

16TH ANNUAL ANDREWS UNIVERSITY

Celebration of Research & Creative Scholarship

Friday, October 24, 2025, Buller Hall



PROGRAM ABSTRACT BOOK

“Andrews University seeks to engage all our students in research - to enhance problem-solving, to strengthen analytical skills, and to experience the joy of discovery. Research deepens understanding, opens new horizons, and brings hope of change. At Andrews, our students collaborate with their faculty mentors as they experience this vital educational experience that informs our commitment to knowledge, faith, and service.” —*John Wesley Taylor V, PhD*

WELCOME



Welcome to the Sixteenth Annual Andrews University Celebration of Research and Creative Scholarship. I am pleased to share that our Andrews University faculty and students continue to demonstrate commitment, creativity, and excellence in research. We are encouraged by the steady growth in faculty research protocols and Faculty Research Grant applications. The wide range of topics represented in today's plenary, oral, and poster presentations reflects the diversity, vitality, and innovation that define the Andrews research community.

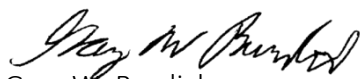
Plenary presentations at this year's Celebration will be delivered by the recipients of the 2024-25 Siegfried H. Horn Excellence in Research and Creative Scholarship Award — Ranko Stefanovic and Vanessa I. Corredera. Established in 2011, the Horn Award honors the legacy of Siegfried H. Horn's scholarship and contributions to biblical archaeology at Andrews University and recognizes lifetime achievement in research and creative scholarship among our faculty.

Ranko Stefanovic, Professor of New Testament in the Seventh-day Adventist Theological Seminary, will present *Writing a Bible Commentary on Romans*. A renowned scholar and global speaker, Dr. Stefanovic's passion for the Book of Revelation and the New Testament has profoundly shaped Adventist and academic interpretations. His teaching and research continue to inspire generations of students through a deep commitment to truth, faith, and scholarship.

Vanessa I. Corredera, Professor of English, will present *Shakespeare and the Stories We Tell: A Case for Literary Criticism*. Dr. Corredera exemplifies academic excellence through her pioneering research on race and Shakespearean drama and performance. Her monograph, *Reanimating Shakespeare's Othello in Post-Racial America* (2022), and her leadership roles in major academic organizations highlight her national and international influence as a scholar, teacher, and mentor.

After the plenary session, please join us for refreshments during the poster session in the Buller Hall hallways, followed by the oral sessions. I invite you to engage fully with the rich scholarship presented today and to be inspired to advance your own research and creative endeavors.

To learn more about upcoming events, please visit www.andrews.edu/research



Gary W. Burdick
Dean of Research

SCHEDULE OF EVENTS

12:30–2:00 pm Plenary Session (Buller Hall, Newbold Auditorium)
Welcome and Introduction – Wagner Kuhn, Chief Academic Officer
Introduction of Plenary Presenters – Gary Burdick, Dean of Research

PL – 1 Ranko Stefanovic, Professor of New Testament
Writing a Bible Commentary on Romans

PL – 2 Vanessa I. Corredera, Professor of English
Shakespeare and the Stories We Tell: A Case for Literary Criticism

2:00–3:00 pm Poster Presentations (Buller Hallways)
See pages 5–19 for poster abstracts. Refreshments served.

3:00–4:00 pm Oral Presentations (Buller Rooms 250 & 251)
See pages 20–24 for program abstracts.

PLENARY PRESENTATIONS

PL – 1 *Writing a Bible Commentary on Romans*

Ranko Stefanovic, Professor of New Testament

A few years ago, the New International Seventh-day Adventist Bible Commentary (NISDABC) committee offered me to write an exegetical commentary on Paul's letter of Romans. In spite of having the privilege of teaching Romans and other Pauline epistles for over twenty years, I was humbled by their request and accepted the task with much uneasiness. Writing an exegetical commentary, especially on Romans, is a daunting task due to the fact that Romans has received much scholarly attention, more than many other books of the New Testament.

In this presentation, I will reflect on process of investigating and putting together the commentary. I will conclude with a brief summary of the structure and major theological points of the letter implemented in my commentary.

PL – 2 *Shakespeare and the Stories We Tell: A Case for Literary Criticism*

Vanessa I. Corredera, Professor of English

In an age where global conflicts hit our 24-hour news cycles with regularity, with massive income inequality, famines, genocides, human rights abuses, and frightening jostling for power, why does the scholarship produced by literary studies matter? After all, as a colleague recently admitted, "it's not like we're curing cancer." Research may be rewarding for a number of reasons: the pleasure of quiet reflection; the monetary boost of a grant or FAR funding; the intellectual stimulation of engaging with one's professional community; and the ability to refine one's efficacy in the classroom all come to mind. But when one's research focuses on the ideas circulating in stories and the uses to which age-old stories are put, why does it really matter at all?

In this talk, I use Ben Okri's extensive reflections on the power of crafting and receiving stories to share why I believe researching stories—in my case, through Shakespeare—matters, not just for my English colleagues and me, but for all of us. Stories and their multifarious afterlives are never neutral, as I constantly remind my students and argue in my scholarship. Rather, stories are captivating, easily circulatable, and impactful conduits for disrupting what Okri calls "the enemy of humanity": our certainty. Accordingly, I turn briefly to three different research projects to illustrate how literary criticism has the productive potential to upend our epistemological certainty. I thus suggest that researching stories matters because this research can offer us the tools to (re)evaluate and think critically about the assorted stories we receive daily. These tools, in turn, allow us to replace certainty with new ways of thinking about our past, present, and future.

POSTER PRESENTATIONS

Archaeology/Anthropology

- P01 Giving Back and Building Bridges: A Reflection on the Hisban Heritage Festival
Melani Dubon⁺ and Oystein LaBianca

As the field of archaeology grows and changes, there is an increasing push towards community archaeology. This effort includes more community involvement and feedback from residents of areas around archaeological sites. In Hisban, Jordan, one such example is the Hisban Heritage Festival, an event that took place during the summer of 2025, where research regarding the site was presented to the local community in their language, alongside cultural activities such as food and music. The goal of this festival was to give back and empower the community, so that knowledge and control over the site are not held solely by foreign researchers. This study examines how the Hisban Heritage Festival was experienced and interpreted by both the local community and visiting team. Through survey questions sent out to both the Andrews team and Jordanian residents, participants' experiences are analyzed, and themes found include partnership, learning, and connection. All parties came away having learned more about the people and heritage around them. This research shows the importance of community archaeology for both communities and researchers, highlighting the reciprocal nature of community involvement and giving back.

