17TH ANNUAL ANDREWS UNIVERSITY

Celebration of Research & Creative Scholarship

Friday, October 23, 2026, 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 Seventeenth 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, innovation, and mission-driven scholarship that define the Andrews research community.

Plenary presentations at this year's Celebration will be delivered by the recipients of the 2025-26 Siegfried H. Horn Excellence in Research and Creative Scholarship Award — Ingrid Slikkers and Denis Kaiser. 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.

Ingrid Slikkers, LMSW (Clinical & Macro), CCTP, Associate Professor of Social Work and Executive Director of the International Center for Trauma Education & Care, joined the School of Social Work at Andrews University in 2016 and has practiced social work since the early 1990s. Early in her career, Slikkers worked in a variety of settings, including a shelter serving women and children experiencing homelessness, a juvenile detention center, specialized summer camps for underserved youth, and a psychiatric hospital for children. After earning her graduate degree, she served for many years as a child and family therapist. Her clinical work has focused on trauma, loss, and family systems, with significant experience providing culturally responsive therapy in multicultural contexts, particularly within Latino communities.

Denis Kaiser holds a PhD in Adventist studies and is assistant professor of church history at the Seventh-day Adventist Theological Seminary. He began working at the Center in 2008 and has been involved with The Ellen G. White Letters and Manuscripts with Annotations, vol. 2 (1860-1863), since 2011. He serves as liaison for the Ellen G. White Estate and the Seminary, and in that role serves the Center as research and publication editor.

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

Gary W. Burdick
Dean of Research

SCHEDULE OF EVENTS WELCOME

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 Ingrid Weiss Slikkers, LMSW-C & M, CCTP, CFTP, Associate Professor, School of Social Work
From One Child to 22 Countries: An Unexpected Journey in Creative Scholarship

PL – 2 Denis Kaiser, PhD, Associate Professor of Church History
The Joy of Finding the Missing Piece

2:00–3:00 pm Poster Presentations (Buller Hallways)

See pages 4 –17 for poster abstracts. Refreshments served.

3:00–4:00 pm Oral Presentations (Buller Rooms 250 and 251)

See pages 18 – 20 for program abstracts.

PLENARY PRESENTATIONS

PL – 1 *From One Child to 22 Countries: An Unexpected Journey in Creative Scholarship*

Ingrid Weiss Slikkers

Abstract: This presentation examines a journey that began with therapeutic interventions for unaccompanied immigrant and refugee children who had experienced trauma and adversity and eventually led to the creation of an international center that has educated more than 30,000 individuals across 22 countries. The story is not simply about the development of Andrews' International Center for Trauma Education & Care, but about an evolving understanding of scholarship itself. What began as a reluctant relationship to research became a recognition that creative scholarship can emerge from faithfully attending to real-world needs and allowing those needs to inform both the questions pursued and the solutions developed.

Participants will leave encouraged to broaden their understanding of scholarship and to invite God's direction into their own research, teaching, and professional pursuits.

PL – 2 *The Joy of Finding the Missing Piece*

Denis Kaiser

Abstract: Why do scholars conduct research? Must historical research begin with a practical objective or a position to defend, or can the pursuit of understanding be a sufficient purpose in itself? Drawing on several projects in Seventh-day Adventist history, my presentation reflects on what makes research exciting and rewarding for me as a historian. I explore four dimensions of that experience: the joy of discovery, reconstruction, surprise, and contribution. Examples include reconstructing the provenance of Hiram Edson's account of his October 23, 1844 experience; reassessing George I. Butler's theory of "degrees of inspiration" by restoring it to its historical context; and reexamining Calvin P. Bollman's theological identity through a later autobiographical letter that complicated previous classifications of him as non-Trinitarian. These cases illustrate how overlooked documents, neglected contexts, and biographical evidence can challenge familiar narratives and force historians to redraw the picture. The presentation concludes by considering how research that begins simply with the desire to understand can nevertheless make practical contributions, especially in teaching. Better historical understanding can sharpen the questions we ask, make us more careful with evidence, and help students and communities engage the past with greater nuance, accuracy, and humility rather than merely confirm inherited assumptions.

KEY

Bold	Faculty
Bold^{+}	Student
Bold*	J. N. Andrews Honors Program
Bold^{-}	Undergraduate Research Scholar
Bold^{++}	Alumnus

POSTER PRESENTATIONS

Archaeology and Anthropology

P01 *A Qualitative Analysis of Adventist Archaeology in Jordan*

Stacie Hatfield

Andrews University established archaeological excavations in Jordan in the 1960's with the goal of supporting biblical histories with archaeological data. Archaeological theory and discourse have since called for an attentiveness to the goals of local communities and to the ways in which Western archaeological interests engage with those communities. Highlighting focus group and interview data collected since 2025, this paper presents an ongoing project examining how collaborations between archaeological communities in Adventism and in Jordan are navigated and experienced. 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. This timely project draws from a rich archaeological past to explore possibilities for a thriving future of archaeological collaborations in Jordan and in Adventism.

P02 *Shape Matching and Morphometric Analysis of Ancient Ceramic Profiles*

Robert D. Bates, Paul Gregor, and Paul Ray Jr.

Archaeology is the study of the past through material culture. Traditionally, archaeologists in the Near East focused on prominent cultural remains, such as fortifications and administrative and religious structures, using inscriptions and historical texts to understand how people lived. More recently, archaeologists in the region have adopted scientific methods and modern technologies across the discipline, from observation, categorization, and recording to interpretation. For several years, they have used bioarchaeology to collect seed data alongside bone information to infer how ancient peoples lived. They have also begun experimenting with 3D printing selected artifacts. In the latest phase of our research, we aim to use high-end iPads equipped with LiDAR scanners to map features and create 3D models of excavated structures for presentation and publication.

This poster explores the use of a Laser Aided Profiler (LAP) to analyze and record the shape of ancient ceramics. This task would normally take hours and require cutting a pottery sherd before drawing its profile. The LAP scanner makes the process repeatable, allowing archaeologists to create publishable drawings of individual sherds in minutes without damaging the original ceramic. "The operator captures precise laser profiles, photographs, measurements, and metadata, then produces scaled, publication-ready drawings while preserving the underlying data for later review, export, and analysis." The Laser Aided Profiler is used in both the laboratory at the Institute of Archaeology and the field during excavations, producing consistent documentation, searchable databases, and analysis-ready profile data for shape matching, profile comparisons, and morphometric research.

