



**REGENT
UNIVERSITY**

**Christian Leadership
to Change the World**



**UNDERGRADUATE
RESEARCH
CONFERENCE**

8th Annual Undergraduate Student Research Conference

Regent University, Virginia Beach, Virginia

April 10th, 2026

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Check-In: 8:00 AM – 8:40 AM

All Undergraduate student presenters are required to check in during this time.
Welcome Table: Robertson Hall (RH) Lobby

Session 1 – Oral Presentations: 8:45 AM - 10:00 AM

Session 1, Panel 1: Enzymes, Herbicides, & DNA

RH 103

Moderator: Dr. Tabmitha Jervey

Drosophila Wing-Spot Test for Non-Selective Herbicide RoundUp® and Selective Herbicide Bentazone

Tyler Williams

Effects of Glyphosate in the DNA of Third Instar Female Larvae

Michelle Luhunga

Testing the Importance of Lactase by Making Lactose-Free Milk from Regular Milk: Measuring Enzymatic Activity with UV-Vis Spectrophotometry and FTIR Analysis

Mya Mann

Session 1, Panel 2: Chemical Impacts on Life Processes

RH 105

Moderator: Dr. Rostern Tembo

Effects of Psychoactive Drugs on Zebra Fish (Danio Rerio) Larvae and Their Implications

Michael McCartney

Effect of Temperature and pH on Catalase Activity in Corn, Potato, and Catalase Suspension

Tafadzwa Churumanzi

Investigating Environmental Compounds Combative Capabilities Against Breast Cancer

Drew Thomas

Session 1, Panel 3: Biblical Interpretation, Sanctification, & The Atonement

RH 106

Moderator: Dr. Tyler Sherron

The Sacred Penalty: How Our View of Atonement Shapes Our View of Christ

Hannah Brewer

Interpretation of Acts 16:25-34

Peyton Bates

Excel Still More: Sanctification as God's Will in 1 Thessalonians 4:1-8

Ralph Weikel

Session 1, Panel 4: Redemptive Storytelling & Writing

RH 107

Moderator: Dr. Pete Fraser

The Power of Storytelling: Why Narrative Drives Everything We Communicate

Ian Grammer

Healing Student Trauma Through Writing

Kate Hurley

Feeding a Hungry World

Elle Herson

Session 1, Panel 5: Leadership & Entrepreneurship

RH 114

Moderator: Prof. Olga Moseley

Defining Entrepreneurship: Academia v. Experience

Nathan Bunn & Stephen Byrnes

Consumer Insight Report: Regent University Student Clubs

Alexandra Wilkinson

God-Centered Leadership in a Secular World: What David Green Teaches Modern Leaders

Makiyah Justice

Session 1, Panel 6: Gender, Virtue, & Cultural Critique

RH 201

Moderator: Dr. Jon Thompson

Epidemic Niceness: A Modern Dilution of Morality

Rebecca McCord

Complementarian Influence on Evangelical Gender Roles

Lillianna Eisinger

The Mirage of Modern Feminism: The Shift from Complementarianism to Sameness

Hannah Hopkins

Session 1, Panel 7: Mind, Society, & Literary Insight

RH 203

Moderator: Dr. Michael Elam

The Romantic Mean in Goethe's Faust, Flaubert's Madame Bovary, and Dostoevsky's Crime and Punishment

Sydney Lalime

Death-Conditioning and Brave New World: How to Desensitize a Society

Gabrielle York

The Construction of Human Understanding

Matthew Das

Session 1, Panel 8: China, Supply Chains, & Fertility Rates

RH 326

Moderator: Dr. Dan Koev

Friendshoring to Africa to Protect Critical Supply Chains & Regain Influence

Ernest Park

TikTok Usage and Perceptions of China as a Threat: A Quantitative Analysis

Robert Monti

State Fertility Rates and IVF

Faith Rodriguez

Session 1, Panel 9: Physical, Psychological, & Spiritual Well-Being

RH 101

Moderator: Dr. Dominick Hankle

Abortion Outcomes, Guilt and Shame, and Subsequent Intended Pregnancy: A Longitudinal Study

Stephanie Williams

The Benefits of Short-Term Water-Only Fasting

Naomi Palmieri

How Programmers Make Edifying Applications

Spencer Kotrosa

Poster Session: 10:05 AM – 10:50 AM

Robertson Hall Lobby & 1st Floor East Hallway

Effective Methods to Resolve Common Problems in Software Engineering

Jaden Abbott

Soldiers of Christ

Brent Bailey

Navigating the NICU as a Family

Samantha Bodnar

A Critique of Convertibility: Beauty as an Outlier

Christiana Brooks

An Analysis and Comparison of Recent Tariffs

Nathaniel Brummond

Implications of PTSD in “The Shout”

Sydney Carreno

Reproductive Toxicity of Roundup Herbicide Exposure in Male Albino Rat

Cara Duvall

No Such Thing as a Child: Ecological Continuity and Social Orientation in Middle Aged Foster Children

Elizabeth Fisher

Characteristics of P. Aeruginosa and How They Relate to Pathogenicity

Annelise Goodson

The Effects of Glyphosate-Based Herbicide on 14 Gill Proteins in the Guppy Fish

Kaylee Hawkins

CBT as Possible Treatment Modality for Rapid-Onset Tics

Cheyenne Hoover

Criminological Theories of Literature

Ian Oldham

Women, Motherhood, and the Imago Dei

Kayla Spruill

The Doctrinal Statement

Shalom Williams

Keynote Speaker Presentation: 11:00 AM – 12:00 PM

Moot Courtroom - Robertson Hall 111

Dr. Terry Lindvall

“Research as Autobiography: A Study of C. S. Lewis, Levity, and Laughter”

Dr. Terry Lindvall, C. S. Lewis Chair of Communication and Christian Thought at Virginia Wesleyan (Batten) University, is one of the seven original faculty members of Regent University. He has published over fifteen books on C. S. Lewis, religious humor and satire, and film and theology.

Lunch & Panel Discussion: 12:15 PM – 1:30 PM

Library Atrium, 2nd Floor Library

Lunch Provided for Undergraduate Presenters and CAS Faculty

***Please note: Conference badge required for lunch.**

During lunch we will hold a panel discussion with the following researchers from right here on our Regent campus:

- Dr. John-Paul Lotz, Associate Professor, School of Divinity
- Dr. Stephen Perry, Professor, School of Communication & the Arts
- Dr. Tabmitha Jervey, Assistant Professor, College of Arts & Sciences
- Dr. Dan Koev, Professor, College of Arts & Sciences
- Moderator: Dr. Jon Thompson, Assistant Professor, College of Arts & Sciences

Research EXPO: 1:40 PM – 2:25 PM

Robertson Hall 1st Floor Lobby

Please stop by the information tables and speak with researchers and publishers who are right here on our Regent campus, including:

- The Regent Library
- *Journal for Renewal Theology*
- The Scholar's Consortium – *Patriot's Dispatch*
- The Scholar's Consortium – *The Initiative*
- *Journal of Biblical Perspectives in Leadership*
- Eden's Lantern
- Dr. Brian Baugus, Associate Professor of Economics, College of Arts & Sciences
- Dr. William Reddinger, Associate Professor of Government, College of Arts & Sciences

- Dr. William Skiles, Associate Professor of General Education, College of Arts & Sciences
- Dr. Rostern Tembo, Associate Professor of Science, College of Arts & Sciences
- Michelle Braud, Doctoral Student, School of Divinity
- Pierre Armel Kono Minkoulou, Doctoral Student, School of Business & Leadership

Session 2 – Oral Presentations: 2:30 PM - 3:45 PM

Session 2, Panel 1: Biomedical, Forensic, & Genetic Research

RH 105

Moderator: Dr. Patricia Lutz

Early Infection Detection in Wounds: A Temperature and pH-Responsive Hydrogel Bandage
Cara Duvall

The Forensic Analysis of Hair Throughout Time After Exposure to UV Radiation
Kaylee Hawkins

The Effect of Taheebo Bark-Infused Meal Prep on Male Drosophila Melanogaster DNA from Third Instar Larvae and Adult Fly When Diet Includes Glyphosate
Rivkah Goodall