- P02 *Navigating Collaborations: A qualitative study of Adventist Archaeology in Jordan*
Stacie Hatfield

Siegfried Horn and Andrews University established archaeological excavations in Jordan in the 1960's with the goal of supporting biblical histories with archaeological evidence. Archaeological theory and discourse since then have called for an attentiveness to the goals of local communities and to the ways in which Western archaeological interests engage with those communities. This paper introduces a newly begun qualitative project examining how collaborations between archaeological communities in Adventism and in Jordan are navigated and experienced by those communities. Research questions are designed 1) to better understand the goals and discourses of archaeology in Jordan in the context of contemporary geopolitics 2) to better understand the goals and projects of Adventist and Jordanian archaeologists 3) to examine the various ways in which Adventist and Jordanian archaeological interests are navigated and 4) to explore possibilities for archaeological collaborations that are reflexive of the desires of Adventist institutions and of the interests of the nation and archaeological communities of Jordan. Utilizing participant observation, survey, interview, and focus group data, this research will contribute to understandings of the role of archaeology in biblical research, to understandings of the work and goals of the Adventist archaeologists as they intersect with those of Jordanian archaeologists and archaeology and heritage conservation communities. This timely project draws from a rich

archaeological past to explore possibilities for a vibrant future for archaeological collaborations in Jordan and in Adventism.

Agriculture

- P03 *A Survey of the Andrews University Students, Faculty, and Staff: Their Attitudes, Practices, and Knowledge about Creation Care*
Katherine Koudele

On February 2024, the president of Andrews University, announced to the student body at a chapel service that he was initiating a Creation Care Council (CCC) based on the assertion that “God cares for His creation, and so should we.” Five action groups composed of faculty, students, and staff were formed to study and recommend steps to take to implement this new initiative. To determine the effectiveness of the CCC’s actions, a survey was developed to measure the initial attitudes (25 items), practices (26 items), and knowledge (14 items) regarding creation care of the members of the university community. It was administered during September and October of 2024 with response options on a 1-5 or 1-3 Likert scale. Respondents by category and by percentage of total: faculty, 61 (26%), staff, 65 (14%), and students, 250 (12%). The profile lines of responses of all three groups tracked relatively close together on most items. Notable differences include the students being the most optimistic about the earth’s ability to handle the impact of human activity, but they were the least knowledgeable about the creation care efforts already in progress at the university while the faculty knew the most about them.

Biochemistry

- P04 *Effects of PAMAM Dendrimer Size on Antimicrobial Activity for Acne Treatment*
Elise M. Inae⁺ (with Ryan Hayes and Melissa Poua) Honors Thesis

This study investigated the antimicrobial activity of G1, G2, and G3-Hex-NH₂ polyamidoamine (PAMAM) dendrimers with an emphasis on how dendrimer size influenced their efficacy against *C. acnes* and *S. epidermidis*. Dendrimers are nano-sized, radially symmetric polymers composed of highly branched units that extend out from a central core. Dendrimers are known to exhibit antimicrobial activity against Gram-negative bacteria by disrupting the lipid bilayer and causing membrane damage. This study explored their effect on a different group of microorganisms—Gram-positive skin flora. Kirby-Bauer disk diffusion tests were performed to evaluate minimum inhibitory concentrations for each dendrimer solution. All generations of PAMAM dendrimers demonstrated antimicrobial activity against the two organisms.

- P05 *Surface loops may provide additional function necessary for enzyme to pseudoenzyme transition in the fungal metallocarboxypeptidase family*
Peter Lyons, Zhiheng Zhao*, and Faith Kaluba*

The transition from enzyme to pseudoenzyme is thought to begin with moonlighting enzymes that have gained non-enzymatic functions. Subsequent gene duplication events allow for the separation of enzyme and pseudoenzyme function. We explored this enzyme to pseudoenzyme transition in the family of fungal metallocarboxypeptidases (MCPs) through bioinformatics approaches, molecular modeling, and biochemical analyses. Over 3000 predicted fungal MCPs were first classified by phylogeny and active site signature into 14 clusters. Prediction of isoelectric point revealed potential subcellular location, while predictions of solvent accessible surface area and AlphaFold modeling of representative structures suggested a tendency for clusters rich in pseudoenzymes to have extensive surface loops and charge polarity, possible requirements for the addition of non-enzymatic function. Five basidiomycete carboxypeptidases were selected for experimental analysis by RNAseq, western blotting following expression in Sf9 and HEK293T systems, and enzymatic activity. No activity was detected from predicted pseudoenzymes, either purified or unpurified. Both predicted-active enzymes were secreted from Sf9 cells, although only one could be purified, with expected carboxypeptidase activity and specificity toward large hydrophobic C-terminal amino acids. Altogether our study suggests that the addition of surface loops may be a key feature in the acquisition of pseudoenzyme function, and that both enzymes and pseudoenzymes are likely to play important and unique roles in these fungal systems.

- P06 *Synthesis and Evaluation of Amidoximes for Activity Against Common Bacterial Pathogens*
Prudence Mange⁺ (with Melissa Poua, Lisa Ahlberg, and Desmond Murray) Honors Thesis

The rise of antimicrobial-resistant bacteria (AMR) has had devastating effects in healthcare, claiming approximately 4.71 million lives in 2019. Due to the devastating impact that AMR has on patient care, novel ways of combating AMR are paramount. This project aimed to synthesize amidoximes known to have antibacterial properties due to their susceptibility to bioisosterism, a feature useful in producing effective drugs. The Kirby Bauer method was used to evaluate the efficacy of the compounds against known pathogens: *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Escherichia coli*. A significant result from this project was that *P. aeruginosa* was susceptible to one of the amidoximes synthesized in this project, 3-4-dihydroxybenzonitrile, as this bacteria is known for its resistance to most antibiotics.

- P07 *Design, Synthesis and Biological Properties of Novel N-Substituted Phthalimide Derivative*
Beaula Mangundah⁺ (with Melissa Poua and Desmond Murray) Honors Thesis

Phthalimides are a group of compounds among bicyclic non-aromatic nitrogen heterocycles that have gained recognition for their bioactivity across various fields, notably anticancer, antimicrobial, antioxidant, and anti-inflammatory. This study discusses the synthesis of a novel phthalimide derivative and provides an analysis of its biological activity. It was conducted through a Boric acid Imide synthesis and yielded a successful derivative using hexylamine. The product was evaluated in vitro for antimicrobial, anticoagulant, and anti-inflammatory properties using Kirby-Bauer disk diffusion, clotting time, hemolysis inhibition, and protein denaturation assays. It showed mild anticoagulant and anti-inflammatory activity

P08 *Green Synthesis of and Antimicrobial Susceptibility Testing of (2Z)-2-[(4-fluorophenyl)methylidene]-1-benzofuran-3-one*

Rod Albert C. Olofernes⁺ (with Melissa Poua, Lisa Ahlberg, and Desmond Murray) Honors Thesis

Antimicrobial resistance is a global health challenge, rendering once-effective antibiotics less potent or entirely ineffective. In response, there is increasing interest in developing antimicrobial agents through environmentally sustainable methods. In this study, a fluorinated aurone derivative, (2Z)-2-[(4-fluorophenyl)methylidene]-1-benzofuran-3-one, was synthesized using a green Knoevenagel condensation approach. Eco-friendly catalysts were employed to minimize environmental impact and avoid hazardous byproducts. Product formation was confirmed to avoid wasting resources. The compound was evaluated for antimicrobial properties using a Kirby-Bauer plate, but did not demonstrate consistent or significant antimicrobial activity, therefore lacking promise as a standalone antibiotic.