Behavioral Sciences

P03 *The Landscape of Belief: Latitude and Human Needs as Predictors of the Geography of Religious Belief*
Karl G. D. Bailey

Religion varies by latitude (McBride et al., 2021), as do other psychological and behavioral variables (Van de Vliert & Van Lange, 2019). Religious beliefs are more concrete, and religious practices are more frequent closer to the equator. While the explanation for these patterns has focused on societal responses to climactic extremes (Van Lange et al., 2017), that explanation is quite confounded with human geography, extractive practices of colonialism, and the history and present realities of unequal distribution of human development resources (Angeles & Neanidis, 2015; Tusalem, 2016). Consistent with other research (Tong, 2025; Yin et al., 2023), I demonstrate—across global Adventist samples, global representative samples, and samples from the United States of America—that human development explanation is a superior predictor of geographical variation in religious behaviors and beliefs. Across several datasets, the correlations between country-level (for global samples) or state-level (for United States samples) aggregated patterns are larger for human development indices than for latitude. These patterns are consistent with a model of evangelism that takes human development and human needs into account (Al-Qdah & Lacroix, 2017; Bailey, 2026).

Biology

P04 *Daily habitat use patterns in the Halda River, Bangladesh by Ganges river dolphins inferred by acoustic analysis of echolocation sounds*
Jimin Kim[+*-] and Daniel Gonzalez-Socoloske

Platanista gangetica, or Ganges river dolphins, lack a crystalline lens and swim in shallow, murky waters, which could explain why they constantly emit echolocation clicks yet are in small groups of less than 15 individuals. In this study, the goal was to note visible click trains on a spectrogram for presence or absence of echolocations using different months' worth of audio recordings from a hydrophone. My study will focus on how the dolphin activity changes throughout the day (regardless of the month) and examine if these blind river dolphins display a circadian rhythm to their use of the habitat.

P05 *Evaluating Phonotactic Response After Injection of Reserpine in Acheta Domesticus*
Megan S. Kim[+*] and Benjamin Navia

Phonotaxis is essential for survival in animals that communicate acoustically. This study evaluates whether changes in phonotaxis of female crickets occur after inhibition of monoamine neurotransmitters, such as serotonin and dopamine. These have been implicated in playing a role in cricket phonotaxis. This study seeks to expand on these findings to assess the degree monoamine neurotransmitters influence cricket phonotaxis through the injection of reserpine. Reserpine prevents vesicularization of monoamine neurotransmitters in preparation for exocytotic synaptic release. Current data suggests reserpine reduces the phonotactic response in female crickets, supporting the original hypothesis of the role of monoamines in regulating behavior.

P06 *Exploring protein folding in the metallocarboxypeptidase family*

Peter Lyons, James Park[++], Eun Hwan Ahn[++], Anders Jeronimo[++], Erica Shin[++], Masy Domecillo[++], and Donn LaTour[++]

A protein arrives at the proper three-dimensional shape through a complicated series of folding steps facilitated by chaperones. Defects in protein folding can lead to a variety of diseases, including pancreatic cancer and pancreatitis. Although it is unknown exactly how pancreatic carboxypeptidases fold normally, and abnormally in these diseases, it is thought that they require a prodomain as an intramolecular chaperone. To understand the requirements for folding, we created mutations in a number of carboxypeptidases, including human CPA1, CPA2, CPA3, CPA6 and CPO, zebrafish CPA1, and Xenopus CPO and expressed them in Sf9 and HEK293T cells. Our results suggest that all pancreatic carboxypeptidases, except CPO, require a prodomain for proper folding and enzymatic activity, although not for expression. Several amino acids have been identified as important for the unique stability of CPO without a prodomain. We propose a model in which the flexibility of the protein is sufficiently restrained during folding by a prodomain or other interactions so that the protein can reach its mature state.

P07 *The Effects of Lithium on Intracellular Myo-inositol Levels in Bipolar Disorder-Derived Lymphoblasts.*

Abigail Nwanganga[+] and Marlene Murray

Bipolar disorder is a mood disorder characterized by episodes of mania and depression that can significantly affect daily functioning and interpersonal relationships. Although mood stabilizers such as lithium are widely used to manage symptoms, their underlying cellular mechanisms remain incompletely understood, and treatment can be associated with adverse effects. Myo-inositol, a naturally occurring sugar alcohol involved in cellular signaling, has been implicated in mood regulation. One proposed mechanism of lithium action involves the reduction of intracellular myo-inositol levels, potentially contributing to its therapeutic effects. This study investigates the relationship between lithium exposure and intracellular myo-inositol levels in human lymphoblast cells. Cells were cultured in media containing varying concentrations of lithium, and protein and myo-inositol assays were performed to quantify cellular protein and myo-inositol levels. Protein measurements were used to normalize myo-inositol measurements, allowing for comparisons across experimental conditions. Data collection and analysis are ongoing to determine whether lithium exposure is associated with changes in intracellular myo-inositol levels. This research may contribute to a better understanding of the cellular mechanisms underlying lithium's therapeutic effects in bipolar disorder.

<u>Business Administration</u>

P08 *Global GDP Growth, Economic Development, and Regional Disparities: A Three-Way Multivariate Analysis of Economic Trends (2020–2024)*

Frank D. Gondwe[+] and Jerry L. Chi

This study examined how economic development, geographic continent, and time period jointly influence GDP growth rates across 113 countries during 2020-2024 using three-way multivariate analysis (Model 5D). Five annual GDP growth rates served as dependent variables. Results showed that geographic continent was the strongest

predictor of GDP growth ($\eta^2 = 0.128$, $p < .001$), explaining more variance than economic development level ($\eta^2 = 0.074$, $p = .001$). The time period also showed significant effects ($\eta^2 = 0.063$, $p = .034$). Significant interactions emerged between continent and economy ($p < .001$) and between continent and time period ($p < .001$). These findings demonstrate that geographic location dominates global GDP growth patterns, while temporal shocks create temporary but not permanent disruption.

