2024

RESEARCH SYMPOSIUM

APRIL 25-26
The fear of the LORD is the beginning of wisdom, and the knowledge of the Holy One is understanding.

(Proverbs 9:10)
Thursday, April 25, 2024

5:30 PM – 6:30 PM  **Keynote Lecture:** Dr. Robert Hesse
“Medical Research on Interfaith Centering Prayer’s Effects on Quality-of-Life Improvements”

**Location:** Jones Hall ([Virtual Option](#))

6:45 PM – 8:00 PM  **Keynote Reception & Poster Presentations**

**Location:** Academic Mall

Friday, April 26, 2024

9:00 AM – 12:00 PM  **Oral Presentations & Capstones**

**Location:** Malloy Hall Basement

3:00 PM – 5:00 PM  **Honors Presentations**

**Location:** Jones Hall
Undergraduate and graduate students at UST have the opportunity to collaborate with faculty on original work. Student-faculty 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 projects remain a key ingredient of the UST experience.

We fund students to conduct research and to present at local and national conferences. Each year hundreds of UST students in the sciences and humanities share their discoveries and creations at the UST Research Symposium. At these symposia and conferences, students advance their research, hone communication skills, and gain valuable professional development and networking opportunities.

As students engage in UST programs, they learn the essential elements of scholarship and inquiry. Through a mentoring relationship, students' progress to become contributors of knowledge in their fields of study with opportunities to publish in noteworthy publications. Each faculty-student relationship is a collaborative endeavor towards discovery and mastery. We invite students to apply for funding and encourage faculty and staff to become a part of this unique and impactful experience.

2023-2024 COMMITTEE FOR STUDENT RESEARCH SUMMARY

Thirty-three proposals were funded across 7 departments supporting 90 students. The symposium has received 90 research submissions this year. Of these, 51 are oral presentations and 50 are posters – some students elected for both. Together they span 12 departments.
2023-2024 COMMITTEE FOR STUDENT RESEARCH MEMBERS

Dr. Matthew Zelisko (Chair)
Dr. Deborah Klesel (Vice-chair)
Dr. Yao-Yuan Yeh
Dr. Michael Boler
Dr. David Squires
Dr. Anne Gichuri-Echessa
Dr. James Monaghan
Dr. Dan Hu
Prof. Lauren Delumpa
Dr. Mayra Paredes
Dr. Charles Thangaraj
Dr. Olbelina Ulloa
Ms. Kaitlyn Keever

ACKNOWLEDGMENTS

Alexis Scates
Cindy Viaud
Brenda L. Hidalgo
Scotty Lopez
Brandon Green
Michelle Lopez

Giselle E Dodge
Michelle Clayton
Kate Henderson
Samantha Snow
Darrin Jones
Michelle Hernandez-Perez
Deacon Robert Hesse, Ph.D.
Deacon, Galveston-Houston Archdiocese
Co-Founder and Chairman of Contemplative Network

TITLE
Medical Research on Interfaith Centering Prayer’s Effects on Quality-of-Life Improvements for Patients Suffering from Various Diseases.

ABSTRACT
Hesse's acclaimed book "Faith and Science: A Journey into God's Mystical Love" is a textbook for his Faith and Science (F&S) graduate courses at the University of St. Thomas (UST) and the Pontifical University in Rome. He is Chairman and Co-Founder of Contemplative Network (CN) dedicated to interfaith centering prayer, medical research on its effects, and healing ministries based on that research. CN (www.contemplative.net) is planning the first, regularly scheduled F&S Conference in Rome for the Jubilee Year 2025, using Hesse's book as an agenda.
BIO

Dr. Hesse studied 6 years for the priesthood, has degrees in both F&S, earned professional engineering licenses in four states and three disciplines, and has traveled to over 100 countries on all 7 continents. He is a permanent Catholic deacon serving the Archdiocese of Galveston-Houston and retired board Vice Chairman and current faculty of the Institute for Spirituality and Health in the Texas Medical Center. He is Adjunct Professor at UST and faculty member at Fr. Spitzer’s Magis Center and the Emmaus Spirituality Center. He formerly served on the Archdiocesan Deacon Spiritual and Community Life Committees and on Holy Name Retreat Center, numerous ACTS, and prison Kolbe retreat teams.

While a young seminarian, Hesse went on retreat at Gethsemani monastery, home to then hermit Trappist Monk Thomas Merton, whose books later inspired Hesse’s contemplative prayer practice. Hesse was appointed by Trappist Monk Thomas Keating a Commissioned Presenter and Co-coordinator for Contemplative Outreach Ltd. (COL). In response to an invitation by the Dalai Lama to Keating, Keating designated Hesse his emissary to the first COL dialogue with Dalai Lama’s Mind & Life Institute for research on contemplatives.

