future of the Good Life”**  
Research Led by Dr. Eric Mabry

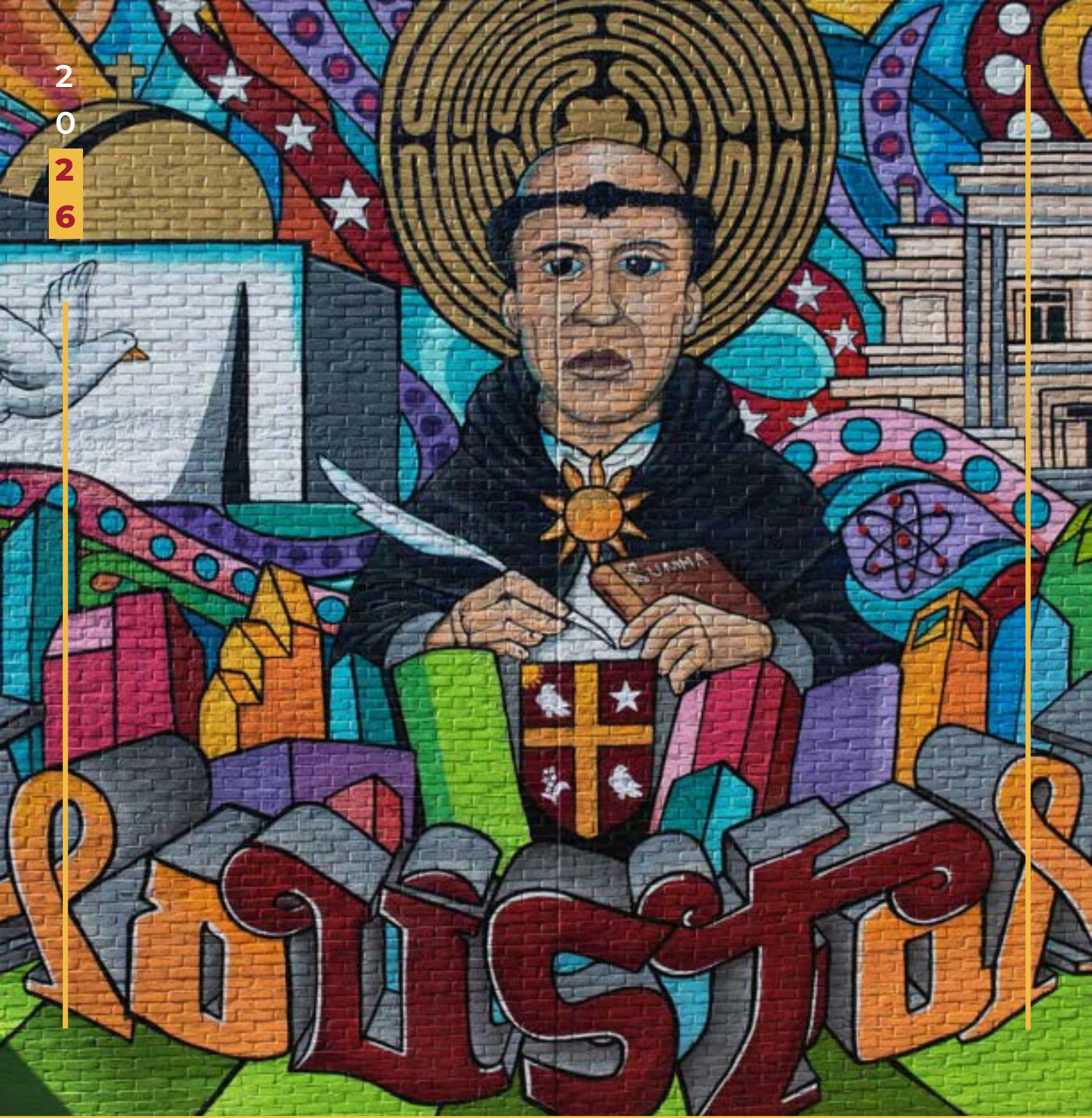
- Andrea Alexandri-Medellin
- Norman Bernard Barud Corella
- Elisa Andrea Buroz
- Grace Carmichael
- Gabriela Clinton
- Emily Hundley
- Christopher Lubrano
- Ella Mullins
- Evalyn ShuWen Navarro
- Laura Newcomer
- Caitlyn Nguyen
- Thomas Rider
- Dalia Sifuentes
- Diego Trevino
- Joseph Troxler
- Eduardo Vega







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