P09 *Currency Exchange Rate Correlation with the Profitability of LVMH Moët Hennessy Louis Vuitton SE*
Gabriel Rojas Marrugo[+*-] and Williams Peprah

This paper examines whether USD/EUR exchange rate movements significantly affect the reported profitability of LVMH. LVMH reports in euros but earns a substantial share of revenue in dollars and other currencies, so exchange rates can affect reported earnings independent of operating performance. Using annual data (FY2005-FY2025), Net Profit Margin, Return on Assets, and Return on Equity are each regressed against the average USD/EUR rate using ordinary least squares. All three results fit a stronger dollar raising profitability, but none is statistically significant at $\alpha = 0.05$. Currency is a secondary driver but still matters for risk management.

Chemistry & Biochemistry

P10 *Copper (II) Removal from Tap Water by Silica-supported G2 PAMAM Dendrimers*
Ethan Delacruz[+*] and Ryan Hayes

This research measures the effectiveness of generation 2 PAMAM octyl-dendrimers in selectively removing copper(II) ions from tap water. Andrews University tap water is filtered through a silica gel stationary phase mixed with G2 PAMAM dendrimers. The copper(II) ion concentration is measured and calculated before and after filtration. These results quantify the effectiveness of this dendrimer-based copper filtration system.

Curriculum & Instruction

P11 *Educational Neuroscience Informed Non-Intrusive Retrieval Practices as Evidence of Learning*
Yanina Jimenez[+]

Teachers need to continually gather evidence of student learning to inform instructional decisions and support meaningful learning experiences. However, traditional assessment practices may interrupt instruction, increase students' anxiety, or fail to capture how learning develops over time. Informed by educational neuroscience, this study explores non-intrusive retrieval practices as potential sources of evidence of learning. Non-intrusive retrieval practices invite students to retrieve, articulate, and apply previously learned information without significantly disrupting the natural flow of instruction. Examples include learning journals, instructional conversations, brain dumps, and other brief opportunities for students to make their thinking visible. The purpose of this exploratory sequential mixed methods study is to develop a taxonomy of non-intrusive retrieval practices organized according

to cognitive demand, intrusiveness, potential to elicit evidence of learning, and potential to generate anxiety or stress. During the qualitative phase, participating teachers will implement selected practices and document their experiences through reflection journals, interviews, and focus groups. Findings will inform the development of a survey instrument to further examine and refine the emerging taxonomy. The study seeks to contribute a research-informed framework that helps educators identify practices for gathering meaningful evidence of learning while respecting students' cognitive processes and maintaining instructional continuity. Ultimately, this research aims to support responsive teaching practices that make student thinking visible and inform instructional decisions without unnecessarily interrupting learning.

P12 *Relational Contexts of Moral Identity: Mentoring and Community Service Involvement Among College Students*

Maria O. Rodriguez, Gustavo Gregorutti, Karla Basurto, and Jay Brand

Higher education is expected to foster ethical development, yet research has focused more on moral reasoning than on the identity processes sustaining moral action. Grounded in Rest's Four Component Model and moral identity theory, this study examined whether community service involvement functioned as an indirect pathway linking mentoring and moral identity among college students. Using cross-sectional survey data collected from 502 students at 11 primarily faith-based U.S. institutions, structural equation modeling was conducted on a final analytic sample of 490 students after multivariate screening. Community service involvement was measured with a single global self-report item. Mentoring was positively associated with community service involvement ($\beta = .248$, $p < .001$) and moral identity ($\beta = .428$, $p < .001$), while community service involvement was positively associated with moral identity ($\beta = .337$, $p < .001$). Bootstrapped estimates confirmed a significant indirect association between mentoring and moral identity through community service involvement ($\beta = .083$, $p < .001$). An exploratory moderation analysis further indicated that the association between community service involvement and moral identity was stronger among students reporting more mentoring. The model explained 36.8% of the variance in moral identity. Findings are associative rather than causal and warrant replication across more diverse institutional contexts and populations.

Counseling and Graduate Psychology

P13 *Interpersonal Trust and Reciprocal Social Support as Predictors of Trait Hope in Young Adulthood*

Abigail Hall+

In 2023, the U.S. Health Administration recognized the "Loneliness Epidemic" as a major public health crisis in the United States. Researchers and advocates involved in the task of public education identified trust, social support, and hope as three major determinants of subjective and collective health and well-being adequate for ameliorating loneliness. They suggested that young adults are particularly vulnerable to developing loneliness due to a variety of factors. Scholarly literature currently supports a relationship between each of these psychological determinants and the health and well-being of people and their society, respectively, but does little to acknowledge the relationship they share with one another. This research attempts to synthesize previous literature to contemplate that

relationship, specifically examining how young adults in the United States perceive such constructs and employ them to achieve their own personal goals.

P14 *The Exhaustion of Cognitive Control: Executive Dysfunction as a Moderator of the Relationship Between Social Camouflaging and Emotional Dysregulation in Neurodivergent Women*

Kareen E. Nathan[+]

Women who are neurodivergent experience severe challenges with emotional and executive functioning that are unique and distinct from their male counterparts. Research indicates that there is diagnostic bias favoring males' clinical behaviors while women suffer in silence and develop behaviors such as social camouflaging to navigate a neurotypical world. The purpose of this quantitative, non-experimental, cross-sectional survey study is to examine the moderating effect of executive dysfunction on the relationship between social camouflaging and emotional dysregulation in adult women with Autism and ADHD, and identify and suggest timely, emotion-focused, evidence-based strategies to enable neurodivergent women to thrive. This research study will use an online survey design with a minimum of N = 250-300 women (ages 18 – 65) who have been diagnosed with Autism/ADHD. The study will use non-probability purposive and snowball sampling via online neurodivergent communities and/or advocacy groups. The key variables are executive dysfunction, social camouflaging, and emotional dysregulation, and the analysis will use multiple linear regression in SPSS. The patterns expected from this research are that executive dysfunction will significantly moderate the relationship, such that the positive relationship between social camouflaging and emotional dysregulation will be significantly stronger for women with high executive dysfunction compared to those with low executive dysfunction.