Session 2, Panel 2: Guilt & The Atonement

RH 113

Moderator: Dr. Tom Keiser

The Book of Guilt
Shalom Williams

Pierced for Our Transgressions: Isaiah 53 and the Case for Penal Substitutionary Atonement
Margaret Cox

Session 2, Panel 3: Psychology & Cognition

RH 114

Moderator: Dr. Daniel Hitchcock

Christina Brooks

Psychological Impact on Siblings of Children with High-Intensity Support Needs

Mood-Congruence and Free Will

Faith Moraga & Noah Carpenter

Alchemy and Artificial Intelligence: Confronting Singularity

David Banica

Session 2, Panel 4: Identity, Virtue, & Truth in Human Interaction

RH 116

Moderator: Dr. Eric Jones

Identity's Origin: The Formation of the Subjective and Objective Self

Kate Yanov

Reordering Empathy: Recovering the Theological Foundation of the Virtues

Mackenzie Beckworth

The Crisis of Comfort in the Digital Age: Truth Over Discomfort in Interpersonal Communication

Elizabeth Fisher

Session 2, Panel 5: The Christian Worldview & AI in Law Enforcement

RH 205

Moderator: Prof. Steve Webb

Criminology Theories from the Christian Worldview: Biological Positivism and Classical Theory

Sydney Carreno

Artificial Intelligence Integration in Law Enforcement

Ian Oldham

[Meet & Greet with Dr. Lindvall for Student Presenters 4:00 PM to 4:45 PM on the 77 Coffeehouse Patio](#)

Presentation Abstracts

Jaden Abbott

Effective Methods to Resolve Common Problems in Software Engineering

Software development is an inherently complex process requiring careful coordination and planning between many different groups to create a successful, stable product. Even with a strong attention to detail, many organizations fall into the same pitfalls that harm the development lifecycle and impact the stability and effectiveness of the software. The purpose of this poster will be to briefly highlight what these common problems are and provide research, as well as a case example, demonstrating what methods organizations can employ to effectively mitigate the impact of these issues. Some of the problems organizations face in software development are insufficient testing, unclear project scopes, lack of communication, and misaligned expectations. To resolve these common issues, organizations can employ agile methodologies, invest in continuous testing and code reviews, communicate through project management tools, and utilize skilled developers for critical project phases. As an illustration of how these solutions can be properly implemented, a case example will be presented. In this case example, an organization is tasked with developing a computerized database system to keep track of registration information for a summer camp program that runs every year. This poster will provide the proposal given to the software development team and outline the full process of how the organization should intake the proposal and the process they should follow to create a satisfactory product for the client.

Brent Bailey

Soldiers of Christ

1 Timothy 3:1-16. These verses are united into one main subject: the mystery of godliness. Elders, deacons, and the church of God at large are to exude Paul's listed characteristics of being temperate, respectable, gentle, dignified, monogamous, and of clear conscience, not a drunkard or a gossip. These characteristics are the evidence of godliness within, which amplify the credibility of the church, its leaders, and the assurance of pure faith and salvation before God. Christ remains the center of the church; thus, the church marches forward in salvation as they sincerely proclaim the Gospel. Next, three churches from different denominations are chosen, examined, and compared with 1 Timothy 3:1-16. More specifically, each church will be compared and contrasted with 1 Timothy 3:2, 8-11 with the stance of women in ministry. Each church has women in ministry, but they understand 1 Timothy 3 differently. Finally, practical advice will be given on how to live out these 1 Timothy qualifications today's environment, whether it be choosing church leaders or personal piety. The entire church is called to these qualifications, especially its leaders.

David Banica

Alchemy and Artificial Intelligence: Confronting Singularity

During the Italian Renaissance, many heterodox spiritual and religious practices were pursued as part of a greater "quest for truth". Before the Enlightenment, and subsequently the advent of modernity, the lines that exist today when we speak of the supernatural and scientific worlds in culture and academia were nonexistent. Certainly, their forms were there, and much of the definitive religious skepticism of the Enlightenment was based on the ideas and concepts propagated by Renaissance luminaries. However, the object of this study is not to recapitulate arguments on the divorce of science and religion, but rather to focus on those religious phenomena that persist in the advent of artificial intelligence. The concept of sacred and profane knowledge is key to understanding the thrust of this paper. The definitions of "sacred and profane" that will be used in this paper come from terminology established by the historian of religions, Mircea Eliade. The end goal of this paper is both an exposition and a call to arms; Christian metaphysics must rise to the spiritual challenge that artificial intelligence poses to Christian eschatology.

Peyton Bates

Interpretation of Acts 16:25-34

My paper examines and interprets Acts 16:25-34 by discussing the context and history surrounding this passage, as well as the meaning of each verse. Particular focus is given to the narrative events of Paul's imprisonment-- Paul and Silas' praising God, an earthquake, the jailer's suicide attempt, his subsequent desire to be saved, the salvation of himself and his family, and fellowship that follows. The major emphasis of this passage is the salvation of a gentile and his family. Theological truths will also be explained derived from the passage—Luke's salvific purpose for Jews and Gentiles, the Holy Spirit works through miracles, and the experiences of the local church: worship, prayer, persecution, and fellowship. A correct understanding of the passage motivates believers to share the gospel, worship in difficult times, and most importantly, obey God.

Mackenzie Beckworth

Reordering Empathy and Reclaiming the Cardinal Virtues

*In this work, I will argue that contemporary culture's emphasis on empathy undermines the classical cardinal virtues, which are meant to be shaped by the theological virtues and directed toward God. I will be observing this phenomenon in the context of church communities, particularly within youth discipleships. This modern elevation of empathy is becoming a vice in church leadership, where passive and selective affirmation giving are substituted for rightly ordered virtues and formative guidance. Disordered empathy is arguably one of the main reasons for moral relativism, avoidance of accountability, ethical policing, fragmented community, and, over time, deconstruction in the church among young people. This work seeks to recover the neglected cardinal virtues by engaging classical accounts such as Augustine's *ordo amoris*. Recognizing the theological virtues as the highest virtues will place empathy where it is supposed to be: in accordance with our love of God and people. This is so that church leaders are empowered to properly sustain responsibility and young mentees are enabled to trust in and flourish under church leadership.*

Samantha Bodnar

Navigating the NICU as a Family

The transition to parenthood is a special time in a couple's life that is often full of change as well as excitement. Although this transition can be further complicated when a couple's baby needs additional medical attention that can only be provided by the Neonatal Intensive Care Unit (NICU). The NICU environment is often not conducive to parents connecting with their baby, which can negatively impact family bonding. Research has shown that not only can the mother and father of the baby be negatively impacted by the NICU experience, but their relationship with each other and their baby also be negatively affected. These experiences can make it a lot more challenging for families to cope with their transition into parenthood. However, it has been shown that these effects can be minimized by NICU healthcare providers using approaches such as Family Centered Care and Family Integrated Care, and clinical tools such as Chatting. Through these resources, not only will the baby be able to receive the medical care they need, but the baby's family will also be able to receive the support they need to cope with the NICU environment and flourish as a family after discharge.

Hannah Brewer

The Sacred Penalty: How Our View of Atonement Shapes Our View of Christ

Atonement is a core doctrine that bases our understanding of Christ and our relationship with him. Through this project, I work to exegete specific passages highlighting penal substitutionary atonement (PSA), such as Romans 3:25-26, Isaiah 53, and Galatians 3:10-24, while also presenting scholars' arguments on penal substitutionary atonement, human agency, and divine sovereignty, and ending with the theological implications for the modern Christian. The doctrine of PSA is shaped by the fact that the wages of sin is death (Romans 6:23) and that Jesus died for the sins of many (Hebrews 9:28). Through this project, I seek to examine the theory of penal substitutionary atonement (PSA) through the lenses of human agency and divine sovereignty, both within Christ and mankind. I seek to present an answer to the question of the role of human agency and divine sovereignty as it fits within atonement. Both human agency and divine sovereignty are meant to be held in tension within our

understanding of atonement to see the fullness of Christ's character and live our lives through the fullness of the freedom of the cross. Understanding atonement is deeply important for every Christian because it is the heart of the Gospel and shapes our view of and relationship with Christ.

