Parallel Session Information
(Organized alphabetically by 1st presenter's last name)

Stephanie Adams
Oregon State University
Engineering Identity as Imago Dei: An Exploration of Engineers' Design Practices and Fulfillments as a Reflection of the Creator
This conference paper builds upon a full constructivist grounded theory (CGT) study of fifteen engineers (n=15), exploring how their experiences of design, judgment, and fulfillment reflect aspects of the divine image—Imago Dei. Drawing from semi-structured interviews and iterative coding, the CGT analysis identified core themes of Problem-Solving Identity, Adaptive Design Practices, Fulfillment through Meaningful and Tangible Outcomes, Ethical Integrity, Collaboration and Community Contribution, and Navigating Professional Constraints. Together, these themes revealed engineering identity as adaptive, relational stewardship oriented toward societal good.
Building on these findings, this paper interprets engineers' design practices through a Christian theological lens, proposing that their motivations and methods echo the character of God as Creator and Sustainer. Biblical theology provides interpretive anchors in which human ingenuity and care for creation mirror divine attributes. The discussion maps the empirical themes onto eight facets of God's nature evident in Scripture: Perfect Creator, Wise Architect, Reconciler and Restorer, Delighting Father, Authority of Truth, Judge and Standard-Setter, Shepherd and Protector, and Sustainer and Orderer of Creation. Each attribute illuminates a dimension of engineering work—from creative design and ethical decision-making to sustaining aging systems and finding joy in tangible impact—as a form of co-creation that participates in God's ongoing work in the world.
Rather than imposing theology onto data, the analysis proceeds inductively from participants' words and practices, offering a dialogical bridge between empirical grounded theory and theological reflection. The paper concludes by highlighting implications for Christian engineers, educators, and faith-and-work scholarship: understanding engineering not merely as technical problem-solving, but as a vocational expression of God's image—where designing, sustaining, and restoring systems become acts that testify to the Creator's wisdom, justice, and delight.
Thursday, 3:35pm-3:55pm, Science Building 110

Geoffrey A. Akers
College of the Ozarks
An Instructor's Experience with Volunteer Engagement in the Engineering Laboratory
The Christian Engineering Conference has a rich history of addressing the integration of faith in the classroom [1]. For example, Anson addresses the roles of faculty in teaching and mentoring students, as well as guidelines for practicing engineers mentoring less experienced engineers at work [2]. Brue [3] and Kim, et al, [4] discuss the value of storytelling and analogy in the classroom. This paper extends these concepts to include the value of long-term retirees and experienced, practicing engineers as story tellers and mentors in the learning environment—specifically in the engineering student's laboratory experience.

For the past four years, two experienced engineers have consistently volunteered in the laboratory portions of the third-year fall and spring electrical engineering courses in the College of the Ozarks. The courses are required of all students in the College's Bachelor of Science in Engineering program. These engineers consider engineering a life-long vocation, and volunteering in the engineering program allows them to share their experience, wisdom, and humor with the students.
This paper will discuss the ideas of shalom and vocation as primary motivations for volunteering long term, the volunteers' role in the lab, their impact on the learning environment, and the program's approach to retaining and showing appreciation to the volunteers.
Thursday, 4:25pm-4:45pm, Science Building 103

S. Blake Allan
Baylor University
The Roots of Mathematics
Despite its technological and secular associations in the contemporary world, mathematics was originally studied in the West on speculative and religious grounds. Indeed, many early masters of the discipline were not known for their mathematical insight, but rather for their spiritual or metaphysical positions (e.g., Pythagoras' views on reincarnation, or Thales' contention that water is the ἀρχή of the universe). In light of these pagan (and frequently cultic) origins, what might a Christian participation in mathematical inquiry look like? I address this question by considering three historical roots of mathematics, and their redemption in three central mysteries of the faith.
Thursday, 3:35pm-3:55pm, North Hall 276

Samuel Allen Alexander
Independent Researcher
Bryan Dawson
Union University
Idempotent Ultrafilters, Elections, and Applications
Hindman's theorem is a famous result in additive combinatorics whose usual proof involves the esoteric notion of an idempotent ultrafilter. We demystify idempotent ultrafilters using elections, and give an intuitive proof of Hindman's theorem using hyperreal numbers, actually proving more than necessary and thus obtaining a strengthened version of the theorem.
Thursday, 2:30pm-2:50pm, North Hall 259