This study will benefit neurodivergent women who often struggle, mental health professionals and clinicians, to offer better diagnosis and treatment, educators, and employers to provide accommodation and partners, families and support systems to improve support for these women to navigate a neurotypical world.

P15 *Attachment in Adults with Sickle Cell Disease: The Role of Culture and Identity*

Alyssa A. Sussdorf[+]

Sickle Cell Disease (SCD) is a chronic inherited blood disorder that is diagnosed during infancy and usually involves recurrent pain, hospitalizations, and lifetime medical care. These experiences may shape how one develops and maintains close relationships. Attachment Theory provides a framework for understanding how early relationships with caregivers may relate to attachment patterns in adult romantic relationships. However, there is less research about these relationships among adults living with SCD, specifically across cultural identity and sexual orientation groups.

The purpose of this quantitative study is to examine attachment relationships with caregivers during childhood and romantic attachment in adulthood among individuals diagnosed with SCD. Specifically, the study will examine the relationship between childhood caregiver attachment and adult romantic attachment and investigate whether adult romantic attachment patterns differ across cultural identity and sexual orientation groups. Participants will be 18 years or older with a diagnosis of SCD, not just the trait, and will have been in at least one adult romantic relationship. Data will be collected through an online survey that includes demographic questions and measures of attachment styles toward caregivers and romantic partners. Quantitative analyses will examine group differences

and associations between caregiver attachment and adult romantic attachment. Findings may inform culturally responsive and relationship-focused approaches to psychological and healthcare services for adults living with SCD. Additionally, the study may contribute to greater awareness of SCD and its effects on individuals and families.

Engineering

P16 *Nonparametric Prioritization of Breath VOC Signatures for Differential Diagnosis of Respiratory Diseases*

Hyun J. Kwon, Elmer Ccopa Rivera, and Joseph Bustamante[+ -]

Accurate differentiation among asthma, bronchiectasis, and chronic obstructive pulmonary disease (COPD) remains a major clinical challenge due to overlapping symptoms and limitations of conventional diagnostic approaches. This study proposes a nonparametric cumulative distribution function (CDF)-based framework combined with permutation testing to analyze volatile organic compounds (VOCs) in exhaled breath as non-invasive biomarkers for respiratory disease characterization. Breathomics data obtained via gas chromatography–mass spectrometry (GC-MS) from 121 patients were analyzed following $\log_2$ transformation of VOC intensities. The analytical scope included not only shared VOCs but also pair-specific and disease-exclusive compounds. The discriminative ability of each VOC was assessed by comparing class-specific empirical cumulative distributions with null distributions generated through 10000 random permutations. Permutation-based CDF rankings were generated for core and pairwise VOCs, whereas disease-exclusive VOCs were characterized descriptively using within-group medians and interquartile ranges. To evaluate classification utility, progressively reduced VOC subsets were assessed using Random Forest (RF) and Partial Least Squares Discriminant Analysis (PLS-DA) under repeated stratified cross-validation. Results showed that a reduced set of highly ranked VOCs preserved substantial classification performance, supporting the effectiveness of the proposed prioritization strategy. Candidate VOCs were then suggested based not only on their ranking scores, but also on biological interpretation and support from previously reported literature. Overall, the CDF and permutation-based approach provide an interpretable and model-independent framework for biomarker discovery in respiratory diseases.

P17 *A Sine-Based Method for Approximating the Central Root of Cubic Polynomials*

Brad Gomez Urquiola[+ -] and Said Antonio Kas-Danouche

We introduce a new method for approximating the central root of a cubic polynomial with real coefficients, focusing on the conditions under which the method applies. Our approach is based on generating a sine function derived from the original cubic polynomial and investigates their relative positions and intersections. In particular, we establish conditions under which the sine function lies strictly above or below the cubic polynomial on specified intervals, with equality occurring at designated points, including the inflection point and, where applicable, the turning points. We first develop the method for a representative cubic polynomial whose relationship with its associated sine function can be analyzed explicitly. We then extend the analysis to cubic polynomials with two or three distinct real roots through algebraic transformations, substitutions, and the formulation and proof of supporting theorems. The results establish the conditions governing the relevant intersections and the relationship between the sine function's root and the central root of the cubic polynomial. This framework provides a foundation

for further investigation of sine-based root approximation methods and their potential applications in numerical analysis and approximation theory, and hence, overall scientific and engineering innovations.

English

P18 *Expletive Constructions and Subject-Verb Agreement: An Empirical Study of "There" and "It" in Relation to Linguistic Deep and Surface Structure.*
Joel Pelletier[+*] and Jill Manoukian

English speech comprises a dichotomy between surface structure (the actual written or spoken sentence forms) and deep structure (the underlying meaning and internal abstract understanding). Syntactic expletives, specifically "there" and "it", function as placeholders in the sentence until the true subject appears. This research aims to explore the relationship between these dual structures in spontaneous language by tracking how expletives are utilized in scenarios where spoken language is explicitly prompted. This study bridges theoretical syntax and classroom pedagogy by applying these experimental findings to a proposed grammatical education model to enhance syntactic comprehension for those learning the English language.

Mathematics and Physics

P19 *Predator-prey biological model of multiple species with linear growth rates*
Joon Hyuk Kang

Multiple species of animals are residing with in the same environment. Under what conditions do they coexist peacefully? Or under what conditions is either some of the species become extinct, that is, either some of the species excluded by the others? It is natural to say that they can coexist peacefully if their reproduction rates and self-limitation rates are relatively larger than those of competition rates. In other words, they can survive if they interact strongly among themselves and weakly with others. We investigate this phenomenon in the mathematical point of view by modeling a system of Partial Differential Equations.

P20 *Heat Conduction Across Material Interfaces: A Mathematical and Experimental Project of Composite Two-Material Rods*
Said Antonio Kas-Danouche

Heat conduction across interfaces between dissimilar materials is fundamental to applications in engineering, energy systems, electronics, and materials science. This project investigates transient heat transfer in one-dimensional composite rods consisting of copper and aluminum, integrating mathematical modeling, numerical simulation, and laboratory experimentation. Building on previous work on composite-rod heat conduction, students will formulate and analyze partial differential equation models that account for differences in material properties and thermal contact conditions at the interface. An experimental apparatus equipped with thermocouples and an Arduino-based data acquisition system will be used to measure temperature evolution along the rod. Numerical

solutions will be compared with experimental observations to evaluate model accuracy and estimate relevant thermal parameters.