Christina Brooks

A Critique of Convertibility: Beauty as an Outlier

This paper examines the classical idea of the convertibility of the transcendentals, truth, goodness, and beauty, through critical engagement with the ideas of Plotinus, Aquinas, and Scruton. By highlighting how beauty seems functionally different than the others, the goal of this project is to challenge the view that truth, goodness, and beauty are interchangeable. While the convertibility thesis maintains that these transcendentals are coextensive with being and therefore unified, this project argues that beauty operates asymmetrically in relation to truth and goodness within finite human cognition and moral life. The central claim is not that metaphysical unity is false, but that beauty does not function as an equally necessary or universally predicable aspect of being in ordinary human experience. The project analyzes differences in how each transcendental is experienced and evaluated. Truth and goodness seem to exert immediate ethical and rational demands, whereas beauty often appears as an enhancement or guide. This functional asymmetry raises questions about whether beauty shares the same transcendental status in practice, even when its unity with being is affirmed through intentional reflection.

Christina Brooks

Psychological Impact on Siblings of Children with High-Intensity Support Needs

Siblings of individuals with high-intensity support needs, including developmental disabilities, medical disorders, and genetic disorders, show evidence of elevated emotional burden and significant psychological impact. Existing research suggests increased risk for internalizing symptoms, social withdrawal, and parentification; however, findings remain inconsistent. Past studies cover wide age ranges, which could obscure the developmental significance of specific life stages. The present study proposes to examine psychological adjustment among children aged 6-11 years who have a sibling with high support needs compared to peers with typically developing siblings. Guided by developmental and family systems perspectives, the study will assess emotional and behavioral functioning using standardized instruments. These instruments will be completed by the parents, as children at this developmental stage are unable to adequately respond. By employing a comparison-group design and focusing on a developmentally sensitive period, this project aims to clarify whether sibling-related adjustment differences emerge early in life. Understanding these patterns has important implications for identifying siblings at risk and informing prevention and intervention efforts, particularly within the family. This work contributes to the growing literature on sibling adjustment by emphasizing developmental timing and group comparison.

Nathaniel Brummund

An Analysis and Comparison of Recent Tariffs

Tariffs are an economic tool countries can use to shape international trade by raising the cost to import international goods. There are many different types of tariffs with multiple different applications. In 2025 President Trump announced a series of tariffs that affected every country in the world, falling into three categories. This research examined these three general categories Trump's tariffs fell into: protective tariffs, reciprocal tariffs, and punitive tariffs. First, Trump instituted tariffs on imports that were threatening national security, protecting American interests. Second, Trump's reciprocal tariffs significantly reduced America's overall trade deficit. Finally, Trump's punitive tariffs aimed to reduce the flow of illegal drugs and migrants at the southern border, although their efficacy in this matter is hard to estimate, given the complicated nature of the situation. This paper explores the intended versus actual economic impact of the examined tariffs and provides practical policy and strategy analysis and discussion.

Nathan Bunn & Stephen Byrnes

Defining Entrepreneurship: Academia v. Experience

There are many conflicting definitions of entrepreneurship within the business atmosphere. Most affirm that, generally, an entrepreneur recognizes a need and meets it through business practices, creating value through innovation while taking on substantial risk. We collected data by interviewing both business professors and business-owning entrepreneurs, asking them ten questions which were designed to find a definition of an entrepreneur, establish its most essential aspects, and determine what moral or ethical obligations they may have. We hypothesized that business academics would define entrepreneurship using more theoretical constructs such as innovation, value creation, and risk orientation. Business owners, on the other hand, would frame entrepreneurship through practical perspectives rooted in lived experience. Through our primary research, we found the biggest differences lie within the moral obligations entrepreneurs have toward their community, and whether that is social in nature or a by-product of job creation. We also found that definitions of value and moral obligation varied by individual. While common themes included giving back to the community, creating opportunities, and contributing positively to others, the concept of “value” itself was often loosely defined and rarely grounded in clear theoretical frameworks or explicit references in either the academics’ or business owners’ responses.

Sydney Carreno

Criminology Theories from the Christian Worldview: Biological Positivism and Classical Theory

Two of the main criminology theories are classical theory and biological theory (García-Mendoza et al., 2024). Beccaria and Bentham, and Lombroso are the biggest proponents of these two theories respectively. Classical theory follows utilitarian reasoning, or the idea that people choose to act according to pleasure and pain (Shulka & Savita, 2024; Geis, 1955). Biological positivist theory states that criminality is inherent to the individual (Joshi, 2022). These diametrically opposed theories agree on one principle: crime can be solved (Webb, 2025a). The Christian worldview, however, says that crime cannot be solved now, but will be in eternity (Webb, 2025a; Colson, 2001). While there is overlap with the Christian worldview, neither classical nor biological positivist theory acknowledge sin as the grander cause of crime (Webb, 2025a). Additionally, the American criminal justice system does use classical theory as its philosophical structure (Hagan & Daigle, 2024; Seeds, 2019). This reality displays a dissonance American Christians must deal with in the field but also highlights an opportunity for Christians to recognize similarities and differences in order to participate within the system effectively (Hagan & Daigle, 2024; Seeds, 2019)

Sydney Carreno

Implications of PTSD in “The Shout”

In “The Shout”, Simon Armitage presents an account of a speaker and a boy the speaker knew during his youth. Towards the end of the poem, the story shifts from the tale of a childhood memory to the abrupt death of the boy as an adult. The speaker's retelling of the memory, and the abruptness into the present moment points to an underlying impact of trauma to the speaker's psyche. Further, the speaker's distress at the end of the poem and inability to remember the boy's name or face throughout the poem also points to PTSD in the speaker. By viewing Armitage's story through a psychological lens, specifically drawing upon the concepts of trauma and PTSD, the experience of the speaker can be understood more clearly and fully. While this is not a diagnosis of the speaker, the specific features of PTSD seen in the poem include feelings of guilt, anger, shame or fear; flashback or intrusive memories; and the inability to recall central details about the traumatic event (Hankle, slide 13; National Institute of Mental Health).

Noah Carpenter & Faith Moraga

Mood-Congruence and Free Will

Positive correlation between emotionally valent stimuli and a corresponding improved measure of memory accuracy and accessibility for these materials is widely recognized in the field of psychology's study on emotion and memory. Emotional valence exerts its influence on memory through two prominent phenomena: mood-

dependent retrieval and mood-congruent perception. Mood-dependent retrieval is evident when the positive or negative emotional affect of an individual is congruent with the emotional affect of the memories prominently available for recall. Mood-congruent perception details the measure of an individual's current emotional valence as a lens that biases how previously encoded memories are perceived according to the concurrent emotional valence. Experiments conducted within this area of study encapsulate the degree of influence that an individual's mood may have on corresponding perceptions, judgements, and actions. However, the functions of these studies leave room for a greater level of understanding regarding the capacity for free will and choice to defy our biological tendencies to conduct our perceptions, judgements, and actions in consistent alignment with our mood to instead choose to perceive, judge, and act in congruence with the character of God we are called to embody as believers.

Margaret Cox

Pierced for Our Transgressions: Isaiah 53 and the Case for Penal Substitutionary Atonement

Amid ongoing debate concerning theories of atonement, particularly in dialogue with scholars such as J. I. Packer and Oliver Crisp, as well as critics who question the biblical grounding of Penal Substitutionary Atonement (PSA), this paper argues that PSA is exegetically grounded in Isaiah 53. While Packer famously articulated a robust theological defense of penal substitution and Crisp has offered clear refinement, dissenting voices—such as N. T. Wright—have raised concerns regarding its exegetical and theological foundations. To engage this conversation, the study asserts that Isaiah 53 presents a comprehensive vision of substitutionary, penal, and sacrificial atonement. Through close literary and theological analysis, this paper demonstrates that the passage employs explicit vicarious language, judicial terminology, and ceremonial imagery to describe the Servant's suffering on behalf of others. Attention to key terms, structural features, and canonical context reinforces the penal and substitutionary extent of the Servant's work. The study concludes that Isaiah 53, along with supporting verses, provides substantial exegetical support for understanding the Servant's atoning work in alignment with PSA.