Ken Arnold
Calvin University
AI Assumptions
Modern AI, based on machine learning at large scale, rests on assumptions that are rarely stated systematically or coherently. Some, like the assumption that the world contains abundant regularities that are profitable to study, align clearly with a Christian worldview. Others, like the assumption that only external performance matters (articulated clearly by Turing in the 1950s) or that repeatable low-consequence situations matter most, call for more nuanced reflection. In this talk I'll outline a few of

these assumptions, trace how they have enabled and shaped the performance we have come to expect from AI today, and suggest ways that questioning or complicating them can help us engage with and shape these technologies wisely.
Friday, 10:50am-11:10am, North Hall 251

Tanner Auch
Bethel University
Observations From Pascal's Triangle
While simple to construct, Pascal's Triangle is full of interesting patterns and helpful information. While a number of these observations are quite well known, there seem to be endless patterns hidden within--some that may just be of just recreational interest while many relate to a variety of areas in Algebra, Calculus, Linear Algebra, Combinatorics, among others. We'll take a look at just a few of the neat aspects waiting to be discovered in Pascal's Triangle.
Thursday, 10:05am-10:25am, North Hall 259

Nathan Averbeck
Cedarville University
Hermann Grassmann’s Faith in His Own Words
Hermann Grassmann is perhaps best known for his Ausdehnungslehre ("Linear Extension Theory") which laid the foundations of linear algebra. It is perhaps less well known that he was originally trained in Protestant theology and that one of his final publications, a booklet called Über den Abfall vom Glauben (translated as "Concerning the Decline of Faith" or "On the Loss of Faith"), dealt with the causes of apostasy from the Christian faith, particularly among the educated. Until recently, the booklet was unavailable in English, but in cooperation with this project, a complete English translation has been produced. The purpose of this talk is to explain who Grassmann was and to emphasize his strong Christian faith, illustrated by his quotes.
Thursday, 4:50pm-5:10pm, North Hall 276

Kehinde Ayano
Indiana Wesleyan University
Artificial Intelligence, Adversarial Attacks, and Human Moral Responsibility
The use of Artificial intelligence systems is increasingly shaping various domains like communication, medicine, finance security and many others. While the AI systems are powerful, autonomous and authoritative with intelligent performance, they remain structurally vulnerable. Adversarial attacks reveal the fragility and limitation of machine agencies. Adversarial perturbations, prompt injection attacks, and distributional shifts can cause confident but erroneous outputs, revealing a fundamental distinction between statistical optimization and genuine understanding. This presentation therefore examines what adversarial vulnerability reveals about machine agency and what it means for human moral responsibility.
Thursday, 1:40pm-2:00pm, North Hall 253

Charles E. Baukal Jr.
Oklahoma Baptist University

Lessons from the Fiery Furnace for Today's Youth
The biblical account of Shadrach, Meshach, and Abednego in Daniel 3 offers a compelling paradigm for Christian youth navigating a secular environment. Confronted with the command to worship a golden statue under threat of death, these three youths chose obedience to God over conformity to cultural pressure. Their courage, fellowship, and reliance on divine presence not only preserved their lives but also led King Nebuchadnezzar to acknowledge Yahweh's sovereignty. This narrative, while rooted in ancient Babylon, provides enduring lessons for today's Christian students and professionals, particularly those engaged in engineering and technical fields where ethical challenges and cultural pressures are prevalent.
This paper identifies five principles drawn from the fiery furnace episode: (1) the courage to uphold convictions even when costly, (2) the sustaining power of fellowship among believers, (3) the transformative potential of youth to influence society, (4) the assurance of God's presence in adversity, and (5) the priority of obedience to divine authority over cultural conformity. These principles are examined in light of contemporary challenges faced by Christian engineering students in secular institutions, including ethical dilemmas, pressures to compromise integrity, and the need for resilience in high-stress environments. By framing the biblical narrative within modern contexts, the study demonstrates how faith can inform vocational identity, guide ethical decision-making, and foster communities of support within technical disciplines.
Ultimately, the fiery furnace account is not merely a story of miraculous deliverance but a model of spiritual integrity and vocational courage. For Christian engineering students, it underscores the importance of integrating faith with professional practice, resisting conformity to unethical norms, and trusting God's presence in the midst of trials. This paper seeks to encourage today's youth to embrace these principles as they prepare to serve faithfully in both academic and professional "foreign lands."
Thursday, 11:10am-11:30am, Science Building 110