MORE INFORMATION

Book
Teacher’s Guide
www.contemplative.net
https://www.youtube.com/ContemplativeNetwork
1. Kelsy Elgar, How Does Temperature affect planarian behavior, Dr. Rosell.
2. Isabella Dias, Emaan Yusuf, Aaron Hinojosa, Planarian Regeneration in Congo Red Dye, Dr. Rosell.
4. Ava Ngo, Michelle Najarro, William Maldonado, Angelika Jordan, Alessia Barandiaran, Noah Faridi, Characterizing Viral Strains Carried by Mosquitos in the Greater Houston Area via Metagenomics, Dr. Larios and Dr. Rosell.
5. Ryan Cao, Trang Hoang, Daniel Lam, Pedro Lopez, Chronic Stress Promotes Melanoma Progression through Upregulation of Cytokines, Dr. Gabriel Villares.
6. Samantha Cortez, Jasmine Loveless, Gibelli Granados, Davie Padilla, Caroline Romo, Han Vu, Cytotoxicity In Mammalian Cells Exposed to a Methionine Aminopeptidase Inhibitor, Dr. Rosell.
7. Trang Hoang, Emily Hundley, Angelika Jordan, Hannah Zuniga, Is "Antimicrobial" a lie?, Dr. Larios.
8. Maximilian Pham, Emma Burris, Harshdeep Lamba, Kevin Nickl, Evalyn Navarro, Peter Tran, Kristin Kruger, Ayaan Shaik, Ku70 binds Epstein-Barr virus BHRF1 in a phosphorylation-dependent manner, Dr. Ribes-Zamora.
10. Richard Johnson, Phylogenetics of Seven Restrepia Orchid Species, Dr. Ribes-Zamora and Dr. Simmons-Nout.
12. Lyndon Nguyen, Tehya, Sydney, Stephanie, The effect of red Congo dye on planarians ability to Survive, Behavior, and Regeneration, Dr. Rosell.
BIOLOGY

14. Navily Vu, Harshdeep Lamba, Helen-Thu Nguyen, Martina Caridad, **Variability in bacterial samples from a Houston Bayou and a maintained, neighborhood lake**, Dr. Larios.

15. Kevin Nickl, Emma Burris, Harshdeep Lamba, Max Pham, Evalyn Navarro, Kristin Kruger, Ayaan Shaik, Peter Tran, **Ku70 interacts with Epstein-Barr virus BHRF1 Protein**, Dr. Albert Ribes-Zamora.

BUSINESS

1. Joseph Villarreal, Tracy Tang, Jayce Nunn, Luis Sanchez, Brandon Guerra, **Russell and Smith Sales**, Dr. Elias D. Keedy.

CHEMISTRY AND BIOCHEMISTRY


2. Rojan Babu, Tatiana Kawula, Edgardo Giron, **ZnSe Quantum Dot-Based Biosensing for Accurate Quantification of LDL and HDL Cholesterol Levels via Fluorescence Intensity**, Dr. Richa Chandra.

3. Christopher Lubrano, Ryan Nguyen, Nicholas Le, **Density Gradient Ultracentrifugal Lipoprotein Profiling**, Dr. Richa Chandra.

4. Margaret Edozie, Rijja Rasool, Wendi Whitaker, **Fatty Acid Analysis using Transmission FTIR Instrumentation and Computational Chemistry Software**, Dr. Gregory K Smith and Dr. Richa Chandra.

5. Anna Jensen, Grace Orendorff, **Observing Effects of Percent Ethanol, Acetonitrile, and IPA on GPC (with an HPLC Column) Separation of Arbutin, Phloretin, and Phloridizin**, Dr. John Palasota.