Tafadzwa Churumanzi

Effect of Temperature and pH on Catalase Activity in Corn, Potato, and Catalase Suspension

For this study, I examined how temperature and pH influence catalase activity in potato tissue, purified catalase suspension, and corn seedlings. Catalase is a widely distributed enzyme found in plants, animals, and microorganisms. It plays a critical role in cellular protection by converting hydrogen peroxide, a toxic byproduct of metabolism, into water and oxygen. Because hydrogen peroxide can damage cells, changes in catalase activity reflect how organisms respond to environmental stress. Catalase activity was determined by measuring oxygen production over 300 seconds using a Vernier O₂ Gas Sensor connected to LabQuest. Potato tissue was tested at 4 °C, 24 °C, and 62 °C. For pH trials, samples were treated with acetic acid (pH 3) for acidic conditions and sodium hydroxide (pH 11) for basic conditions before reaction with hydrogen peroxide. Purified catalase suspension was tested across temperatures of 0–5 °C, 20–25 °C, 30–35 °C, and 50–55 °C. Corn genotypes (dwarf, green albino, and candy-striped) were grown for 14 days under light and dark conditions prior to enzyme extraction. Catalase activity was highest at moderate temperatures and lowest at extreme temperatures. Activity increased under basic conditions (pH 11) and decreased under acidic conditions (pH 3). I hypothesized, green corn seedlings grown in light produced the highest activity, while pigment-deficient and etiolated seedlings showed reduced activity.

Matthew Das

The Construction of Human Understanding

This paper examines competing accounts of human understanding in John Locke, G.W. Leibniz, and modern psychology, with particular attention to perception, consciousness, and language. Locke's empiricist framework rejects innate ideas and maintains that all knowledge arises from sensation and reflection. For Locke, the mind begins as a tabula rasa, gradually forming complex ideas from simple sensory inputs, with language developing alongside this experiential process. Leibniz responds critically to Locke by rejecting the blank-slate model and proposing instead that the mind contains innate predispositions or processes. Using his metaphysics of monads, Leibniz argues that perception and apperception operate at varying levels of clarity. While he denies fully formed

innate ideas, Leibniz maintains that the mind has inherent structures that organize experience and enable learning, particularly in language acquisition. The paper then situates this Enlightenment debate within the context of modern psychology. Behaviorism, exemplified by John B. Watson, echoes Locke's empiricism by emphasizing environmental conditioning, whereas nativist and cognitive approaches—seen in William James, Jean Piaget, and Noam Chomsky—support Leibniz's emphasis on innate processes. Contemporary research in cognitive psychology and linguistics increasingly corroborates Leibniz's position, suggesting that while experience is essential, it is mediated by pre-existing cognitive structures. The paper concludes that Leibniz offers a more plausible and enduring account of human understanding in light of modern psychological findings.

Cara Duvall

Early Infection Detection in Wounds: A Temperature and pH-Responsive Hydrogel Bandage

Infected wounds have been a huge problem worldwide. This hydrogel bandage made with agarose, glycerin, and gelatin retains moisture for wound healing, and is also able to conform to any wound on the body. By using a dual sensor method—one half sensing temperature of the wound with a micro encapsulated leuco dye, and the other half sensing pH with bromothymol blue— this hydrogel will be able to catch the early signs of infection, indicated by color changes in the bandage itself.

Cara Duvall

Reproductive Toxicity of Roundup Herbicide Exposure in Male Albino Rat

This poster will be an overview of someone else's research: the increase in infertility in humans with an increased use of Roundup, a glyphosate-based herbicide and its residues on food that we consume. This Study overviews 32 albino male rats, a great model organism, randomized into 4 groups of 8 rats per group who have been orally exposed to Roundup at 3.6 mg/kgbw (body weight), 50.4 mg/kgbw, 248.4 mg/kgbw of glyphosate concentrations over the span of 12 weeks. The control group is given distilled water. When looking for reproductive dysfunction, researchers looked at the serum level of reproductive hormones, oxidative stress indices in testicular tissue, epididymal sperm morphology assessment and testicular histopathology of the rats. The study resulted in a p value of less than 0.05 in reductions of sperm count, percentage motility, and a p value less than 0.05 for an increase in abnormal sperm cells. Severe degenerative testis lesions were found in the exposed rats, showing that Roundup may interfere with fertility and spermatogenesis in human males.

Lillianna Eisinger

Complementarian Influence on Evangelical Gender Roles

This essay provides a brief overview of research concerning variables such as the educational and childhood home environment, career aspirations, and gender role ideology of a young evangelical college woman, and how they inform her experience when presented with the contrasting view of complementarianism. Previous research has indicated how they influence such a woman yet has failed to capture the experience of the discrepancy this situation presents. This research proposes a qualitative research experiment that recreates this disorienting experience, attempting to capture both the experience itself and the meanings each participant creates to either manage or reconcile the conflict of interests. To do so, this study proposes using a script that would first present a general definition of complementarianism and supporting scripture, followed by personal questions that consider the aforementioned variables. The researcher would record the responses, look for emerging patterns, and continue the process until categorical saturation is reached.

Elizabeth Fisher

No Such Thing as a Child: Ecological Continuity and Social Orientation in Middle Aged Foster Children

This research investigates the impact of ecological continuity on the social development of children in foster care during middle childhood (ages 6–10). While much foster care research has focused primarily on behavioral problems, psychopathology, or attachment security, this study conceptualizes ecological stability as a developmental context rather than merely a background factor. Drawing on Bronfenbrenner's ecological

framework, Vygotsky's social engagement theory, and Winnicott's relational environments, the study examines how cumulative ecological stability across placements, schools, and communities supports healthy social approach behaviors. Using a cross-sectional, correlational design, the study incorporates multi-informant data from caseworkers and caregivers. The independent variable is a composite ecological continuity index derived from administrative data, including number of placements, school changes, and continued contact with biological family and siblings. The primary dependent variable is social orientation, operationalized as a social approach using the Strengths and Difficulties Questionnaire Prosocial Behavior subscale and supplementary Child Behavior Checklist social scales. It is hypothesized that higher ecological continuity will be significantly associated with higher levels of social approach. Secondary analyses examine associations between social orientation and emotional and behavioral regulation as related regulatory markers. This study addresses a gap in the literature by framing ecological continuity as a cumulative developmental process influencing social engagement among foster children in non-kinship placements.

Elizabeth Fisher

The Crisis of Comfort in the Digital Age: Truth Over Discomfort in Interpersonal Communication

In a culture characterized by an obsession with comfort and convenience, traditional face-to-face interactions are increasingly replaced by screen-mediated communication and AI driven solutions. This research explores an ethical question: are people individually ethically obligated to engage in communicative inconvenience in order to promote the value of meaningful interpersonal dialogue? This research utilizes Ronald Arnett's theory of dialogic learning as a framework for analyzing communication ethics, rooted in responsiveness and relational responsibility over personal preference or control. From this perspective, the growing tendency to prioritize efficiency and manageability in communication reflects a deeper shift in how individuals relate to one another. As Sherry Turkle observes, digital technologies make it easier to remain "in control," often at the cost of avoiding the demands of genuine conversation. When placed alongside broader concerns about moral formation and expressive individualism, this shift raises questions about how habits of communication shape one's orientation toward truth and toward others as persons. Ultimately, this paper argues that "communicative inconvenience" is not merely a preference but a form of ethical praxis—one that resists the pull of comfort and creates the conditions necessary for authentic dialogue and human encounter.

Ian Grammer

The Power of Storytelling: Why Narrative Drives Everything We Communicate

Storytelling is one of the most powerful tools in human communication, yet its potential is often overlooked in academic and everyday discourse. From the parables of Scripture to the findings of modern psychology, narrative has long served as the primary vehicle through which meaning is created, truth is conveyed, and lives are transformed. This presentation explores the multifaceted role of storytelling across disciplines, drawing from biblical studies, psychology, and communication theory to demonstrate that narrative is not merely a literary device but a fundamental element of how humans understand and engage with the world. Just as God has used story throughout Scripture to reveal truth and connect with humanity, so too are we called to harness the power of narrative in our own communication. By reclaiming storytelling as an essential tool, we can become more effective, impactful, and authentic communicators in every area of life.