The study will examine how material properties, interface location, and thermal contact resistance influence temperature distributions and heat propagation. Through this interdisciplinary investigation, undergraduate students will gain research experience in differential equations, numerical analysis, scientific computing, experimental design, statistical data analysis, and inverse problems. The project will also strengthen collaboration between Andrews University and a partnering two-year college, providing an accessible framework for integrating mathematical theory with experimental validation.

P21 *Recent progress on h-almost Ricci-Yamabe Soliton and Riemannian Submersion*

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: $$\frac{h}{2}\mathfrak{L}_Vg+\alpha Ric+(\lambda-\frac{\beta}{2}\tau)g=0,$$ where α,β are real constants and λ,h are smooth functions on M. We consider a Riemannian submersion $\pi: (M,g) \rightarrow (B,g')$ from an h-almost Ricci-Yamabe soliton onto a Riemannian manifold B. In 2019, Meri\c{c} and Kili\c{c} provided three sufficient conditions for the fiber or the base manifold B of the submersion to be a Ricci soliton. In 2024, Lone and Wani extended the results for h-Ricci-Yamabe solitons admitting Riemannian submersions. In this study, we obtain analogous results under alternative assumptions. To do so, we introduce two tensor fields, C and D, on the Riemannian submersion.

P22 *Some Characterizations of Space Curves Using Centrode and Co-centrode*

Finnegan Blake[+*-] and Yun Oh

We study the centrode (Darboux vector), co-centrode, and double centrode of a unit-speed curve in E^3. We derive the full Frenet-Serret apparatus of the centrode and of the co-centrode directly from the Frenet-Serret equations of the parent curve, and we specialize the co-centrode apparatus to the case in which the curvature and torsion are parametrized by a single angle function. Using this parametrization we prove that if the parent curve has a constant sum of the squares of curvature and torsion, and thus is spherical, then its co-centrode cannot be spherical. Finally, we derive an expression for the double centrode, defined as the centrode of the centrode curve.

Rehabilitation Science and Occupational Health

P23 *Occupational and Environmental Determinants of Cataract among Rice Farmers in Kihurio Village, Tanzania: A Pilot Occupational Health Case Study"*

Akemi Ohara[+], Kyra Hamstra[+], Nyara Dovald, Sozina Katuli, and Dovison Kereri

Background. This study examines how occupational and environmental conditions in a paddy-farming community influence cataract and related visual impairment. Paddy rice farmers in Kihurio, Tanzania, experience multiple ocular hazards including ultraviolet light exposure, dust, microbial contamination, trauma, and pesticides, which may contribute to cataract development, ocular trauma, and corneal disease. Cataract is a leading cause of blindness

globally and accounts for approximately 22% of bilateral blindness in Tanzania. During a mission-driven visit to Kihurio by a team from Andrews University, uncorrected visual impairment emerged as a major concern, and many individuals were also observed to have cataract, highlighting the need for systematic investigation.
Methods. Guided by the PRECEDE–PROCEED health promotion model, this cross-sectional study will assess adult paddy farmers attending a health fare during mission trips. Participants will be recruited through local churches, community gatherings, and the marketplace. They will undergo standardized eye examinations to determine presence and type of cataract. Data analysis will use t tests and ANOVA to compare cataract status across demographic groups, and logistic regression to evaluate associations between cataract and key exposures, including duration of ultraviolet light exposure, occupational water contact, cigarette smoking, biomass smoke exposure, and comorbidities such as diabetes and hypertension. Findings will inform both surgical service planning and preventive strategies to reduce cataract risk and improve occupational performance among paddy farmers in this underserved community. Preliminary results found that 68 out of 280 patients examined had cataract.

P24 *The influence of music on VO-max performance and emotional responses towards exercise.*
Dave Casejo, Gabriel Pontes, Alison Bradley, Blaise Datoy+, Stacy Perea+, Natalie Umali+, and Sozina Katuli

Background. Music is commonly used during exercise and may improve mood, motivation, and performance. However, most research has examined submaximal exercise, leaving its effect during maximal exertion less understood. This study investigated whether music influences maximal responses during graded treadmill testing.
Methods. A non-randomized, repeated measure crossover study reported 22 participants through convenient sampling. Each participant completed two maximal treadmill tests using the Bruce protocol: one without music and one with participant selected music. Tests were separated by a washout period of at least one week. Participants completed a subjective questionnaire after each test to assess their exercise experiences.
Results. Music was associated with statistically significant improvements in physiological performance and emotional responses. Mean time to exhaustion increases from 10.14 to11.05 ($p=0.003$). Emotional responses scores increased from 47.23 to 50.08 ML/kg/min ($p=0.003$). Emotional response scores increased from 25.6 to 30.0 ($p< 0.001$) indicating more favorable feelings towards exercise. Perceived intensity also increased from 4.10 to 4.75 ($p< 0.001$).
Conclusion. Overall listening to preferred music during maximal treadmill testing was associated with longer exercise duration, higher measured aerobic capacity and more positive emotional responses. These findings suggest that music may offer a practical strategy for supporting exercise performance and motivation in athletics and clinical settings. The findings reflect associations observed in this small study rather than definitive evidence of causation.

P25 *The influence of music genres on exercise performance during exercise in college students.*
Blaise Datoy+, Stacy Perea+, Natalie Umali+, and Sozina Katuli

Background. Music has been shown to influence emotions, motivation, and exercise performance, with factors such as genre, tempo, and personal preference potentially affecting an individual's response to physical activity. The purpose of this study is to examine how music genre and individual music preferences influence exercise performance among college students.

Methods. Participants aged 18 years and older will complete standardized treadmill exercise tests under different music conditions. Prior to testing, participants will complete a questionnaire to identify their preferred music genres. During each exercise condition, participants will listen to a selected music genre while completing the treadmill protocol. Exercise performance will be evaluated using exercise duration, distance traveled, and treadmill speed. Physiological and psychological responses, including heart rate, blood pressure, and rating of perceived exertion (RPE), will also be assessed. Performance and response measures will be compared across the different music conditions to determine whether music genre influences exercise performance.
Data analysis. Data will be analyzed using repeated-measures analysis of variance (ANOVA). The findings of this study may provide insight into the role of music selection in exercise performance and may help identify music conditions that enhance exercise engagement and performance among college students.
Data will be collected in spring and summer 2027. And the final report will be presented to the MPTA conference and Global student research next year and next research celebration.