Will Best
Belmont University
Divine Dependence: A Multi-Method Approach to Correlated Messianic Prophecy
Best and Lovgren (2025) estimated the probability of a single individual fulfilling eight Messianic prophecies from Isaiah by chance, incorporating dependence through informed estimates. This talk extends that work by applying six methods that explicitly account for dependence: Inclusion-Exclusion, Bonferroni bounds, Boole bounds, a Bayesian framework, Gaussian copula modeling, and Monte Carlo simulation. We compare estimates across methods, assess sensitivity to assumed dependence structures, and show that even under substantial positive dependence the joint probability of chance fulfillment remains vanishingly small, offering a more statistically rigorous foundation for prophetic probability arguments.
Thursday, 10:45am-11:05am, NH 251

Mike Bolt
Calvin University
Following van der Pauw: electrostatics experiments in complex variables

The van der Pauw method is a remarkably effective way to compute the sheet resistance for a 2-dimensional semiconducting material. With basic equipment from a physics laboratory (DC power source and multimeter), one can demonstrate concepts like Green's function, cross ratio, and Riemann map for a typical course in complex variables. Here we review the setup and result for the smooth, simply connected case. We then update on recent progress for the general situation, including measurement of the modulus for a doubly connected domain that has rotational symmetry. The latter result is to appear in PRIMUS.
Friday, 11:15am-11:35am, North Hall 259

Anthony Bosman
Andrews University
Absolute or Relative: Time and Space in Newton's Interpretation of Genesis 1
While Isaac Newton is best known for his contributions to mathematics and natural philosophy, he also devoted significant attention to biblical interpretation, with these pursuits closely related in his thought. In the Scholium to the *Principia*, Newton famously distinguishes absolute quantities from their sensible measures, arguing that absolute time is distinct from its ordinary measures (such as hours) and that absolute space should likewise be distinguished from apparent relations. Moreover, he cautions that those who confuse quantities themselves with the sensible measures of them both "corrupt mathematics" and do "violence to the Scriptures. One place where this distinction appears in Newton's biblical interpretation is in his correspondence with English theologian Thomas Burnet concerning Genesis 1. Both Newton and Burnet appealed to the principle of accommodation, affirming that Moses wrote in language suited to common understanding. For Burnet, such accommodation was justification to treat the six days of creation as an "ideal" scheme and thus propose an account of the earth's earliest history that was contrary to the Mosaic narrative. Newton, by contrast, maintained that Moses "described realities," or at least realities as they would have appeared to an earthbound observer. Newton therefore exercised greater hermeneutical restraint, treating the creation days as historical; however, by distinguishing the rotation of the earth from our familiar 24-hour measurement of a day, he allowed for the days to comprise much longer periods of time. Likewise, by distinguishing the apparent location of the heavenly luminaries from their absolute location, he made sense of them being recorded as placed in the firmament and not becoming visible until the fourth day.
Thursday, 10:45am-11:05am, NH 276

Tai-Danae Bradley
The Master's University
The Categorical Magnitude of Language Models
Large language models generate text by navigating a vast, branching tree of possibilities. In this talk, we will explore how to translate this generative process into a rigorous category-theoretical object. By interpreting a model's transition probabilities as distances, we can view the space of all possible texts as a generalized metric space. We then study this space through the lens of *magnitude*—a numerical invariant from category theory that generalizes both the cardinality of sets and the Euler characteristic of topological

spaces. We will discuss how the magnitude of a language model captures its "effective linguistic size," and that this geometric measure is intrinsically linked to the model's underlying entropy. By revealing these connections, we hope to highlight a beautiful, structural bridge linking category theory, algebraic topology, and information theory.
Thursday, 1:15pm-1:35pm, North Hall 259