Rivkah Goodall

The Effect of Taheebo bark-Infused Meal Prep on Male *Drosophila melanogaster* DNA from Third Instar Larvae and Adult Fly when Diet Includes Glyphosate

*Ready Round-Up is a potent worldwide weedkiller. Its primary ingredient, glyphosate, was found in high amounts in several U.S. crops with high detectable levels of glyphosate upwards of 3000 ppb specifically in oatmeal and oatmeal products. In recent years, the U.S. Environmental Working Group, EWG, has shown glyphosate levels steadily decreasing. The EWG goal is to eradicate the presence of glyphosate in food consumption all together. This study will utilize the model organism *Drosophila melanogaster* (common fruit fly) to assess the effects of residual glyphosate like concentrations in oatmeal on the reproduction of male fruit flies. Fruit flies feed, live, and*

reproduce on the meal provided in laboratory settings and are fed a steady diet containing glyphosate at oatmeal level concentrations. The aim is to test the antioxidant effects of the Taheebo bark on male flies by assessing changes in reproduction of wild-type *Drosophila melanogaster* through developmental stages, particularly male larvae and adult flies. Studies completed in this laboratory, previously, have shown that Taheebo bark infused meal prep increases the development time of eggs, larvae, and pupae in a time dependent manner, but may not result in the increased production of adult flies as compared to the water-only based prep. This study may assist in better understanding the potential impact of residual glyphosate on reproduction.

Annelise Goodson

Characteristics of *P. Aeruginosa* and How They Relate to Pathogenicity

Pseudomonas aeruginosa is a gram negative rod with multi drug resistance (MDR) and a significant ability to adapt to its environment (Wilson & Pandey 2023). It is an opportunistic pathogen that poses a particular risk to immunocompromised individuals (Wilson & Pandey 2023). Most commonly, it affects patients in hospital settings with invasive devices or open wounds from surgery (Wilson & Pandey 2023). It produces a biofilm that is difficult to detect and allows it to attach to surfaces (Wilson & Pandey 2023). The combination of being highly resistant and adaptive, and being common and opportunistic makes *P. aeruginosa* a highly problematic bacteria. The most common infections caused by *P. aeruginosa* are pneumonia, urinary tract infections, bacteremia, and surgical site infections (Reynolds & Kollef 2021). There are several results of the tests performed on *P. aeruginosa* that indicate characteristics of the bacterium that may help in its ability to spread infection and resist treatments. In particular, the gram stain, catalase, SIM, antibiotic resistance, and citrate test, all provide insight into the microbe's pathogenicity. By understanding what causes the bacterium's pathogenicity, preventative measures can be examined to diminish the negative effects of the pathogen on immunocompromised individuals.

Kaylee Hawkins

The Effects of Glyphosate-Based Herbicide on 14 Gill Proteins in the Guppy Fish

For my poster presentation, I will perform an in-depth analysis of the scientific journal article "Proteomic and histopathological response in the gills of *Poecilia reticulata* exposed to glyphosate-based herbicide" by Rocha et al. This work discusses the impact of glyphosate-based herbicide (GBH) on the gills of *Poecilia reticulata*, which are more commonly known as guppy fish. In particular, the authors make mention of 14 gill proteins that are impacted by the exposure of guppy fish to GBH. The authors do not go into detail about the specific impacts and importance of these 14 impacted proteins, however, I think that this is an important subject in the study they conducted. Proteins have a significant impact on the way organisms function, and when they are altered, this can cause significant problems for organisms. This is seen in the research conducted by Rocha et al. as the guppy fish gills experience significant structural damage resulting from exposure to GBH. Because of the importance of this subject, I will be creating a poster that goes in-depth about all 14 proteins mentioned in this article covering their functions and the way they are impacted by exposure to GBH throughout time.

Kaylee Hawkins

The Forensic Analysis of Hair Throughout Time After Exposure to UV Radiation

For my oral presentation, I will be presenting my current research for my senior thesis project. My focus in this project is the examination of how the forensic analysis of human hair is impacted throughout time as a result of sunlight exposure (UV radiation). I will be examining all three hair types (straight, wavy, and curly) to determine if the damage caused is different for different hair types. The forensic analyses I will be conducting include microscopic examination of the hair, FTIR analysis, and mitochondrial DNA extraction. My hypothesis for this project is that prolonged exposure to UV radiation will cause damage to human hair, causing more difficulty in the forensic analysis of the hair as time goes on. In my presentation of my studies, I will discuss the results of each test that I have conducted and what these results indicate about the effects of UV radiation on each hair type as time goes on. These results are important as they have real-world applications for forensic analysis of a piece of evidence commonly found at crime scenes.

Elle Herson

Feeding a Hungry World

This research essay, completed through Research and Academic writing under the direction of Dr. Crews, explores how Christians can effectively tell stories through the performing arts which should have the ultimate goal of leading others to Christ. The performing arts has been highly influenced by a secular mindset, and Christians need to effectively navigate their involvement and impact in this influential area of culture. This work develops and compares the ideas of evangelism and redemption, concluding that purely evangelistic intentions in the creating of art are often ineffective and can lead to a dismissal of Christian thought and practice. This research essay touches on concepts including Christianity and the arts, quality Christian production, evangelism in the arts, and redemptive storytelling. Including personal testimonies from industry professionals, the work focuses around research from reputable theatrical and artistic sources, exploring the main thesis: Christian storytelling should demonstrate redemptive values rather than intend toward evangelism. Redemptive storytelling appeals to pathos, has relevance, and stimulates contemplation.

Hannah Hopkins

The Mirage of Modern Feminism: The Shift from Complementarianism to Sameness

Traditional feminism championed women's equality and suffrage while affirming the intrinsic differences between men and women. In contrast, modern feminism has shifted away from these foundational principles, promoting a notion of sameness that diminishes the individuality of both sexes. While early feminist thought sought to liberate women from sexism and inequality, modern feminist theory increasingly treats gender as interchangeable, downplaying biological sex and advancing the belief that men and women must inhabit nearly identical social roles to achieve "equality." This paper examines the historical and philosophical trajectory of feminist thought, tracing its development from medieval and Enlightenment writers to the major waves of feminist activism. It argues that traditional feminism emerged from a framework grounded in natural law reasoning, moral philosophy, and complementarian ideals. In contrast, modern feminism has become shaped by relativism, individual autonomy, and the pursuit of sameness. By analyzing the philosophical influences and cultural shifts that redefined the movement, this study contends that the transition from complementarity to interchangeability has generated a sense of distortion and imbalance in contemporary culture. Ultimately, this paper demonstrates that recovering a vision of equality rooted in distinct yet complementary strengths offers a more coherent foundation for human flourishing.

Cheyenne Hoover

CBT as Possible Treatment Modality for Rapid-Onset Tics

Rapid-onset tics have become a problem, especially for adolescent and young adult girls, since 2020. Tics involving self-injurious behavior (SIB) are something that many have with rapid-onset tic disorders face. One of the main treatments for any sort of ticking disorder including rapid-onset is currently cognitive behavioral intervention training (CBIT), which includes habit reversal therapy (HRT). CBIT is often used as it tends to be effective treating for chronic ticking disorders. CBT in treating rapid-onset tic disorders has not been explored. This study's goal is to see if CBT is a potential treatment for rapid-onset tics. Its null hypothesis is that CBT will be not be statistically significantly more effective in reducing SIB tics when compared to CBIT. Its alternative hypothesis is that CBT will be statistically significantly more effective at reducing SIB tics than CBIT. It will test these hypotheses by randomly assigning 60 total participants (n=60) There will be 30 participants to two groups. The first group will contain 30 participants receiving CBIT, while the second group will consist of 30 participants receiving CBT. Each group will receive 10 sessions of their designated treatment modality. Inclusion criteria are as follows: participants must have rapid-onset tics that have been present for at least 6 months, and are not taking any psychiatric medication. Participants will be administered the SIBS-T test, a self-report scale measuring the frequency and intensity of SIB tics, before treatment begins and at the conclusion of treatment (Szejko et al., 2024). A t-test will be done on the resulting data to whether the null hypothesis can be rejected. This project is important because little research has been done on the treatment of rapid-onset tics as it is a new phenomenon. If CBT is a viable treatment option, it would be more accessible than CBIT to many people, as most LMFTs and LPCs are trained in CBT increasing the care options for those with rapid-onset tics, especially in smaller cities.