P26 *Identifying biopsychosocial risk factor for Chronic Low Back pain among rice farmers in rural Tanaia.*

Gerson DeLeon, Sozina Katuli, Ralph Amisial[+], Amber Engle[+], Emily O'Connor[+], and Paola Soto[+]

Background: Tanzanian rice field workers perform repetitive movements including, but not limited to bending, lifting, twisting, etc. to provide for themselves and their families. Because of their rural location away from adequate medical care, many of these individuals suffer from low back pain. Therefore, the purpose of this research is to improve the quality of life for these individuals by providing a community based education intervention aimed at increasing pain self management capacities to improve low back pain levels. An overall survey of these areas of their life and pain experience will be based on five pre-determined questionnaires. Pre- and post-outcome measures will be based on the STarT Back Questionnaire. Finally, in retrospect, using data from a formulated pain classification questionnaire (one of the five) will enable us to determine each participant's low back pain functional nature. Furthermore, future Tanzanian community research projects will be better suited to the needs of this population with the overall data collected.
Purpose: The purpose of this research is to decrease low back pain and improve quality of life among Tanzanian rice field workers. The first base is determinate the nature of low back pain chronicity and then providing three aspects of an evidence-based education intervention including a treatment station for biomechanics, a station for pain neuroscience education, and a treatment group addressing acute interventions and exercises.
Methods: The study design is a observational study with a minimum of 34 participants. Subjects will be included and excluded based on set criteria. A general data collection will include a Pain Categorization Questionnaire, Oswestry Disability Index, Self-Efficacy Questionnaire, Multidimensional Scale of Perceived Social Support Questionnaire, VAS, and work participation. However, the STarT Back Questionnaire will be administered as the outcome variable. Data collected from pre- and post-treatment measures will be analyzed via SPSS to determine the magnitude of change from before to after treatment. Based on this data, a Wilcoxon Signed Rank Test and a Logistic Regression will be utilized in the analysis.

P27 *The Effects of Sleep Quality and Hygiene on Physical Rehabilitation Outcomes in Patients with Low Back Pain and Joint Pain*

Nathan J. Hess, Jordyn McLean[+], Andre Crayton[+], and Cesar Cantu[+]

Sleep is a critical component of physiological recovery, influencing pain modulation, inflammation, and tissue healing. Despite growing evidence linking poor sleep to adverse health outcomes, its role in physical therapy rehabilitation remains underexplored. This study aimed to examine whether sleep quality, sleep hygiene, and risk

of obstructive sleep apnea (OSA) predict functional outcomes in patients undergoing outpatient physical therapy for low back and joint pain. Methods: A convenience sample of 42 adult patients completed the Pittsburgh Sleep Quality Index, Sleep Hygiene Index, and STOP-BANG questionnaire at initial evaluation. Functional outcomes were assessed using region-specific measures, including the Oswestry Disability Index, Neck Disability Index, Lower Extremity Functional Scale, and QuickDASH, with improvement determined by differences between initial and discharge scores. Statistical analyses, including correlation testing and analysis of variance, were conducted to evaluate relationships between sleep variables and functional change. Results: No statistically significant associations were found between sleep quality, sleep hygiene, or OSA risk and functional rehabilitation outcomes ($p > 0.05$). Discussion: These findings suggest that sleep variables may not independently predict rehabilitation outcomes in this population. However, factors such as diagnosis, treatment adherence, and visit frequency may play a greater role in influencing patient progress. Conclusion: Measures of sleep quality and hygiene did not predict changes in functional outcomes in patients undergoing outpatient rehabilitation. Further research with larger sample sizes and improved data collection and analysis methods is recommended to better understand the influence of sleep on physical therapy outcomes.

P28 *The Effects of Blood Flow Restriction on Balance, Function, and Strength in the Geriatric Population - A Pilot Study*

Letrisha Stallard, Elizabeth Oakley, Arek Taylor[+], Kathryn Donaldson[+], Natasha Weber[+], Diego Garcia[+], Michael Mills[+], and Ethan Daniel[+]

Background: A lack of strength training in older individuals can lead to a decline in function, particularly in those over 65 years, increasing the risk of falls and loss of independence. A contributing factor to decreased functional performance in older adults is the loss of lower extremity muscle strength.
Introduction: Blood flow restriction (BFR) enhances muscular strength and endurance and can facilitate greater strength gains during low-load resistance training. Research on BFR in relation to strength, balance, functional tests, and geriatric populations is limited, leaving room for further investigation.
Purpose/Objective: The purpose of this study was to use blood flow restriction for lower extremity strength training to determine its effect on functional test performance and lower extremity strength in the geriatric population.
Methods: This study included participants from the general area of Berrien County, who were recruited by distributing flyers at various YMCAs and Senior Centers. Participants were either assigned to the Treatment group, which received low-load BFR resistance training, or the Sham group, which received only resistance training. Progress was measured at 2-week intervals from baseline using the Timed Up and Go (TUG) test, the 5 Times Sit-to-Stand test, and the Unipedal Stance Test, as well as lower extremity strength testing, including hip abduction, knee flexion, knee extension, and ankle plantarflexion.

Social Work

P29 *Breaking the Silence: Assessing Local Church Engagement with the enditnow initiative*

Ellen Nogueira Rodrigues[+], Shannon Trecartin, Yazmik Cantillano, Joanna Cardenas[+], and Caundee Cauvin[+]

Several authors have highlighted the effectiveness of media campaigns to raise awareness and shift attitudes, beliefs, and behavioral intentions regarding public health issues like domestic violence (Roger et al., 2023; Wakefield

et al., 2010). Campaigns targeting intimate partner violence have been successful at increasing awareness of abuse and intention to address abuse (Pryor et al., 2025; Seddig et al., 2026). Despite their potential, public health campaigns can face significant threats to success, including strategic failures, process failures, and implementation failures (Kite et al., 2024). While campaigns such as *enditnow* have exceptional material and value to offer the public, barriers can block these messages from reaching the public, ultimately preventing audiences from adopting the intended knowledge, values, and skills.