Ethan Brue
Dordt University
Revisiting Responsible Technology for the Next Generation
It has now been a Biblical generation (four decades) since the publication of Responsible Technology, which provided the engineering community one of the first comprehensive texts on the modern activity of technology written from a Christian perspective. This text has influenced a generation of Christian engineering teachers and practitioners, and shaped Christian universities with engineering programs. The themes from this text have catalyzed an expanded dialogue across Christian institutions through conferences like CEC. The text is often known for its argument for the non-neutrality and value-ladeness of technology, and many engineering programs have found the chapter related to “norms” for engineering design particularly instructive. Numerous authors have challenged, expanded, and critiqued this normative framework in subsequent papers and publications. However, it could be argued that less than half of the text deals directly with engineering design, and the work is equally, if not more, insightful in addressing technology and its relationship to science, politics, economics, and citizenship. These insights challenge us to reconsider how Christian engineering education is done today. Beyond highlighting this often-overlooked content and its importance for contemporary Christians in the engineering profession, this paper will examine the historical context from which the text was written. Recognizing Responsible Technology as a response to both cultural conundrums and voices of the late 1970s and early 1980s, will demonstrate how the text remains both a product of its time and relevant for today’s engineers. Secondly, this paper will draw out the historical origin of the Christian-philosophical tradition that holds this collaborative work together giving us a richer understanding of Biblically-guided motivation and purpose for the initially proposed design norms. Finally, this assessment will argue that a careful re-reading of Responsible Technology with an eye to the spirits of our age, will reveal a number of key challenges that today’s engineers and scholars must re-articulate for a new generation to effectively carry out the task of responsible technology. The format of this paper will be written as an extended “legacy book review” from the vantage point looking back at technological history for forty years.
Thursday, 2:30pm-2:50pm, Science Building 110

Judith Canner
California State University Monterey Bay
Status, Equity, and Collaboration: A Pilot Study of Complex Instruction–Informed Pair Programming
As programming becomes integral to statistics and data science education, institutions increasingly use pair programming to support students’ computational learning. Yet,

research has shown that collaborative programming can reproduce participation inequities, particularly for students from historically marginalized groups. This pilot study examines collaboration patterns in introductory data science courses at two universities and evaluates a revised pair programming protocol grounded in the examination of power dynamics from the perspectives of different groups (e.g. women, technologically inexperienced). We analyze discourse from student pairs to identify how power, authority, and status shaped their interactions. Findings from the first year reveal specific challenges in achieving equitable collaboration, which inform planned revisions to the collaborative protocol. These results highlight opportunities for structuring pair programming to promote more inclusive participation.
Thursday, 9:15am-9:35am, North Hall 251

Laurel Carpenter
Bob Jones University
Encouraging Undergraduate Students to Develop a Philosophy of Mathematics
As educators, we challenge our undergraduate students to become independent, critical thinkers *in* mathematics. But how do we challenge them to also think deeply and critically about what they believe *about* mathematics? what it is, where it comes from, how it continues to evolve, and how it fits into their worldview. In this talk, we will explore some pedagogical techniques to engage students in thoughtful investigation into and discourse on the philosophy of mathematics. We will also discuss the benefits to both students and mentors of having our students develop and articulate their own philosophy statements. Anecdotes and strategies will be drawn from my experience teaching and mentoring undergraduate students at both religious and secular colleges.
Thursday, 1:15pm-1:35pm, North Hall 295

Abigail Cheng
Math for America
Our Math Roots: Ethnomathematics for Cultivating Belonging in the Mathematics Classroom
In this presentation, I argue that ethnomathematics—approaching mathematics through its historical and cultural practices—can humanize the mathematics classroom and foster genuine belonging. Drawing on philosophical reflection, current research, and student testimonials, I show how this approach helps students see themselves as participants in mathematical knowledge rather than outsiders to it. I will also introduce ready-to-use lessons from Our Math Roots as practical entry points for instructors interested in incorporating ethnomathematics into their teaching. Particular attention will be given to how these lessons can strengthen the mathematical identities of students who have historically felt marginalized in mathematics.
Thursday, 9:40am-10am, North Hall 295

Tom Clark
Dordt University
Learning Journals: A Reflective Reimagination of Homework
Anyone who has learned how to play an instrument knows that practice is an essential part of the learning process. So it is with mathematics. However, in practice many

challenges remain with student motivation, problem selection, productive feedback, etc. Unfortunately, all too often students find ways of earning points without learning mathematics. In this talk we share a new method of assigning homework which aims to put agency in the hands of the student regarding homework and recenters the purpose of practice which is learning away from earning points.
Friday, 10:50am-11:10am, North Hall 295

Mark Colgan
Taylor University
Fun Ways to Engage Students with Active Learning
We will explore some fun, low-tech ways to engage students with calculus/precalculus topics by involving them in activities where they solve real world problems or interact in small groups: such as the Rock-Paper-Scissors game, max/min Candy Dish, Spaghetti tangents, Hang-man words, Which One Doesn't Belong, and Group Guessing games. As professors, we need to work at motivating our lessons to meet the needs of all students and do our best to help them see how important mathematics is to their lives. Students are more motivated and ready to learn a new concept when they have first predicted the outcome and are competing with other groups. By working together in groups, students also have an opportunity to support one another, teach one another, and cultivate a sense of belonging in the classroom where everyone can enjoy their mathematical experiences.
Thursday, 2:30pm-2:50pm, North Hall 295