Kate Hurley

Healing Student Trauma Through Writing

This project addresses the need for accessible therapy alternatives for adolescents who have experienced Adverse Childhood Experiences (ACEs). ACEs are traumatic experiences that occur during adolescence that can cause long-term mental and physical health issues if not dealt with properly. Because of the growing wait times to see therapists and the decreasing number of practices that accept insurance, students face barriers to formal therapy and need another solution. The goal of this project was to research and design creative writing prompts as a possible resource specifically for schools to provide their students, and the accompanying paper expounds upon the scientific backing for how each type of writing might practically help students in various situations according to how trauma affects the brain. These prompts form a short workbook, but can be handed out individually, and are created for the student to complete at their own pace. After completion, the student may choose to follow up with a school counselor or therapist, and even if they have the same hurdles as before, they have at least started processing and healing from what they experienced. Although these prompts have yet to be tested on a control group, slightly altered prompts were successfully used in the University of Massachusetts Amherst writing lab in late fall of 2024.

Makiyah Justice

God-Centered Leadership in a Secular World: What David Green Teaches Modern Leaders

Different leadership communication styles are often compared and contrasted to increase understanding about how to best lead teams and organizations. However, the facets of the transformational leadership style are not as often analyzed. The focus of this paper is to analyze David Green's (the founder and CEO of Hobby Lobby) transformational leadership and compare his methods with those of a secular leader to draw further insight. To do so, this paper utilizes scholarly sources to examine the application of transformational leadership theory, provide a Biblical perspective on this leadership style, and provide practical applications for leaders. Key findings of this paper include the following: Green exemplifies the servant facet of transformational leadership; this approach to transformational leadership is proven to be more effective than a secular, utilitarian approach; and an emphasis on humility creates a company culture that fosters innovation. These findings provide valuable practical applications that Christian leaders can glean from to foster long-term success. This research contributes a demonstration of how Biblical values can strengthen transformational leadership communication.

Spencer Kotrosa

How Programmers Make Edifying Applications

Americans spend over five hours per day on mobile devices, and that leads us to the question, can digital engagement contribute to spiritual growth? This research paper explores how programmers intentionally design Christian applications to lead towards biblical edification, defined as the progressive advancement of believers in knowledge and holiness. While integrating theological definitions of edification with principles of software development, this study examines how design decisions shape spiritual outcomes. Case studies of YouVersion, Glorify, and The Chosen are used to illustrate distinct yet effective approaches to edifying design, including habit formation through notifications and streaks, contemplative devotional practices, and donor-funded storytelling that removes commercial friction. Survey data further reveal that while many users desire spiritual growth and own Christian apps, sustained engagement depends largely on intentional design rather than user motivation alone. The findings suggest that edifying applications emerge when our Christian purpose guides design choices. For Christian developers, software development can be a form of ministry where coding, interface, and engagement plans intersect with biblical discipleship, transforming screen time into an opportunity for participation in the Great Commission.

Sydney Lalime

The Romantic Mean in Goethe's *Faust*, Flaubert's *Madame Bovary*, and Dostoevsky's *Crime and Punishment*

In this paper, I hypothesize that there is an ideal Romantic mean between excessive Romanticism and excessive Rationalism. I further posit that this mean or ideal form of Romance is characterized by selflessness. In order to

prove the validity of this theory, I outline the various forms of Romance present in three distinct classic works of literature: Gustave Flaubert's Madame Bovary, Dostoevsky's Crime and Punishment, and Goethe's Faust. Despite being vastly different works, a defining thread of Romanticism runs through each novel. Facets of each individual work showcase both the dangers of excessive rationalism and excessive Romanticism, thus hinting at the importance of a mean between these extremes. In Flaubert's Madame Bovary, the dangers of Romantic excess are clearly shown through the protagonist of Emma, who destroys family and life in the pursuit of her ideal. Similarly, I explore the ruinous consequences of Faust's inherently Romantic desire for all knowledge. However, Dostoevsky's Crime and Punishment most clearly conveys the idea that the ideal form of Romance is characterized by selflessness. This take on Romanticism as being something akin to a virtue situated between two vices has the potential to answer wholesale criticisms of Romanticism.

Michelle Luhunga

Effects of Glyphosate in the DNA of Third Instar Female Larvae

*Since 1974, over 8 billion kilograms of Glyphosate active ingredient compounds have been used on crops worldwide, in pre and post emergent practices, with 19% of that being used in the United States. Both U.S agencies and various journal articles disagree on Glyphosate's ability to induce mutations and cause cancer, resulting from a mutation in or damage to the DNA of host cells. The goal of this study was to test for Glyphosate induced DNA damage in the development of *Drosophila melanogaster*. DNA damage experiments have been previously done in plant root nuclei and results showed significant level of DNA damage occurring in plant nuclei after 14 days of exposure to 2% Roundup. Similar experiments in animal cells allow for optimizing the methodology for further assessment of glyphosate impact on fruit fly reproduction in a concurrent study. Flies are usually morgued (anesthetized and processed out), however, in this study, experiments will be extended to evaluate the state of DNA in flies exposed to glyphosate versus no-glyphosate. In previous experiments, fifty to one-hundred flies were processed for the isolation of DNA, exposure to fluorescence or staining (ethidium bromide), followed by the DNA run on low-melt agarose gel electrophoresis, and damage determined via fluorescent microscopy. In this study, third instar female larvae will be harvested and assessed via Comet Assay. If fruit fly reproduction is compromised by glyphosate presence in the meal, and DNA is found to be compromised in ss or ds breaks, then, the detection of DNA damage via Comet Assay may further substantiate glyphosate effects observed in *Drosophila* developmental stages.*

Mya Mann

Testing the Importance of Lactase by Making Lactose-Free Milk from Regular Milk: Measuring Enzymatic Activity with UV-Vis Spectrophotometry and FTIR Analysis

Over 60% of the world's population has lactose intolerance, expressing symptoms of gastrointestinal discomfort. This is caused by the small intestine's difficulty to break down the lactose sugar. With the help of an enzyme called lactase, lactose can be broken down for easy digestion. This research experiment will measure the glucose concentrations of milk samples to observe how lactase breaks lactose down into glucose and galactose. The anticipation of this research is to measure an increase in glucose concentrations as lactase is added to whole milk. Alongside the concentration measurements, UV-Vis spectrophotometry and FTIR analysis will be conducted to compare the chemical properties with store-bought lactose-free milk. The significance of this research is to show how important it is for people with lactose intolerance to include lactase when consuming dairy products. Lactase provides relief of digestive discomforts and allows an ease for lactose sugars to break down into its monosaccharide components.

Michael McCartney

Effects of Psychoactive Drugs on Zebra Fish (*Danio Rerio*) Larvae and Their Implications

*Psychoactive substances such as alcohol, nicotine, and caffeine are used by humans across the globe daily. Despite the effects of these substances being different and on varying levels, they affect our behavior and neural signaling. This study will test how acute exposure to caffeine, nicotine, and ethanol affects the locomotive activity of Zebra fish (*Danio rerio*). The ethanol should decrease their activity, while nicotine and caffeine should greatly*

increase it. To test this theory, Zebra fish embryos will be cultivated in a controlled laboratory setting using larvae/egg medium. Then, five days post-fertilization, they will hatch and be fully neurologically functional. Their consistent swimming ability will demonstrate this. From there, they will be assigned randomly to either the control group or one of the substances, where they will be tested with sublethal doses in short intervals. Their locomotor activity will be recorded, including their distance traveled, average speed, and time spent active or not. This study emphasizes the importance of zebrafish larvae as a translatable vertebrate model for examining the behavioral impacts of frequently ingested psychoactive drugs. Comprehending these acute neurobehavioral shifts improves our understanding of the impact of routine substance use on the human nervous system. This is especially relevant to early exposure and addiction in children and young adults.

Rebecca McCord

Epidemic Niceness: A Modern Dilution of Morality

This paper aims to explain why the Western obsession with “nice” indicates a dilution of moral expectations and actual character. I explore the historical, theological, and physiological implications of a world indebted to “niceness” and instead promote inclination toward realized kindness. Historically speaking, I analyze ancient storytelling and then the etymological evolution of the word “nice” paying special attention to the social role the trait has in the United States. Considerations of biblical patterns reveal a need for kindness to be wed with honesty and virtue to allow for actual character. I then dismantle the “nice guy” narrative and analyze the biological as well as interpersonal limits of a “nice” society. I propose instead the merit of a moral framework based around realized kindness. This intimate and intentional kindness must be sustained by a relationship with God and others. I propose that kindness is the better paradigm for a psychologically, physiologically, and practically productive society.