For the program *enditnow*, an initiative from the Seventh-day Adventist (SDA) Church, there are several connection points where messaging can be hindered/ blocked, including at the local church levels. Thus, the purpose of the study was to explore how different SDA churches are engaging with *enditnow* Sabbath and the abuse prevention materials by assessing the sample churches through the available digital platforms and contacting the pastors. Researchers selected a stratified random sample of 521 churches from the NAD (Cincala, Trecartin, & Brantley, 2018). Each congregation's website (bulletin &/or newsletter), Facebook page, and YouTube channel were searched for evidence of observing the *enditnow* Sabbath, and churches were contacted via email addresses and phone numbers.

The findings highlight several dynamics that shape congregational participation: limited knowledge of the initiative among pastors, the significant yet often informal leadership role of pastors' spouses, and persistent misconceptions that abuse is either rare in Adventist settings or not relevant to older members. These patterns suggest that low visibility of abuse within congregations does not indicate its absence, but rather reflects a lack of open dialogue, education, and structured engagement around abuse prevention. Thus, Adventist church members are left more vulnerable to abuse due to a perceived lack of resources and help.

Additional Submission

P30 *The Effects of African Continental Free Trade Area Implementation on GDP Growth in Sub-Saharan Africa: A Longitudinal Comparative Study*

Frank O. Boahen[+] and Jerri Chi

The African Continental Free Trade Area (AfCFTA) was established to promote intra-African trade, strengthen regional economic integration, expand market access, and support sustainable economic growth. Although trading officially commenced in January 2021, implementation has progressed unevenly across participating countries. The Guided Trade Initiative (GTI), introduced in October 2022, represents an important implementation milestone, enabling selected countries to operationalize preferential trading arrangements. This study proposes to examine whether participation in the original AfCFTA GTI was associated with changes in real gross domestic product (GDP) growth in Sub-Saharan Africa. Using annual country-level data from 2017 to 2025, the study will compare six original GTI participating countries with a selected group of nonparticipating countries. Real GDP growth will be the dependent variable, while GTI participation, time, and their interaction will be the principal independent variables. A two-way mixed-design repeated-measures analysis of variance (ANOVA) will assess differences in GDP growth patterns between groups over time, including changes before and after the initiative's introduction. Data will be obtained from the International Monetary Fund, the World Bank, and official AfCFTA implementation records. Findings will be interpreted with caution because economic conditions, policy differences, and nonrandom participation may influence the observed outcomes. The study is expected to contribute empirical evidence on the

early macroeconomic outcomes associated with the implementation of the AfCFTA and provide insights for policymakers evaluating regional trade integration strategies. Its findings may also inform future research on trade facilitation, economic growth, and regional development in Sub-Saharan Africa.

ORAL PRESENTATIONS

Track 1: Room 250

A1 *Nazi Iconography in Religious Press: The Case of Der Adventbote (1935-1941) in the Context of Church-State Relations*

Yuri N. Drumi[+]

This paper examines the use of Nazi symbols in the religious press, using as its case study *Der Adventbote*, a leading Seventh-day Adventist magazine in Germany. How did the emergence of Nazi iconography influence the visual imagery of *Der Adventbote*? What message did these symbols convey to a Christian denomination with a membership of about 33,000 people? These questions are discussed against the backdrop of the historical and ideological context in which the relationship between the Adventist Church and the Nazi state developed. The author shows how the iconography of Nazism, with the swastika as its central symbol, found its way into the pages of *Der Adventbote* and indirectly turned the magazine into a mouthpiece of Nazi propaganda within the Adventist community. A brief study of the Nazi symbols in their historical and ideological context lifts the veil on the past a little further and sharpens the perception of church-state dynamics at play in authoritarian states.

A2 *An Urgent International Dilemma Caused by Climate Disasters*

Yinuo (Genesis) Li[+]

Severe climate disasters have displaced millions of people globally, yet “climate refugees” are not formally recognized under existing international refugee frameworks. This paper examines whether climate change is comparable to the five existing standards for defining refugee status—race, religion, nationality, membership of a particular social group, and political opinion—and whether people displaced by climate disasters should be granted refugee designation. It further considers which countries bear responsibility for climate-displaced populations under the United Nations Framework Convention on Climate Change and explores the implications of climate refugeeism for U.S. national security and immigration policy.

The research takes a qualitative approach through discourse analysis of documents produced during international climate conferences, including United Nations Climate Change Conferences, as well as news coverage concerning populations displaced from their home countries by climate disasters. The study identifies a significant gap in existing international policy: there is no broadly accepted operational definition of “climate refugeeism” within international legal agreements or protocols. Without such a definition, climate-displaced persons lack many of the protections and services afforded to legally recognized refugees, while states face no corresponding obligation to receive them.

This paper argues for greater international attention to developing a shared understanding of climate refugeeism and examines how recognition of climate-displaced persons could shape international responsibility, human rights protections, and future U.S. immigration and national security policy.

A3 *Islamic Meaning-making Among Young Omanis: Towards a More Nuanced Missiology of Islam*
Paulo C. Oliveira

For fifty years, missiology has theorized Islam through the binary categories of classical/formal and folk/popular Islam, treating formal Islam (mostly Sunni Islam) as the normative baseline against which Muslim lives are measured. This article questions the adequacy of the framework and points to new directions through qualitative research among Omani emerging adults. Drawing mainly on Shahab Ahmed's reconceptualization of Islam, and informed by emerging adulthood, network society, and Omani cultural autonomy, the article examines how six Omani university students construct Islamic identity within a computer-mediated society. Participants engaged directly with Islamic sources and interpretive resources—the Qur'an, hadith, fatwa literature, and digitally mediated religious discussions—while producing highly personalized meanings shaped by family, culture, digital networks, and self-interests. What the formal/folk binary struggles to accommodate, these participants present as ordinary. The article proposes three missiological reorientations: viewing Islam as a process rather than static categories, the Muslim person as an active hermeneutical agent, and Christian witnessing as meaning-making together. Oman offers a distinct and understudied case for the missiology of Islam in the Arabian Peninsula.