P09 *Transcriptional and Translational Analysis of RASGRP1 in Lymphoblastoid cell lines from Bipolar and Non-Bipolar Individuals*

Marlene Murray and Serena Sarsah⁺

Bipolar disorder (BD) represents a major public health concern, characterized by recurrent episodes of mania and depression. Its complex etiology involves both genetic and environmental factors; however, the molecular mechanisms underlying BD remain incompletely defined. Recent genetic studies have identified RASGRP1, a gene involved in immune regulation and inflammatory signaling, as a potential contributor to BD pathophysiology. Yet, little is known about its expression profile in BD-derived cell lines or its regulation by mood-related biochemical stimuli such as cortisol.

To address this gap, RASGRP1 expression was examined at both transcriptional and translational levels in lymphoblastoid cell lines (LCLs) derived from individuals diagnosed with bipolar I (BD I) and bipolar II (BD II) disorders, as well as non-bipolar controls. The modulatory effect of the anti-inflammatory stress hormone cortisol on RASGRP1 expression was also evaluated.

Results revealed elevated RASGRP1 transcript levels in BD LCLs relative to controls, with the highest expression observed in BD I samples. Moreover, cortisol treatment regulated RASGRP1 expression at both mRNA and protein levels. These findings provide novel insight into the molecular underpinnings of bipolar disorder, implicating RASGRP1 as a cortisol-responsive gene potentially involved in BD-associated immune and inflammatory pathways

Computing

- P10 *Exploring Transfer Learning for Pneumonia Classification in Chest X-rays: A comparison of fine-tuning strategies and model generalization*
Ackley Dias Will

Transfer learning plays a key role in medical image analysis, especially when annotated datasets are limited. In this study, we investigate the impact of various fine-tuning strategies and image preprocessing options on the performance of deep convolutional models for pneumonia detection in chest X-rays. A ResNet50 network pre-trained on ImageNet was used as the backbone, and three training strategies were compared: linear probing with frozen weights, fine-tuning of the final convolutional block, and fine-tuning of the last two blocks. The experiments were carried out using the Labeled Chest X-ray Images dataset under consistent training conditions, while varying the intensity of data augmentation. Across all settings, the models achieved high diagnostic accuracy, with AUC values of around 0.96 and an average precision of nearly 0.98. Fine-tuning led to modest yet consistent gains over the frozen baseline. Overall, the results reinforce that transfer learning, when combined with careful fine-tuning and balanced augmentation, remains an effective and data-efficient approach for medical image classification.

Engineering

- P11 *Studies of 3D printed Onyx Composites inlaid with Continuous Fibers*
Boon-Chai Ng, Michael Taylor*, Nathan Allyn⁺, and Matias Soto

Continuous fiber reinforced additively manufactured (CFRAM) parts are 3D printed components that use continuous fibers to increase their strength and stiffness. The CFRAM parts are printed using two extrusion systems in a 3D printer to lay down continuous fibers in layers, replacing the infill material. In this project, Onyx[®] - a micro carbon fiber filled nylon, was used as the matrix and the reinforcing fibers used were Carbon fiber, Glass Fiber and Kevlar. The effect of fiber type and its orientation to the tensile direction were evaluated using the tensile test. Results showed that Carbon fibers reinforced tensile samples perform better than both the Glass Fibers and Kevlar reinforced tensile samples.

Mathematics

P12 *A predator-prey biological model of multiple species with linear growth rates*

Joon Hyuk Kan

The purpose of this research is to give sufficient conditions for the existence and The purpose of this research is to give sufficient conditions for the existence and uniqueness of positive solutions to a rather general type of elliptic system of the Dirichlet problem on a bounded domain. Also considered are the effects of perturbations on the coexistence state and uniqueness. These results yield an algebraically computable criterion for the positive coexistence of species of animals with predator-prey relation in many biological models.

P13 *Some results on h -almost Ricci-Yamabe Solitons and Riemannian Submersions*

Yun Oh

Let M be a smooth manifold, g a Riemannian metric, V a smooth vector field on M . De et al. extended the idea of Ricci-Yamabe solitons to h -almost Ricci-Yamabe solitons if a manifold M satisfies the equation: $\frac{h}{2}\Delta V + \alpha Ric + (\lambda - \frac{\beta}{2}\tau)g = 0$, where α, β, λ are real constants and h is a smooth function on M . In particular, if $V = \nabla f$ for a smooth function f on M , then it is called the gradient h -almost Ricci-Yamabe soliton. We consider a Riemannian submersion $\pi: (M, g) \rightarrow (B, g')$ from h -almost Ricci-Yamabe soliton onto a Riemannian manifold B . In 2020, Meri and Kili provided three sufficient conditions for the fiber of the submersion to be a Ricci soliton. In this talk, we will see the conditions for the fiber to be an h -almost Ricci-Yamabe soliton, and their curvatures and properties as a submanifold.

P14 *Breathing Through Equations: Local Well-Posedness in Electrified Lung Airway Flows*

Said Kas-Danouche

We investigate the local well-posedness of a coupled nonlinear evolution system modeling the dynamics of a viscoelastic core-annular flow subjected to a radially applied electrical field within a flexible thin tube. The system comprises two evolution equations: one governing the air-liquid interface and the other describing the wall displacement, both derived via asymptotic analysis in the thin-film regime. Theorem 1 establishes that, under suitable regularity and positivity conditions on the initial data, the system admits a unique solution in appropriate Sobolev spaces over a finite time interval.

The interface equation exhibits a fourth-order quasilinear parabolic structure with mobility proportional to the cube of the gap height, while the wall equation is second-order parabolic with damping. These results provide a rigorous foundation for the short-time dynamics of electrically influenced viscoelastic flows in deformable geometries.

Physics

P15 *Shining Light on Interfaces: How Boundaries Control Advanced Materials*

Shane Whidden⁺, Alex Pofelski*, Yongjin Shin*, Felipe Torres*, Garnett B. Cross, Giulia Galli*, Yimei Zhu*, Ivan K. Schuller*, and Henry Navarro

Managing complex oxide interfaces presents significant opportunities to enhance the properties of strongly correlated heterostructures. These materials offer interesting possibilities for overcoming the physical limitations of computing technology and addressing energy-efficiency challenges. Inspired by energy conversion devices utilizing photodoped semiconductors, we propose a CdS/La_{0.7}Sr_{0.3}MnO₃ (LSMO) heterostructure system and analyze it using a variety of methods including atomic-resolution microscopy, electron energy loss spectroscopy (EELS), electrical transport, and density functional theory (DFT). Scanning Transmission Electron Microscopy–Electron Energy Loss Spectroscopy (STEM–EELS) finds oxygen diffusion and Mn intermixing at the CdS/LSMO interface, which leads to partial oxidation of CdS and promotes band bending. The transport measurement shows an abrupt, light-induced resistivity drop that is absent in bare LSMO, and this impact can be directly attributed to the coupling of the two materials at the interface. The DFT simulations support the band alignment between CdS and LSMO, and when combined with band bending of the CdS segment, the CdS/LSMO interface promotes hole injection into the LSMO, tuning the Mn³⁺:Mn⁴⁺ ratio and improving the metallic character. We proposed a transport model that quantitatively describes the experimental response verifying that interface-mediated photodoping of LSMO follows from the light-induced enhancement. These findings reveal how chemical and electronic reconstructions at oxide–semiconductor interfaces afford light control of correlated transport thereby providing pathways to future optoelectronic devices.