HISTORY

1. Camelia Pop, **From Conquest to Cathedrals: Tracing the Architectural Imprint of Portuguese Rule in Goa**, Professor Harpreet Kaur.
MATHEMATICS AND COMPUTER SCIENCE

1. Anthony J. Colon Dominguez, **A Restaurant POS (Point on Sale) System**, Dr. Carlos Monroy.
2. Ruben Ruiz, **An Intrusion Detection System in the Cloud Using a Neural Network**, Dr. Carlos Monroy.
3. Christopher Lama, **FUTURENET: Simulating a MLaaS Architecture Using a Raspberry Pi Cluster**, Dr. Carlos Monroy.
4. Mara Carbajal, **Modeling Photogrammetry in Aerial Landscape Photography**, Dr. Carlos Monroy.
5. Hendricks Charles, **Application to Generate Recommended Course Schedule**, Dr. Monroy.
6. Paulino Bautista, **Data Pipeline: Real-time Data Integration and Analysis**, Dr. Carlos Monroy.
7. Maria Del Carmen Bello, **Machine Learning Solution for Interpreting MUD Agendas**, Dr. Carlos Monroy.
8. Luis Melchor, **Pi Trader**, Dr. Monroy.

PHYSICS AND ENGINEERING

1. James Kong, Janssen Gutierrez, Lauren Dysarz, Jaime Garcia, Ethan Vaughn, **DIY STM**, Dr. Thangaraj.
2. Lauren Dysarz, **Gas Kinematics of the Prestellar Core, L1544**, Dr. Amanda Taylor.
4. Fernando Baltazar, Pierre Nguema, Brian Payton, **Magnetic White Board Eraser**, Dr. Zelisko.
6. Lauren Dysarz, **Strain Analysis of the Musical Saw**, Dr. Amanda Taylor.
1. Valeria Arredondo, Social and personal maturity: An inter-generational analysis and comparison, Dr. Crystal Tran.

2. Valeria Arredondo, The Relation Between Depression, Grit, and Social Belonging in First- and Second- Generation Migrant Students, Dr. Crystal Tran.

3. Edelene Gomez, Exploring Job Roles, Personality, Work Styles, and Job Satisfaction in AI Readiness, Dr. Crystal Tran.

4. Fatima Muro, Exploring the relation between global vs. regional spoken accents and self-esteem, Dr. Jo Meier-Marquis, Dr. Crystal Tran.

5. Lizbeth Martinez, Exploring the Relation Between Narcissism, Parenting Styles, and Parent Relationship, Dr. Crystal D. Tran.

6. Ellie Salsman, Linguistic Distance and its Relation to Cognitive Flexibility, Dr Crystal Tran.

7. Christel Vallagomesa, The correlational relationship between religious orientation and happiness in adults with varying religious backgrounds, Dr. Jo Meier-Marquis, Dr. Crystal D. Tran.


9. Odalys Valdez, The Relationship Between Sleep Quality, Energy Drinks, and Academic performance Among College Students, Dr. Jo Meier-Marquis, Dr. Crystal Tran.

10. Kimberley Lopez, Barriers Undergraduate BIPOC Students Encounter as They Pursue a Pre-Professional and STEM Education., Dr. Crystal D. Tran.

11. Heydi Carlos, Perfectionism, parenting styles and culture orientation, Dr. Crystal D. Tran.

12. Weston Moses, Political Affiliation and Perceptions of Norm Violation, Dr. Tran.

13. Nikoleta Giannakou, Socioemotional Development of Pre-Professional and Recreational Dancers, Dr. Crystal D. Tran.
ORAL PRESENTATIONS
Friday, April 26, 2024
Malloy Room 020

9:00 AM  Kelsy Elgar, How Does Temperature affect planarian behavior, Dr. Rosell, Biology.

9:20 AM  Isabella Dias, Emaan Yusuf, Aaron Hinojosa, Planarian Regeneration in Congo Red Dye, Dr. Rosell, Biology.

9:40 AM  Michelle Najarro, Neiah Richard, Intron 22 Inversion, a major cause of severe Hemophilia A., Dr. Alexandra Simmons, Biology.

10:00 AM Nibu Varghese, Emma Burris, Marfan Syndrome (MFS), Dr. Simmons, Biology.

10:20 AM-10:40 AM - BREAK

10:40 AM  Maximilian Pham, Pedro Lopez, Potential Molecular Mechanisms of Fragile X Syndrome, Dr. Alexandra Simmons Nout, Biology.

11:00 AM  Nadia Herrera, Regeneration of Jellyfish, Dr.Larios, Biology.