A4 *The Seventh Day at Creation: Celebrating a Fruitful God*
Odiaka Walker[+]

Using the language and structure of Gen 1 and 2, the literary pattern of Gen 2:2-3, and Gen 2:2-3's linguistic connections to Exod 16, 20, and 31, this paper provides evidence that the seventh day at creation was a literal, permanent day of rest and worship with an implied command to celebrate the fruitful Creator. The thesis that Gen 2:2-3 contains an implied command to celebrate God in worship on the weekly seventh-day Sabbath finds biblical and theological support. The repetition of "the seventh day," with God's resting, blessing, and sanctifying of the day, places the seventh day at the center of the creation account and distinguishes it from the preceding six days. The literary pattern of blessing followed by a command in Gen 1:22 and 1:28 provides a significant interpretive framework for understanding the blessing on the seventh day in Gen 2:3. Whereas the first two blessings are followed by explicit commands to be fruitful, the third blessing, directed toward a period of time, contains an implicit summons to celebrate the God whose creative work is richly prolific. The linguistic parallels between Gen 2:1-3 and the Sabbath passages of Exodus 20:8-11 and 31:14-17 further substantiate this interpretation. The explicit Sabbath command in Exodus thus gives verbal expression to an intention already embedded in the creation account. The holy time of the seventh day moves us beyond cessation from work to participation in God's rest, calling humanity to celebrate a fruitful God whose creative works reveal His magnificence and excellence.

Track II: Room 250

B1 *The Relationship Between Faith-Based Resilience and Academic Persis1ence Among Graduate Business Students: A Simple Linear Regression Analysis*
Frank D. Gondwe[+] and Jerry L. Chi

Graduate student attrition represents a persistent challenge in higher education, with rates approaching 40% in many programs. While financial, academic, and social factors have been extensively studied, the role of faith-based resilience as a protective factor remains underexplored. This study examined whether faith-based resilience predicts academic persistence among graduate business students at Andrews University. Primary data were collected from 38 graduate students via an anonymous online survey (IRB Protocol #25-146). Participants completed the Faith-Based Resilience Scale (FBRS, $\alpha = .82$) and Academic Persistence Scale (APS, $\alpha = .78$). Simple linear regression revealed a significant positive relationship ($r = .60$, $p < .001$). Faith-based resilience accounted for 36% of variance in academic persistence ($R^2 = .36$), with each one-unit increase predicting a 0.66-unit increase in persistence. These findings suggest that spiritual resources represent meaningful protective factors influencing graduate student retention.

B2 *Education Access for Single Parents (EASPS)*

Jenny Saravia+

This study develops and preliminarily evaluates a concise instrument to assess perceived barriers to postsecondary education access among single parents. The Education Access for Single Parents Scale (EASPS) contains 12 items addressing childcare and caregiving demands, financial and employment constraints, transportation and digital access, and application or financial-aid navigation. The instrument was administered through Google Forms, and the current pilot dataset includes 24 complete responses. Principal component analysis (PCA) with Varimax rotation was used to explore the scale's underlying structure. Five components had eigenvalues greater than 1 and together explained 97.65% of the variance. Item communalities were high (approximately .93 to 1.00), but the correlation matrix was not positive definite and several items cross-loaded, indicating substantial overlap among items. These findings should therefore be viewed as preliminary, especially given the small pilot sample. EASPS may help identify which practical, financial, caregiving, and administrative barriers are most likely to interfere with single parents' access to postsecondary education and can guide future scale refinement and support-program design.

B3 *Assessing School WASH Performance in Madagascar: Management, Governance, and Stakeholder Incentives*

Joel Raveloharimisy

Despite substantial government and donor investments in School Water, Sanitation, and Hygiene (WASH) programs, many schools in Madagascar continue to experience inadequate services and limited outcomes. This study assesses the effectiveness, efficiency, cost-effectiveness, and sustainability of School WASH programs, with particular attention to management, governance, and stakeholder incentives. It examines how financial, human, material, and time resources are allocated and utilized, how institutional arrangements shape service delivery, and whether program outcomes justify the resources invested. The study further investigates how stakeholder roles, interests, accountability mechanisms, coordination, and decision-making processes influence program performance. Using a performance-oriented framework supported by stakeholder and political economy analysis, the research seeks to identify factors that enable or constrain effective implementation. Findings will inform practical recommendations to strengthen management practices, resource utilization, accountability, and decision-making, thereby improving

service delivery, value for money, and the long-term sustainability of School WASH programs in Madagascar across diverse implementation contexts.

B4 *The Bachelor of Social Work (BSW) Journey: Understanding Student Experiences and Commitment to the Program*

Ellen Nogueira Rodrigues[+], Shannon Trecartin, and Kiersten Leitnerk[+]

Existing research extensively examines how instructional delivery methods – such as online and face-to-face instructional formats – impact student retention and the unique stressors Bachelor of Social Work (BSW) students encounter during their initial year in the program. However, little attention has been paid to how students' experiences within the BSW program either sustain or reshape their commitment to this educational pathway. This study addresses this gap by exploring the internal program experiences that shape BSW student persistence. Adopting a qualitative descriptive approach, the study utilized semi-structured interviews to capture the experiences of six BSW students at a private university in the Midwest. Using thematic data analysis, three primary themes emerged: (1) the impact of departmental culture, (2) the power of supportive relationships, and (3) the long-term vision of the profession.

The findings reveal an interplay of environmental, relational, and aspirational aspects that dynamically shape students' commitment to the program. Results indicate that supportive faculty-student relationships serve as a foundational cornerstone, assisting students in navigating concurrent academic pressures and personal life stressors; by extending well beyond traditional academics, these relationships thereby foster deeper integration into the program. Furthermore, the study underscores the critical necessity of implementing a comprehensive, holistic faculty mentorship approach – one that intentionally prioritizes systematic emotional care, cultivates an inclusive and respectful academic ecosystem, and embeds dialogic teaching methods specifically designed to welcome, support, and navigate highly sensitive class discussions. Ultimately, integrated networks of faculty, administrators, and peers effectively bolster institutional commitment by nurturing students' altruistic ideals and long-term career aspirations.

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