Education

P16 *Evolving perceptions of church dress codes among Christian teachers and students in a faith-based university*

Carl Hygrant⁺

As cultural and generational changes continue to shape society, it becomes increasingly important to understand how these shifts impact views on appropriate church attire. Specifically, this study answered the following questions:

- How do Christian teachers and students perceive church dress codes in a faith-based university?
- What cultural and societal factors influence these perceptions?
- How do these perceptions vary across different age groups and cultural backgrounds within a faith-based university?

The results of this study will be beneficial to the following: School Leaders, Church Leaders, University Community, Students and Teachers. The study employed a descriptive survey research design, which is widely used in educational research when the objective is to gather quantifiable information from a specific population about current beliefs, attitudes, or practices.

English

P17 *Wild Robots: Technology, Wilderness, and Humanity in Becky Chambers' Monk and Robot Series*

Melissa Moore⁺ (with Kristin Denslow and Kylene Cave) Honors Thesis

As technology advances and the environment deteriorates, the way people view the relationships between technology, wilderness, and humanity becomes crucially important for society to move forward. To investigate perceptions about technology's place in an environmentally conscious society, this project examines manifestations of wilderness/wildness and technology in Becky Chambers' *Monk and Robot* series through the lens of ecocriticism. Using Timothy Morton's concept of the ecological thought as a framework for analysis, the circumstances present in the novel suggest that the triangle separating humanity, technology, and wilderness has actually collapsed, replaced by an enmeshment of technology, wilderness, and humanity.

Film, Media Studies, and Communication

P18 *Resistance in Guillermo del Toro's Pinocchio*

Sonia R. Badenas

This poster examines Guillermo del Toro's *Pinocchio* as a cinematic reimagining of the classic tale that radically subverts the traditional moral of obedience. Whereas earlier versions reinforce compliance with parental and societal authority, del Toro reconfigures disobedience as a moral imperative, aligning it with civic resistance and ethical responsibility. Pinocchio's disobedience transcends personal rebellion, functioning as an allegory for resisting authoritarianism. His defiance against wealth, fame, and militarized duty casts him as a Christological figure—one who, like Jesus, challenged religious and political powers, exposed injustice, and upheld higher spiritual norms.

This study foregrounds the film's pronounced theological dimensions, particularly its emphasis on sacrificial love and moral integrity. Through close analysis of key sequences alongside biblical parallels—including the Sermon on the Mount, Jesus' trial, and Gospel narratives—the discussion highlights how del Toro positions disobedience not as destructive, but as redemptive. Ultimately, Pinocchio's insubordination enables reconciliation with Geppetto, reframing the act of "saying no" as a profound affirmation of truth, love, and resistance. By situating the film within historical and

theological contexts, this project demonstrates how del Toro transforms a familiar children's story into a parable of moral courage.

P19 *Running from the Headlines: Evaluating Levels of News Consumption and Attitudes Across Generations*

Andrew Francis⁺ (Honors Thesis)

What behavioral trends exist across various generations and other demographics when it comes to how people consume and interact with news coverage? With newspapers and other traditional mediums for news consumption being largely phased out of our increasingly digital society, it is important for communicators and journalists to have a comprehensive understanding of how to best reach members of their desired audience. I will be studying the data collected and analyzing what trends are apparent in the survey's sample size, which can hopefully be applied to the larger population. To measure outcomes and conclusions, I will identify various percentages and correlations between the consistent demographics and their answers. I hypothesize that younger groups of people will tend to be less engaged with longer forms of news content but will be heavily reliant on shorter-form content for only a few specific topics when compared to older demographics.

International Development

P20 ***Faith-Informed Humanitarian Policy: Biblical Compassion as a Framework for the Humanitarian Imperative***

Joel Raveloharimisy and Pau Mung⁺

This research presents a policy framework for Christian humanitarian workers and faith-based organizations, aligning Biblical compassion with the humanitarian imperative to protect life and dignity. Rooted in scriptural ethics—such as Micah 6:8's call for justice, Matthew 25:35–36's mandate to serve the vulnerable, and Genesis 1:27's affirmation of human worth—the framework translates Biblical values into operational standards that prioritize alleviating suffering. It proposes measurable indicators for need-based targeting, dignity-centered service delivery, participatory feedback mechanisms, and interfaith collaboration. The model supports a rights-respecting, non-proselytizing approach that maintains spiritual integrity while meeting humanitarian obligations. By embedding Biblical values into policy design and implementation, faith-based actors can enhance ethical coherence, community trust, and accountability. This integration presents a practical theology of humanitarianism, where compassion is not only a moral imperative but also a measurable and actionable commitment to the well-being of all people in need.

Music

- P21 *A Performative and Contextual Analysis of Blythe Owen's Sonata for Violin and Piano, Op. 12*
Marilyn Iribar Corpas⁺

The standard works of the violin repertoire are well known, yet many remarkable compositions remain overlooked. One example is the Sonata for Violin and Piano, Op. 12 by American composer Blythe Owen. My research focuses on analyzing the sonata's score while reflecting on my experiences as a performer preparing it for my recital. This project became more than a score study; it revealed the collaborative effort behind a published work and deepened my appreciation of hidden repertoire. By combining archival research with performance practice, I aim to highlight Owen's legacy and the broader significance of American women composers.

- P22 *Using Handwriting Text Recognition (HTR) Technology to Create a Language Learning Model (LLM) for Blythe Owen's Handwriting*
Aiko J. Ayala Rios⁺ and Marianne Kordas

Handwriting Recognition Technology (HTR) has proven to be of great support for the field of digital humanities and archival resources, as more scholars look to make documents machine-readable and accessible. With this in mind, in the summer of 2025, the Blythe Owen letter transcription project started to use Transkribus, a software that helps with transcription and creation of Language Learning Models (LLMs) that can serve for specific writing styles. This report shows the progress of learning to use the program, the different issues that arose, and suggestions for the project's future and for similar projects.