11:40 AM  Aaron Hinojosa, Emaan Yusuf, Isabella Dias, Planarian Regeneration, behavior, toxicology in red dye, Rosemary Rosell , Biology.
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
<th>Institution</th>
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<tbody>
<tr>
<td>9:00 AM</td>
<td>Elizabeth Nixon</td>
<td>Gentle Giants: Elephant Tourism and it’s Impact on Conservation Efforts in Thailand</td>
<td>Center for International Studies</td>
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<tr>
<td>9:20 AM</td>
<td>Dorothea Jacoby</td>
<td>Does Foreign Aid Hinder Political Reform? How Aid Selectivity Could Encourage Reform</td>
<td>Center for International Studies</td>
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<tr>
<td>9:40 AM</td>
<td>Fiona Murphy-Rendon</td>
<td>European Punk Revolutions of the 20th Century</td>
<td>Center for International Studies</td>
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<tr>
<td>10:00 AM</td>
<td>Constance Washington</td>
<td>Have We Truly Learned: An Exploration of Airline Industry Workers’ Perception and Their Experiences After COVID-19</td>
<td>Center for International Studies</td>
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<td>10:20 AM-10:40 AM</td>
<td>BREAK</td>
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<tr>
<td>10:40 AM</td>
<td>Angela Huertas</td>
<td>Taiwanese Energy Security Development</td>
<td>Center for International Studies</td>
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<tr>
<td>11:00 AM</td>
<td>Tito Ramirez</td>
<td>The role of social media in declining favorability with democracy in Peru</td>
<td>Center for International Studies</td>
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<tr>
<td>11:20 AM</td>
<td>Matthew Turner</td>
<td>Why Peronism has led to continued economic and social injustices in Argentina</td>
<td>Center for International Studies</td>
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<tr>
<td>11:40 AM</td>
<td>Taylor Barnes</td>
<td>Fair and Future Value of Taiwanese Semiconductor Manufacturing Company</td>
<td>Finance</td>
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<td>12:00 PM</td>
<td>Alexander Masewicz</td>
<td>Hungary’s and Poland’s response to Ukrainian migration as a result of Russian invasion</td>
<td>Cameron School of Business</td>
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Friday, April 26, 2024
Malloy Room 023

9:00 AM  Anthony J. Colon Dominguez, A Restaurant POS (Point on Sale) System, Dr. Carlos Monroy, Mathematics and Computer Science.


9:40 AM  Christopher Lama, FUTURENET: Simulating a MLaaS Architecture Using a Raspberry Pi Cluster, Dr. Carlos Monroy, Mathematics and Computer Science.

10:00 AM  Mara Carbajal, Modeling Photogrammetry in Aerial Landscape Photography, Dr. Carlos Monroy, Mathematics and Computer Science.

10:20 AM-10:40 AM - BREAK

10:40 AM  Chau Nguyen, Analyze the Connection between Vietnamese Female Nail Technicians and Hairdressers and Birth Defects in the Vietnamese Community in Houston, Dr. Follis, Mathematics and Computer Science.

11:00 AM  Matthew Sadler, Data Visualization-A Effective Tool for Planning, Dr. Jack Follis, Mathematics and Computer Science.

11:20 AM  Grace Robleto, Modern Philosophy and Non-Euclidean Geometry, Dr. Jack Follis, Mathematics and Computer Science.
<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Title</th>
<th>Instructor</th>
<th>Subject</th>
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<tbody>
<tr>
<td>9:00 AM</td>
<td>Nicholas Hallers</td>
<td>&quot;The Love Song of J. Alfred Prufrock&quot;: Sinister and Indistinct Language</td>
<td>Dr. Martin Lockerd</td>
<td><em>English</em></td>
</tr>
<tr>
<td>9:20 AM</td>
<td>Rubi Contreras</td>
<td>Examining John Keats' poetry with a critical study of ephemerality throughout his work and life</td>
<td>Dr. Lockerd</td>
<td><em>English</em></td>
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<tr>
<td>9:40 AM</td>
<td>Ivy Farrand</td>
<td>Searching for Literary Treasure in the Trashy Popular Romance: A Reading of Yours Truly</td>
<td>Dr. Lockerd</td>
<td><em>English</em></td>
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<tr>
<td>10:00 AM</td>
<td>Karina Smoot</td>
<td>The Exploration of the Self as it Relates to Transactional Relationships in My Brilliant Friend by Elena Ferrante</td>
<td>Dr. Lockerd</td>
<td><em>English</em></td>
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<td>10:20 AM</td>
<td>Savannah Barker</td>
<td>“A Loss of Self” excerpt from The Scars That Made Me: Based On A True Story</td>
<td>Dr. Lowry</td>
<td><em>English</em></td>
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<td>10:40 AM-11:00 AM</td>
<td><strong>BREAK</strong></td>
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<td>Camelia Pop</td>
<td>From Conquest to Cathedrals: Tracing the Architectural Imprint of Portuguese Rule in Goa</td>
<td>Prof. Harpreet Kaur</td>
<td><em>History</em></td>
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<tr>
<td>11:20 AM</td>
<td>Carla Silva Mendez</td>
<td>More Than Just a Martial Race: The Role of Sikh Soldiers In World War One</td>
<td>Prof. Harpreet Kaur</td>
<td><em>History</em></td>
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<td>11:40 AM</td>
<td>Odilo Vo</td>
<td>How Much Private Property Does a Man Need?</td>
<td>Dr. Mirela Oliva</td>
<td><em>Philosophy</em></td>
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<tr>
<td>12:00 PM</td>
<td>Pedro Lopez</td>
<td>The chaos and order of love</td>
<td>Dr. Theodore Rebard</td>
<td><em>Honors program</em></td>
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Friday, April 26, 2024
Malloy Room 241