Robert Monti

TikTok Usage and Perceptions of China as a Threat: A Quantitative Analysis

In recent years, policymakers, intelligence agencies, and media commentators have increasingly scrutinized TikTok, a social media platform owned by the Chinese company, ByteDance. Given the current state of relations between America and China, TikTok's explosive growth among younger Americans has fueled concerns that its algorithm, content moderation policies, or corporate structure might shape political attitudes in ways that benefit the Chinese government. Using the 2024 American National Election Study (ANES), this paper sought to determine if there existed a robust and statistically significant trend for or against China. In this study, the best dependent variable in the database measured how great a threat a person considered China to be to the United States, and the best independent variable measured whether a person had previously visited TikTok. According to a binary logistic regression analysis, TikTok users were found to be 36% less likely to perceive China as a great threat compared to non-users. Additionally, even when accounting for all the control variables, such as one's political ideology, how much attention one pays to politics and current events, one's education level, etc., the relationship in question stayed robust and statistically significant. While this analysis does not prove causal influence, as cross-sectional survey data cannot establish temporal precedence, it suggests that the information ecosystems within TikTok may differ from those of other platforms in ways that shape geopolitical attitudes.

Ian Oldham

Artificial Intelligence Integration in Law Enforcement

The field of criminal justice has rapidly adopted the use of artificial intelligence in recent years, from software that rapidly fills out reports to algorithms that measure an offenders proclivity for recidivism. This paper argues that artificial intelligence should not be used for generative applications or purposes that replace human ethical judgement in policing and sentencing. This will be shown through a functional analysis of artificial intelligence, an overview of the current policing and sentencing applications of artificial intelligence, and a description of the philosophical and practical implications of thorough artificial intelligence integration in this field. Much of the current research and industry attention on this topic focuses on the technological ability of artificial intelligence to ease the jobs of criminal justice professionals instead of the moral implications of integrating artificial

intelligence. This research attempts to bridge that gap by focusing on the emerging field of artificial intelligence ethics and applying these findings to criminal justice applications such as facial recognition, generative artificial intelligence, and any artificial intelligence application that automates ethical decisions in this field.

Ian Oldham

Criminological Theories of Literature

This poster would be a physical representation of a final submitted for my World Literature (ENGL 330) class for the purpose of fulfilling my Honors Contract. The final was a nine page paper comparing the philosophies of three works of literature, Dostoevsky's Crime and Punishment, Flaubert's Madame Bovary, and Goethe's Faust to theories of criminology. This was done by describing the influences behind moral failings committed in each of these novels and comparing them to what different theories of criminology propose to be the primary influence of crime. The conclusion of this research was that each of the three novels implicitly endorse a criminological theory akin to rational choice theory, which posits that free will and the rational choice of the criminal prior to commission of the crime are the primary influences that lead to a criminal committing a crime. Where these three novels differ is the acknowledgement of influences outside of free will and the nature of free will itself.

Naomi Palmieri

The Benefits of Short-Term Water-Only Fasting

Through the research of professors and medical professionals, experimentation on individuals during their intermittent water-only-fasting period highlights an important habit to incorporate into people's lifestyles since it makes them physically, mentally, and spiritually healthy. Regarding physical health, as seen through its prominent historical use and studies, short-term water-only fasting removes toxins from people's bodies, thereby eliminating the main cause of many diseases due to the body's undergoing of autophagy and ketosis. In addition, based on the research of Dr. Fond and other health specialists, the mental benefits of fasting include improved mental conditions, sense of focus, and determination. Furthermore, as seen through Biblical evidence, theology professors, and other professionals, fasting makes people spiritually healthy by enabling them to receive rewards from God, practice self-control, and hear God's voice more clearly. This research also avenues into tangential realms such as: uncomfortable side affects that can occur during a short-term water-only fast, how long one must perform a water-only fast to experience these benefits, and how individuals should safely undergo this discipline. Overall, due to the numerous health benefits of short-term water-only fasting, this research project seeks to persuade individuals to make fasting a regular practice in their lives using scientific research and Biblical evidence and instructs them on a holistic way to perform this practice.

Ernest Park

Friendshoring to Africa to Protect Critical Supply Chains & Regain Influence

Semiconductor supply chains represent one of the most strategically sensitive production networks in the modern international system. The industry has become heavily regionalized, and geopolitical instability has begun to push supply chain risk tolerance to its limits. In response, U.S. policymakers have increasingly explored the concept of "friend-shoring" production to politically aligned states. This research advances the thesis that "the United States should prioritize regional security conditions and the presence of PRC and Russian influence when making strategic decisions about friend-shoring semiconductor manufacturing to select African nations, rather than emphasizing long-term economic gains alone." To evaluate this proposition, the study develops a structured analytical framework that assesses candidate states against five security based criteria: formal U.S. security alignment, conflict exposure, logistical connectivity, internal security capacity, and adversarial influence penetration. Candidates are evaluated using an ordinal weighted scoring matrix, assessed and scoured using unclassified U.S. government reports, enabling comparison between Morocco and Kenya as case studies. Preliminary analysis suggests that friend-shoring provides U.S. policymakers with an opportunity to employ economic statecraft to protect critical supply chains while reinforcing strategic engagement in Africa. Initial findings indicate that Morocco is the more compatible candidate, while Kenya demonstrates potential contingent on improvements in security conditions and infrastructure stability.

Faith Rodriguez

State Fertility Rates and IVF

Declining fertility rates in the United States have prompted a renewed policy interest in supporting family formation, including government efforts to expand access to in vitro fertilization (IVF). This study examines whether state-mandated insurance coverage for IVF is associated with higher fertility rates and whether such policies represent an effective and equitable use of public resources. Using state-level data from all 50 U.S. states in 2019, the analysis employs multiple linear regression to assess the relationship between mandated IVF coverage and fertility rates, measured as live births per 1,000 women aged 15–44. The model controls for key demographic, economic, and social factors, including racial composition, religious affiliation, GDP per capita, urbanization, and the percentage of the population identifying as LGBT. The results indicate that state-mandated IVF coverage is significantly and negatively associated with fertility rates, with mandate states exhibiting approximately four fewer births per 1,000 women than non-mandate states. Demographic factors—particularly racial composition and LGBT population share—emerge as strong predictors of fertility variation, while income and religious affiliation show no significant effects. These findings suggest that IVF mandates are more reflective of underlying demographic and socioeconomic characteristics of states rather than a causal mechanism for increasing births. Overall, the study finds little evidence that government support for IVF meaningfully raises fertility rates at the population level, highlighting the limitations of narrowly targeted reproductive policies in addressing broader structural determinants of declining fertility.

Kayla Spruill

Women, Motherhood, and the Imago Dei

When analyzing how women are viewed throughout history, motherhood has been viewed as essential to the female identity. All the while, infertility and childlessness have been stigmatized. Except society fails to recognize the pressures both mothers and non-mothers face. The purpose of this study is to demonstrate how the doctrine of the Imago Dei and scripture corrects the historical and societal assumptions around the idea of motherhood, defining a woman's worth.