Graduate Psychology

- P23 *Neurodrive: A Comprehensive Model of Motivation Using Neurotransmitters as Latent Variables*
Megan Chandler⁺ and Ronald Coffen

Psychology lacks concrete groundings for theoretical models of motivation and behavior that are translatable to use with clients. The advances in neurochemistry and neuropsychology has shown the direct effect of chemical interactions on behavior and motivation. This is evidenced by the prescription of psychotropic medication in evidence-based treatment.

With an increasing engagement in therapy from a wider swath of the populace, there is a greater presentation of diversity in individual presentations. The therapeutic alliance is difficult to develop when a client feels misunderstood. Generalized expectations are ruptures in an increasingly diverse

therapeutic population. Yet there is an expectation of quick customization of care, in a mental health model that rewards high efficacy over slow-relationship building

P24 *Community Violence Exposure and Trauma: Perceptions and Experiences of School Mental Health Workers in Trinidad*

Nadine Isaac-Dennis, Michael Milmine, Alyssa A. Sussdorf⁺, and Camille A. Graham⁺

This study examines the perceptions and experiences of school mental health professionals in Trinidad who provide support to children living in communities with high levels of community violence. Using a qualitative approach, this study aims to gain insight into the types of community violence children in these communities are exposed to, the possible trauma symptoms observed, and interventions used to respond to these children through the experiences of these school mental health workers. Eight (five school social workers and three guidance counselors/officers) were interviewed on Zoom using semi-structured interviews conducted by the primary investigator. The audio-recorded interviews were transcribed and are being analyzed using reflexive thematic analysis through a phenomenological lens. The researchers will report preliminary findings from the analysis completed so far. This research will serve to advance the body of knowledge on this topic to inform practice, intervention, and policy for the various stakeholders.

P25 *Perceptions of Child Sexual Abuse (CSA) in Jamaica: Effects of Gender Norms and CSA Myth Acceptance*

Camille A. Graham⁺, Elvin Gabriel, Karla Basurto Gutierrez, Carole Woolford-Hunt, and Karyl Powell-Booth

As worrying as are these statistics, CSA in Jamaica rarely garners the attention or elicits the public outrage that homicide rates do, raising questions as to the understandings and general attitudes towards sexual violence against children (Bourne et al., 2015; Smith et al., 2019). Additionally, while global literature on the subject has grown exponentially in recent decades, there remains limited local research examining the phenomenon. The few local studies that exist invariably identify CSA as indicative of a culture of sexual violence, often citing gender norms that are steeped in patriarchy and maintain false beliefs that enable the continued practice of CSA (e.g., Karpenko-Seccombe et al., 2022; Powell-Boothe, et al., 2020). Of note, these findings are almost exclusively from qualitative studies. Further, no conceptual model has been presented explaining the relationships between these cultural factors and how they influence perceptions of CSA, which ultimately influence consequential behaviors such as disclosure and reporting.

The purpose of this study is to explore (and therefore understand) culturally ingrained beliefs and perceptions about CSA in Jamaica, with a focus on patriarchal gender norms (PGN) and CSA myth acceptance (CSAMA). Specifically, it will examine social perceptions regarding what constitutes CSA, estimation of abuse severity, and blame attribution

- P26 *A Mixed-Methods Study of Single Mothers at Andrews University Using Resilience to Influence Parenting, Academic Success, and Career Development*
Dionne Gittens⁺

Over the decades, there has been a significant increase in single-mother' households, with almost 12 million families being supported by lone mothers (Rousou et al., 2013). Single parents often face economic hardships that impact their parenting roles and financial stability. Consequently, single mothers seek to complete higher education degrees as a means of alleviating financial constraints and improving family life. This has led to a growing number of single mothers in higher education and the workforce, who must balance their parenting duties. This study examines the importance of single mothers using resilience to navigate parenting strain, academic success, and career development. Research indicates that there are only a few studies that combine single mothers' measurable resilience factors with their lived experiences.

This research focuses on the resilience of single mothers attending Andrews University while managing parenting duties and job responsibilities. Specifically, this study will examine how resilience influences both academic success and career development, as well as how these mothers balance the competing demands of family life. While research on student parents in general has been conducted, few studies capture both the measurable predictors of success and the lived experiences of single mothers themselves. This study attempts to address this lack.

- P27 *A Model of the Relationship Between ACES and Psychological Well-Being: The Role of Cognitive Flexibility and the Subjective Impact of ACES.*
Amante Gonzalez⁺

A current problem is that while literature has explored correlations between Adverse Childhood Experiences and Psychological Well-Being, there is not an established model within the literature that includes mediating and moderating factors (Cognitive Flexibility and Subjective Impact of ACEs) that elaborates on this relationship. Furthermore, no literature has evaluated differential scoring methods of a subjective impact of ACEs instrument. This study will employ a quantitative, non-experimental, exploratory, cross-sectional, and correlational design. Data will be derived from questionnaires administered to participants who were not randomly assigned to conditions or groups. Participants are aged 18+ and have endorsed at least one Adverse Childhood Experience. In addition to collecting demographic information, the survey will measure ACEs, the subjective impact of ACEs, cognitive flexibility, and psychological well-being.

Adverse Childhood Experiences will be measured via the Adverse Childhood Experience Questionnaire (ACE-Q). The Subjective impact of ACEs will be measured via the Subjective Impact of ACEs scale (SIA). Cognitive flexibility will be measured via the Cognitive Flexibility Inventory (CFI). And psychological well-being will be measured via the psychological well-being scale (PWB).

Structural equation modeling, Fischer Z-score comparison, and hierarchical regression modeling will be used to explore the overarching relationships between adverse childhood experiences, the subjective impact of childhood experiences, cognitive flexibility, and psychological well-being.

P28 Perceptions of Child Sexual Abuse (CSA) in Jamaica: Effects of Gender Norms and CSA Myth Acceptance

Camille A. Graham⁺, Elvin Gabriel, Karla Basurto Gutierrez, Carole Woolford-Hunt, and Karyl Powell-Booth

As worrying as are these statistics, CSA in Jamaica rarely garners the attention or elicits the public outrage that homicide rates do, raising questions as to the understandings and general attitudes towards sexual violence against children (Bourne et al., 2015; Smith et al., 2019). Additionally, while global literature on the subject has grown exponentially in recent decades, there remains limited local research examining the phenomenon. The few local studies that exist invariably identify CSA as indicative of a culture of sexual violence, often citing gender norms that are steeped in patriarchy and maintain false beliefs that enable the continued practice of CSA (e.g., Karpenko-Secombe et al., 2022; Powell-Booth, et al., 2020). Of note, these findings are almost exclusively from qualitative studies. Further, no conceptual model has been presented explaining the relationships between these cultural factors and how they influence perceptions of CSA, which ultimately influence consequential behaviors such as disclosure and reporting.

The purpose of this study is to explore (and therefore understand) culturally ingrained beliefs and perceptions about CSA in Jamaica, with a focus on patriarchal gender norms (PGN) and CSA myth acceptance (CSAMA). Specifically, it will examine social perceptions regarding what constitutes CSA, estimation of abuse severity, and blame attribution.