9:00 AM  Mindy Tran, Tina Nguyen, Rocio Hernandez, Tracy Ochoa, Preventing Never Events: Strategies for Enhancing Patient Safety in Hospitals, Dr. Rajesh Ramakrishnan, Peavy School of Nursing.

9:20 AM  Kasey Cruz, Daisy Aquinos, Magaly Rosales, Minh Tran, Jacklyne Sanchez, The Miracles of Voices in NICU, Prof. Delumpa, MSN, RN, FNP-C, Peavy School of Nursing.

9:40 AM  Lexea Nelson, Zoe Jeffers, Urinary Tract Infection Prevention in Older Adult Women, Prof. Lauren Delumpa, Peavy School of Nursing.

10:00 AM  Wendi Whitaker, Hunter Kemball-Cook, Thien Nguyen, Synthesis of Novel Nickel complexes for hydrogen production, Dr. Olbelina Ulloa, Chemistry.

10:20 AM  Rojan Babu, Tatiana Kawula, Edgardo Giron, ZnSe Quantum Dot-Based Biosensing for Accurate Quantification of LDL and HDL Cholesterol Levels via Fluorescence Intensity, Dr. Richa Chandra, Chemistry.

10:40 AM-11:00 AM - BREAK

11:00 AM  Valeria Arredondo, Social and personal maturity: An inter-generational analysis and comparison, Dr. Crystal Tran, Psychology.

11:20 AM  Valeria Arredondo, The Relation Between Depression, Grit, and Social Belonging in First- and Second- Generation Migrant Students, Dr. Crystal Tran, Psychology.

11:40 AM  Ellie Salsman, Age of Acquisition and Linguistic Distance Influences on Big Five Personality Shifts, Dr Jo Meier-Marquis, Psychology.
Virtual Graduate Oral Presentations

Teams: Click Here to Access Virtual Symposium


Adalgiza Canjinji, Transforming Lives in Rural Catholic Elementary Schools in Angola, Dr. Anne Gichuri-Echessa, School of Education and Human Services.

Cynthia Jones, Nurses’ and Patients’ Perceptions of Complementary and Integrative Health (CIH) Modalities in Adult Traumatic Brain Injury (TBI) Care: A Descriptive DNP Project, Dr. Lucindra Campbell-Law, Peavy School of Nursing.

My Le Nguyen, Difference Understaffed Units and High Nurse-to-Patient Ratios Play on Levels of Burnout and Staff Retention, Dr. Anne Gichuri-Echessa, Peavy School of Nursing.

Regina Garcia Perez, Role of Emotional Intelligence on the Advertisement Outcomes of Environmental Marketing At Educational Institutions, Dr. Anne Gichuri-Echessa, School of Education and Human Services.

Amber Smith, Global Perceptions on Cross-Cultural Competence Through Study Abroad Service-Learning Interactions in Kenya and Tanzania, Dr. Anne Gichuri-Echessa, School of Education and Human Services.

Theresa Dam, Kenya Study Abroad: Bridging Cross Cultural Competence Opportunities, Dr. Anne Gichuri-Echessa, Peavy School of Nursing.

Kidane Yitbarek, Transformative Global Community Service Learning Study Abroad: Broadening Perspectives Through Significant Collective Action to Make a Difference, Dr. Anne Gichuri-Echessa, School of Education and Human Services.

Celeste Ramirez, Role of Inadequate Technologically Competent Integration and Culturally Competent Communication on Nursing Professional Performance and Patient Healthcare Outcomes, Dr. Anne Gichuri-Echessa, Peavy School of Nursing.

Marichu Timaan, Role of High Stakes Accountability Standardized Testing on Public School Educator Wellbeing during a Global Pandemic, Dr. Anne Gichuri-Echessa, School of Education and Human Services.