Drew Thomas

Women, Motherhood, and the Imago Dei

*Estrogen receptor beta (ER β) plays a protective role in breast tissue by suppressing cellular proliferation and counterbalancing estrogen receptor alpha-mediated tumor growth. Disruption or loss of ER β signaling has been associated with increased breast cancer risk and poorer clinical outcomes. However, direct investigation of ER β activity often requires advanced molecular tools not accessible in basic laboratory settings. This study proposes a functional, ligand-centered model to evaluate estrogen-responsive signaling relevant to ER β -mediated breast cancer protection. Using the ER β -selective phytoestrogen genistein as a reference ligand, this project will assess whether selected environmental compounds can functionally mimic, enhance, or interfere with genistein-mediated biological effects in a simplified yeast growth model. Yeast (*Saccharomyces cerevisiae*) will be cultured under controlled exposure to genistein, environmental compounds, and combined treatments, and growth responses will be quantitatively measured. Functional similarities or disruptions relative to genistein will be interpreted in the context of ER β -associated protective signaling described in breast cancer literature. This approach provides a low-cost, mechanistically relevant model for investigating environmental modulation of estrogen signaling pathways implicated in breast cancer prevention.*

Ralph Weikel

Excel Still More: Sanctification as God's Will in 1 Thessalonians 4:1-8

This exegetical research paper investigates the theme of sanctification in 1 Thessalonians 4:1-8, specifically in the realm of sexual purity, where the Apostle Paul exhorts the Thessalonian believers to "excel still more" in holiness

as the will of God. The thesis of this study is that Paul presents sanctification as a progressive, participatory process, grounded in God's call, expressed through countercultural sexual behavior, and inspired by the anticipation of Christ's return. After establishing the historical and cultural background of the Thessalonian church, the paper examines Paul's exhortation to holiness within the broader context of the letter and evaluates the interpretive debate over whether the key Greek term skeuos in verse 4 refers to the "wife" or the "body." Paul's imperative to avoid transgression against a brother is analyzed within his argument to defend the passage's thematic unity against an abrupt change of topic. Additionally, the paper identifies an ancient structural feature unfamiliar to modern readers that illuminates Paul's authorial intent. Theologically, Paul communicates a steadfast faith expressed through loyalty to Christ and sustained by hope in His return. The paper concludes that sanctification functions as both the believer's present duty and eschatological hope, offering enduring implications for Christian behavior in a contemporary setting.

Alexandra Wilkinson

Consumer Insight Report: Regent University Student Clubs

This paper aims to explain the lack of awareness students have regarding student clubs on Regent University campus. According to a survey taken by Regent University students, most students cannot name more than three to five clubs on campus, even with the sixty-nine active clubs on campus that Regent University provides. Through the lens of one club on campus, Regent Enactus, this paper attempts to uncover why Regent University students are unaware of extra curriculums offered on campus, and what students value before they decide to join a club. First, through a student analysis, this paper breaks down students' perceptions of clubs and what would convince them to join a club. It addresses the needs that clubs should seek to support through Maslow's hierarchy of needs. The paper uncovers what qualities of a club students rate most highly, as well as how they rate clubs according to these listed values. It examines Enactus against the club's main competitors (other clubs) to understand how many clubs are truly providing the values that students appreciate. It analyzes what aspects of people's unfamiliarity of Enactus are due to external or environmental factors. Lastly, the paper lays out practical and biblical recommendations for Enactus, and clubs overall, to take into consideration to gain recognition with the student body.

Shalom Williams

The Book of Guilt

In Ecclesiastes 4, many biblical scholars ponder the undercurrent behind this chapter's reference of ambition, isolation, and a need for community. In researching the original worldview within the author/narrator, deeper meanings can be discovered, giving us the opportunity to see Ecclesiastes 4 from a personal reflection of guilt rather than an objective view of current oppression being outside of the narrator's causing. In theory, research can show that it is plausible that the structure the narrator is being oppressed by is the structure created by themselves. This presentation will do a deeper dive and foster a command to reconsider the principles of Ecclesiastes 4 into a book of guilt.

Shalom Williams

The Doctrinal Statement

On the topic of Christology and Theology, there are many forms of doctrine produced and varied by different levels and variations of support from scripture. From research and extensive understanding of doctrines, we can develop some things we all affirm about doctrine and how it consists with scripture, as well as supports the authorial vision of God for the church/the body of Christ and how we understand God and Life. This presentation will stem from works that dive into the characteristics of Jesus, the debate of wills in number, and more theological questions. With the Help from class resources and class discussions of theology and doctrine (from systematic theology), there will be a poster presentation that showcases a statement of belief, central doctrines that pertain to Christology and secondary/tertiary convictions that I hold in conjunction with those values. Demonstrating key biblical texts alongside the doctrines, a cohesive and sole doctrinal statement will be produced and there will be legible examples.

Stephanie Williams

Abortion Outcomes, Guilt and Shame, and Subsequent Intended Pregnancy: A Longitudinal Study

Abortion research contains many conflicting findings. One conflict concerns the association between abortion outcomes (receiving or being denied a wanted abortion) and women's general distress. Researchers disagree about adverse psychological outcomes, sampling limitations, and the overall implications of abortion outcomes. Some research indicates that abortion outcome distress relates to guilt and shame. For example, stigma, financial burdens, and limited social support. Limited research has been conducted regarding the likelihood of subsequent intended pregnancies following an abortion outcome. This quantitative longitudinal study will investigate two hypotheses: 1) women who receive a wanted abortion will report higher guilt and shame scores than women who were denied an abortion, and 2) women who receive wanted abortions will have a lower likelihood of subsequent intended pregnancies. Participants (N = 200; 100 were denied an abortion, 100 received a wanted abortion) will be recruited through convenience sampling online and through various clinics in the United States. Each participant will complete the Guilt and Shame Experience Scale (GSES) and Impact of Event Scale-Revised (IES-R) to assess their experiences and distress following the abortion outcome. The IES-R will be used as a covariate in predicting dependent variables. This cohort will be followed over five years with semi-annual interviews/questionnaires, measuring pregnancy intention with the National Survey of Family Growth (NSFG) Questionnaire. Data collected will be analyzed using an independent-sample t-test and logistic regression. Findings may contribute additional information regarding the psychological and reproductive implications of abortion outcomes in women.

Tyler Williams

Drosophila Wing-Spot Test for Non-Selective Herbicide RoundUp® and Selective Herbicide Bentazone

There has been a quite a few studies on the various ways that glyphosate affects drosophila, and by extension humans, since it is the most common non-selective herbicide in the world, however, much fewer studies see how non-selective herbicides interact with drosophila systems and functions. This experiment utilizes the SMART test (somatic mutation and recombination test), where two specific drosophila strains, one expressing the multiple wing hair mutation (mwh) and the other expressing flare-3 mutation (flr3), are mated. The test conducted uses OregonR(R) strain of flr3 to increase bioactivity. Both the mwh and flr3 mutation are recessive traits on chromosome 3, so their offspring expresses neither. There are 2 hypotheses; H1- Exposure to either herbicide will cause drosophila to express flr3, mwh, or both, and H2- When exposed, the glyphosate will produce more and greater mutations than bentazone. Offspring are exposed to the herbicides during the third-instar larva stage to maximize cell division and mutation chances in the wings as they mature. Mutations are quantified by type, quantity, and patch sizes. The results of this experiment will encourage and aid in understanding the mutagenic power of a non-selective herbicide versus a selective herbicide.

Gabrielle York

Death-Conditioning and Brave New World: How to Desensitize a Society

Toward the end of Aldous Huxley's dystopian novel Brave New World, there is a scene where a group of children tour a hospital as a part of "death conditioning." They crowd around the distraught protagonist witnessing his mother's death, callously asking if she had died. Upon examining this scene, there are multiple parallels between the death-conditioning portrayed in the book and modern society's increasing deemphasis of death. In order to death-condition a society, people must be detached from the dying process, death must be devalued in people's beliefs, and, through repeated exposure to both death and violence, people will gradually become desensitized to death. First, the dying are often confined in hospitals, and life-prolonging technologies have completely redefined how people die and even changed the meaning of death itself. Second, death has been culturally devalued through the deemphasis of religion in modern society. Lastly, through regular exposure to violence and death in media, people are becoming desensitized to death as a concept. Through understanding the cause of death-conditioning, not only can death-conditioning itself be avoided, but people can begin to value human life, increasing empathy and understanding the true tragedy of the violation and end of a human life.

Kate Yanov**Identity's Origin: The Formation of the Subjective and Objective Self**

For this research presentation, I want to analyze how America's shift from a culture grounded in Biblical ideas to a highly individualistic culture has impacted identity. Furthermore, I want to address how the Christian framework, specifically Augustine's idea of "ordered loves," serves as a beneficial roadmap to understanding how one should view human purpose. To examine this concept, I want to build upon the foundation of George Mead's concept of identity being composed of the objective and subjective self. As one looks at our current society, it is clear that identity for many is not grounded in something of substance, but rather easily influenced by external forces. Traditional face-to-face relationships used to play a key role in the formation of identity, however the rise of technology has greatly influenced the very nature of human interaction. I want to address questions such as: How has living in a culture that encourages the over-analysis of the objective self impacted the formation of identity? How does one navigate a highly individualistic culture while remaining grounded?