P29 Hope, Interpersonal Trust, and Perceived Organizational Support as Predictors of Employee Empowerment Among Health Care Providers within a Rural Healthcare System Following the Covid-19 Pandemic

Abigail Hall⁺

Rural populations—comprising 15-20% of the American population—tend to be isolated, lacking resources, technology, and education. Availability of resources *to* this population, accessibility *to* resources *by* this population, and acceptability of such resources *by* this population all contribute to the prevalence of increased health inequities when compared to more urbanized populations (NRHA, n.d.).

This study is meant to shed light on opportunities for growth and development among rural healthcare institutions. As the world attempts to move forward into a new era of healthcare following the Covid-19 pandemic, professionals within the healthcare system can

utilize this data to work toward building and maintaining positive, empowering perceptions across all professional domains.

- P30 *To Die For: Meta-Analysis of Hairstyle Choice and Hair Products that Impact Health Status*
Carole Woolford-Hunt, Karla Basurto-Gutierrez, Susan Woolford, and Camille Graham⁺

Black women's hair practices are shaped by centuries of colonization, racism, and Eurocentric beauty ideals that equate straight, smooth hair with professionalism and social acceptability (Ellis-Hervey et al., 2016; James-Todd et al., 2021; Johnson et al., 2017). Historically, African hair symbolized identity, spirituality, health, and community, but colonization devalued these traditions, labeling natural hair as unkempt or inferior (Asbeck et al., 2022; Rogers et al., 2021). Today, societal and media pressures sustain these standards, leading many Black women to alter their hair through chemical straightening, dyes, or extensions. These choices are often driven by workplace norms and representation gaps that penalize natural textures, reinforcing racialized beauty hierarchies and health disparities (Asbeck et al., 2022).

Today, the Black haircare industry is estimated to be a \$2.51 billion industry, with Black consumers spending 9 times more on haircare products than non-Black consumers (Sow et al., 2023). Unfortunately, research reveals that commonly marketed hair products contain harmful chemicals yet remain under-regulated and disproportionately marketed to Black consumers (James-Todd et al., 2021). Additionally, these health hazards intersect with psychological strain caused by Eurocentric beauty expectations, creating a complex relationship between culture, health, and self-expression. Understanding this intersection is critical to addressing the overlapping biological, psychological, and sociocultural impacts of hair care practices within Black communities.

- P31 *Behavioral Changes in Clinic-Referred Children After Caregiver Participation in the How-To-Talk Parent Training Program*
Ryan Peachey⁺ and Ronald Coffen

Parent training programs help parents promote behavioral and emotional development in their children. One parent-friendly program is the How-to-Talk Parent Training Program (HTTP) by Adele Faber and Elaine Mazlish which is designed to improve caregivers' emotional sensitivity, communication skills, and problem-solving. The program implements recorded guidance by Faber and Mazlish, group discussion prompts, role-playing exercises, and practical activities to build skills. Caregivers learn to foster parent-child collaboration, how to set limits, and ways to support emotional regulation.

Existing research shows support for the effectiveness of the How-to-Talk approach for improving children's behaviors and parent-child interactions. However, studies focus on non-clinical populations with no information about its impact on clinic-referred children. Caregivers of children

referred to psychotherapy (e.g., children with symptoms of ADHD, anxiety, or disruptive behavior disorders) particularly need support. Exploring if the user-friendly How-to-Talk approach shows evidence of effectiveness for a clinical population will contribute to the literature.

P32 *Investigating Magnitude Comparison, Processing Speed and Mathematics Anxiety in Grades 1-3*

Christina Stowell*, Ember Kim⁺, Mgontsa Kamvazaana⁺, and Nadia Nosworthy

This study investigated the relationship between magnitude comparison, mathematical skills, processing speed and math anxiety as it emerges across development in Grades 1-3. Results provide insights in characterizing what abilities are predictive of mathematical skills and their dysfunction and can aid in the development of interventions.

Leadership & Higher Education

P33 *Constructing the Meaning of Interdisciplinarity: Faculty and Administrators' Perspectives in Higher Education*

David González Correa⁺

This research project aims to investigate the process of developing an interdisciplinary curriculum at a private university in the American Midwest by conducting semi-structured interviews with members of the institution's central administration, as well as faculty and chairs from departments and schools that showcase the most interdisciplinary approaches. At the end, it was found that although faculty and administrators highly value interdisciplinarity, there are currently no efforts to achieve this goal due to the demanding effort required to create such a curriculum.

P34 *The Impact of Job-related Services on Competitive Integrated Employment for Individuals with Mild or Moderate Intellectual Disability.*

Marlinda King⁺, Ronald Coffen, Bradley Hinman, & Karla Basurto-Gutierrez

Individuals with mild or moderate intellectual disability (MMID) experience difficulty achieving competitive integrated employment (CIE). To help these individuals achieve CIE, job-related services are available through the State Vocational Rehabilitation Services Program. However, the use of job-related services to help individuals with MMID achieve CIE is insufficiently studied. Particularly, there is a lack of knowledge of whether there is a difference in the type of job-related services received among individuals of different sexes with MMID, and a lack of knowledge of the specific job-related services that are most significantly related to CIE for individuals with MMID.

The purpose of this study is to understand how the provision of specific job-related services associated with preparing for CIE (job-readiness training and on-the-job training), obtaining CIE (job search assistance and job placement assistance), and maintaining CIE (short-term job supports) are related to CIE for individuals with MMID.

This study will use a non-experimental, correlational, and cross-sectional research design to analyze secondary data. The Rehabilitation Services Administration's (RSA) Case Service Report (RSA-911) for the State Vocational Rehabilitation (VR) Services and the State Supported Employment Services Programs from the 2022-2023 program year is the primary source of the data for this study—only job-related services associated with the State VR services program will be investigated as this program is the focus of this study. Binary logistic regressions, a two-way ANOVA, and multiple logistic regression will be used to analyze the research hypotheses.

World Mission

- P35 *Protestant Missions and Eighteenth-Century Economic Ethos: Preliminary Findings from the Society for the Propagation of Christian Knowledge Archives at Cambridge University*
Andrew Tompkins

There has been significant research on the rise and movement of Protestant Missions in the eighteenth century. There has also been significant research on the economic changes, both in theory and practice, that occurred throughout Western Europe and European colonies during this same time period. However, research on the overlap between Protestant missions and economic thinking and practice has received less attention. This poster presents preliminary findings on the overlap between Protestant Missions and economics found through research in the archives of the Society for the Propagation of Christian Knowledge (SPCK) at Cambridge University. The SPCK was one of the largest Protestant mission organizations of the eighteenth century. Its organizational structure and ethos were heavily indebted to the East India Company, a for-profit private trading company that dominated world trade in the eighteenth century. This, along with other important details, reveals the heavy influence of economic theory and practice on the SPCK, which has wider implications for the relationship between Protestant faith and economics in the eighteenth century.

Post Deadline Submissions

- P37 *Preliminary Report on 3D Imaging Technology for Archaeological Research*
Robert D. Bates, Paul J. Ray, and Paul Z. Gregor

The Institute of Archaeology at Andrews University has been excavating in Jordan for over fifty years and currently works at Khirbat Safra. Recently, new technologies have been developed to help archaeologists improve data collection and interpretation, making it easier to share discoveries and visualize findings within their context. Three-dimensional imaging, especially, is becoming an essential tool for modern archaeology.

Since archaeology is a destructive science, once soil layers, architecture, and artifacts are removed, they cannot be physically reconstructed. However, three-dimensional imaging can allow excavations to be digitally reconstructed layer by layer. In the past, archaeologists relied on written notes and 2D images, such as still photographs, drawings, and diagrams, to recreate the life paths of ancient peoples. Unfortunately, archaeologists usually do not live near the sites they excavate and cannot take the objects from their country of origin for more than a year before they must be returned. That leaves little time for study. Three-dimensional imaging techniques like photogrammetry, LiDAR, and handheld laser scanners provide opportunities to “bring the dig back to the ranch” for detailed analysis at the Institute of Archaeology. At Khirbat Safra, LiDAR is used to create daily 3D images of a square, photogrammetry generates 3D images of fields, and handheld scanners capture 3D images of objects that can be 3D printed for comparison. This poster will highlight three ways that three-dimensional imaging is being used at Khirbat Safra. Future research will build and print models for further study and publication.

P38 *Exploration of Bible Translation Quality Estimation with Transformer Models*

Joseph Bustamante⁺, Gerardo Romo-Cardenas

This project investigates the semantic consistency and translation fidelity of Bible texts across multiple languages using advanced machine learning techniques, particularly transformer-based models such as XLM-R and mBERT. Leveraging the eBible Corpus from SIL International, we align verses across languages (e.g., John 3:16 in English, Spanish, Swahili) and generate sentence embeddings to assess semantic similarity. Cosine similarity and contrastive learning methods are employed to quantify alignment, while clustering algorithms help identify semantic outliers. Visualization techniques like t-SNE and UMAP reveal meaningful patterns in multilingual verse groupings. Future directions include fine-tuning transformer models on religious corpora to enhance domain-specific semantic accuracy, integrating expert feedback from linguists and theologians, and developing automated tools for translation review and verse alignment. This work aims to support both academic research and practical applications in multilingual scripture analysis.

P39 *Teacher Self-Efficacy for Educating Students with ASD*

Renette Portecop-Prentice

Teacher Self-Efficacy has significant and wide-reaching implications on instructional outcomes. This study examines predictors of teacher self-efficacy for educating students with ASD, who often have unique behavioral and learning strengths and needs. In all, 295 surveys completed by in-service teachers were analyzed using path analysis. Findings indicate that teacher attitudes, observations, and consultation were all statistically significant predictors of teacher self-efficacy, with teacher attitudes having the largest direct effect. Results reinforce the value of fostering positive attitudes toward instruction of students with unique instructional needs, and the significant benefit of peer support.

ORAL PRESENTATIONS

SESSION I: ARCHAEOLOGY & RELIGION (Room 250)

Archaeological Anthropology

A01 *Navigating Collaborations: A qualitative study of Adventist Archaeology in Jordan*

Stacie Hatfield

Siegfried Horn and Andrews University established archaeological excavations in Jordan in the 1960's with the goal of supporting biblical histories with archaeological evidence. Archaeological theory and discourse since then have called for an attentiveness to the goals of local communities and to the ways in which Western archaeological interests engage with those communities. This paper introduces a newly begun qualitative project examining how collaborations between archaeological communities in Adventism and in Jordan are navigated and experienced by those communities. Research questions are designed 1) to better understand the goals and discourses of archaeology in Jordan in the context of contemporary geopolitics 2) to better understand the goals and projects of Adventist and Jordanian archaeologists 3) to examine the various ways in which Adventist and Jordanian archaeological interests are navigated and 4) to explore possibilities for archaeological collaborations that are reflexive of the desires of Adventist institutions and of the interests of the nation and archaeological communities of Jordan. Utilizing participant observation, survey, interview, and focus group data, this research will contribute to understandings of the role of archaeology in biblical research, to understandings of the work and goals of the Adventist archaeologists as they intersect with those of Jordanian archaeologists and archaeology and heritage conservation communities. This timely project draws from a rich archaeological past to explore possibilities for a vibrant future for archaeological collaborations in Jordan and in Adventism.

Biblical Archaeology

A02 *Humans living in Caves: A Tentative Explanation of the Archaeological Record from a Biblical Perspective – Part 1*

Michael Orellana⁺

This study critically examines the emphasis placed on cave sites in interpretations of Lower Paleolithic hominin behavior, particularly the tendency to use cave-associated archaeological evidence to construct narratives of cultural and cognitive evolution. The primary goal is to reassess archaeological and fossil data through a biblical framework, contrasting evolutionary

interpretations with the post-Flood biblical account of human origins. Methodologically, the research evaluates key fossil discoveries, analyzes cultural development using Glynn Isaac's stages of cultural elaboration, and reconsiders taxonomic classifications of hominids and hominins. Particular attention is given to ambiguous fossil cases (e.g., Hadar, Laetoli), the problematic concept of "race" in paleoanthropology, and contested reconstructions such as *Ardipithecus ramidus*. Literature from evolutionary anthropology—especially works by Klein, Mithen, Johanson, and White—provides the backdrop for this analysis, highlighting the theoretical commitments underlying prevailing interpretations. Preliminary conclusions suggest that many fossils traditionally classified within human evolutionary sequences may more accurately represent non-human apes, with their cultural attributions being speculative and shaped by circular reasoning. Recognizing the biblical definition of humanity as bearing the image of God provides a stable interpretive framework for evaluating both material culture and biological remains. This approach allows for a more coherent differentiation between hominids and true humans and exposes the provisional nature of many evolutionary claims. Ultimately, this research lays the groundwork for a creationist interpretive model of early cave sites and cultural remains, challenging dominant evolutionary narratives while engaging critically with existing scholarly literature.

History of Christianity

A03 *Holy Boldness: Martin Luther and Prophecy*

Justin E. Mertz⁺

This paper examines the development of Martin Luther's prophetic interpretations prior to and up until the Diet of Worms in 1520 where Luther made his famous statement, „Here I Stand“. This paper examines Luther's historicist interpretation method and his understanding that Daniel 2,7,8 and 11, as well as 2 Thessalonians 2 point to the Antichrist identity of the Papacy. A careful study of Luther's theological development from 1517-1520 reveals that Luther as of 1520 was thoroughly convinced that the Papacy fulfilled the prophetic identify of the Antichrist. Sources for this paper include both primary and secondary sources, as well as prominent historical works about Luther and the Reformation, both Adventist and non-Adventist. Also Included in this paper is also a study of Luther's theological development, his various works, and his core prophetic beliefs about the Roman church that stood behind the words, „Here I Stand,,. Ultimately, this paper shows that Luther's boldness and steadfastness at Worms was directly linked to his belief that the Papacy indeed was the antichrist as described in Daniel and 2 Thessalonians. By establishing this fact, the historicist method of prophetic interpretation gains creditably while also firmly rooting itself into the reformation narrative. In light of this study one can truly say that prophecy is the backbone of the reformation.

SESSION II – APPLIED MATHEMATICS (Room 251)

Church Growth & Biblical Texts

B01 *Growth Dynamics in Adventist Church Planting: A Comparative Analysis of High- and Low-Growth Congregations*

Petr Cincala and Injae Son⁺

Planting new churches is a natural expression of the Great Commission and has been a foundational practice in the Seventh-day Adventist Church since its inception. Recognizing its missional importance, this study investigates the characteristics of growing church plants and examines how various growth indicators relate to church planting strategies, contextual factors, and the role of church planters. Drawing on data from a survey of 145 Adventist church planters in North America, churches were categorized into high-growth (top 25%) and low-growth (bottom 25%) groups based on a calculated average annual membership growth rate—one of several indices developed to assess church plant performance. Comparative statistical analysis (crosstab and chi-square) revealed that higher-growth churches are typically in earlier stages of development and exhibit significantly greater levels of social engagement with unchurched individuals. In contrast, preparatory activities and institutional or mother church support showed minimal correlation with growth outcomes. Furthermore, no significant differences were observed in member or attendee ministry involvement between high- and low-growth churches. These findings contribute to a deeper understanding of church life cycle dynamics within the Adventist church planting context and offer practical implications for refining strategies, leadership training, and support systems that prioritize relational engagement and early-stage momentum.

Mathematics and AI

B02 *From Mathematical Modeling of Fluid Interfaces Using Partial Integro-Differential Equations to a Custom Simulator*

Said Kas-Danouche

This study explores how to connect physical modeling, mathematical analysis, and simulation for the interface between two viscous fluid flows when the top layer is much thinner and both are under shear flow. Starting from the classical Navier–Stokes equations, we build a mathematical model that captures how the interface evolves over time. Using tools like asymptotic analysis and weakly nonlinear stability theory, we explore the conditions under which the interface becomes unstable and begins to form patterns.

The result is a partial integro-differential equation (PIDE) that describes the interface dynamics, including how distant parts of the fluid affect each other. We simplify the complex system into a form that can be simulated numerically and then construct a custom simulator to explore how the interface behaves under different physical scenarios. This integrated approach combining physics, mathematics, and computation offers a powerful way to understand and predict the behavior of layered fluid systems, with applications in engineering and industrial applications, biology and biophysics, geophysics and environmental science, and materials science.

B03 *Biblical Texts, Theological Struggles, and AI-Enhanced Corpus Analysis*

Oliver Glanz, Saulo Cantehede⁺, Sergey Panfilov⁺, and Benjamin Paulraj⁺

Our project explores how literary conventions, narrative motifs, and conceptual frameworks were transmitted and transformed across ancient Biblical manuscripts. Such exploration requires linguistically annotated corpora (morphology, syntax) of ancient Hebrew, Greek, and Syriac manuscripts. These languages span diverse linguistic families, scripts, and textual formats, posing significant challenges for scalable data modeling. To address this, we are developing an innovative pipeline that integrates machine learning, and responsible AI to automate and enhance linguistic annotation. This approach enables scalable, multilingual modeling while preserving the philological precision required for historical and literary analysis.

INDEX

Abigail Hall ⁺	P32
Ackley Dias Will	P10
Aiko J. Ayala Rios	P22
Alex Pofelski [*]	P15
Alyssa A. Sussdorf ⁺	P24
Amante Gonzalez ⁺	P27
Andrew Francis ⁺	P19
Andrew Tompkins	P35
Beaula Mangundah ⁺	P07
Benjamin Paulraj ⁺	P03
Boon-Chai Ng	P11
Bradly Hinman	P34
Camille A. Graham ⁺	P24, P25, P28, P30
Carl Hygrant ⁺	P16
Carole Woolford-Hunt	P25, P28, P30
Christina Stowell [*]	P32
David González Correa ⁺	P33
Desmond Murray	P06, P07
Dionne Gittens ⁺	P08, P26
Elise M. Inae ⁺	P04
Elvin Gabriel	P25, P28
Ember Kim ⁺	P32
Faith Kaluba [*]	P05
Felipe Torres [*]	P15
Garnett B. Cross	P15
Gerardo Romo-Cardenas	P38
Giulia Galli [*]	P15
Henry Navarro	P15
Injae Son ⁺	B01
Ivan K. Schuller [*]	P15
Joel Raveloharimisy	P20
Joon Hyuk Kan	P12
Joseph Bustamante ⁺	P38
Justin E. Mertz ⁺	A03
Karla Basurto Gutierrez	P25, P28, P30, P34
Karyl Powell-Booth	P25, P28

Katherine Koudele	P03
Kristin Denslow	P17
Kylene Cave	P17
Lisa Ahlberg	P06, P08
Mailyn Iribar Corpas ⁺	P21
Marianne Kordas ^{P25}	P22
Marlene Murray	P09
Marlinda King ⁺	P34
Matias Soto	P11
Megan Chandler ⁺	P23
Melani Dubon ⁺	P01
Melissa Moore ⁺	P17
Melissa Poua	P04, P06, P07
Mgontsa Kamvazaana ⁺	P32
Michael Milmine	P24
Michael Orellana ⁺	A02
Michael Taylor [*]	P11
Nadia Nosworthy	P32
Nadine Isaac-Dennis	P24
Nathan Allyn ⁺	P11
Oliver Glanz	B03
Oystein LaBianca	P01
Pau Mung ⁺	P20
Paul J. Ray	P37
Paul Z. Gregor	P37
Peter Lyons	P05
Petr Cincala	B01
Prudence Mange ⁺	P06
Ranko Stefanovic	PL – 1
Renette Portecop-Prentice	P39
Robert D. Bates	P37
Rod Albert C. Olofernes ⁺	P08
Ronald Coffen	P23, P31, P34
Ryan Hayes	P04
Ryan Peachey ⁺	P31
Said Kas-Danouche	P14, B02
Saulo Cantanhede ⁺	B03
Serena Sarsah ⁺	P09
Sergey Panfilov	B03

Shane Whidden ⁺	P15
Sonia R. Badenas	P18
Stacie Hatfield	P02, A01
Susan Woolford	P30
Vanessa Corredera	PL – 2
Yimei Zhu [*]	P15
Yongjin Shin [*]	P15
Yun Oh	P13
Zhiheng Zhao [*]	P05

Key:

⁺ Student

^{*} External
Collaborator

Acknowledgements

Gary W. Burdick, PhD, Dean of Research

Mordekai Ongo, PhD, Research Integrity and Compliance Officer

Carlisle O. Sutton, MDiv, MSCID, Sponsored Research Officer