Basil Conway IV
Columbus State University
Jessica Freeland
University of Mobile
Russell Lawless
Columbus State University
Social Spiritual Constructivism in the Mathematics Class
Research in mathematics education is clear that language and culture play essential roles in human intellectual development. It really does matter with whom and how we are learning. Unfortunately, many classrooms and research fail to emphasize the spiritual dimension in the social construction of knowledge. In this session, we'll explore how the mathematics learning community may be shaped more deliberately with Biblical principles of social spiritual constructivism.
Friday, 11:40am-Noon, North Hall 295

Jon Craton
Anderson University
Aligning Agents to Meaningful Learning: Applying the Agent Skills Framework to Math and Computer Science Education
Modern LLM-powered agents are aligned to a general set of rules tuned for maximum human preference across a wide variety of tasks. They may be poorly aligned to specific tasks, such as assisting faculty in creating meaningful and engaging learning experiences. The recent Agent Skills framework provides "a simple, open format for

giving agents new capabilities and expertise." How can we use this standard to create customized agent skills? What are the implications of this approach for applying AI to administrative faculty work and to the design of educational experiences in mathematics and computer science?
Thursday, 9:15am-9:35am, North Hall 253

Karl-Dieter Crisman
Gordon College
What is Voting For? The Faith-Filled Work of Some Voting Theory Pioneers
The last twenty years have seen a surge of interest in the United States in alternate voting mechanisms, especially ones using ranked ballots. Globally, even more interesting systems such as multi-member legislative districts or citizen budgeting votes have long been a part of the landscape. The mathematics behind these systems has never been more important to understand; but we do not often stop to ask what the purpose of elections is in the first place. In this talk, we will first examine the medieval theorists Ramon Llull and Nicholas of Cusa, who anticipated better-known work by Borda and Condorcet by centuries. For them, voting was more about discovering God's true will via imperfect human vessels than representative democracy - which has direct connections to modern statistical interpretations as well. Finally, we will let the indefatigable Charles Lutwidge Dodgson (better known as Lewis Carroll) speak for himself on the point of representative democracy - as well as on his own proposals for better voting systems.
Thursday, 11:35am-11:55am, North Hall 276

Bryan Dawson
Union University
The Lake Wobegon Paradox
The long-running radio program *A Prairie Home Companion* contained a recurring skit called ‘‘News from Lake Wobegon,’’ which featured a fictional town in which ‘‘all the children are above average.’’ The humor of that line stems from its seeming impossibility, since in any list of numbers, the arithmetic mean cannot be less than the minimum value. Accordingly, it should be impossible for all of a function’s values to be above average. But in Lake Wobegon ...? (Spoiler: the Lake Wobegon Paradox is resolved using hyperreal numbers. No prior knowledge of hyperreal numbers is required.)
Thursday, 9:15am-9:35am, North Hall 259

Stacy DeRuiter
Jiaxin Chen
Miriam Crisman
Calvin University
Using the Residual Autocorrelation Function to Verify Independence (and When it Doesn’t Work)
A wide variety of common models in applied statistics -- from t-tests and ANOVA to generalized linear models and mixed-effect regression models -- generally require residual independence. In other words, they can supply misleading conclusions if

effects of important confounding variables, moderators, or precision covariates are ignored in the model formulation. Such problems are especially common in observational data, or data including repeated measures over space or time. Unfortunately, compared to other conditions such as distributional assumptions (like normality), residual independence often receives less emphasis in undergraduate statistic courses, so students may not realize how important it is or how to verify it. However, plots of the residual autocorrelation function (ACF) provide an accessible, quick way to check for residual independence and identify violations. After describing how ACFs can be used for this purpose in introductory and intermediate applied statistics courses, we will also present a simulation study that explains a curious class of results, discovered by undergraduate students: in models for repeated-measures data where many individuals are observed just a few times each, the residual ACF value at small lags is worryingly large and negative (indicating a dependence problem), even though model residuals actually are independent. We show via simulation how this effect arises, and based on our findings, we provide advice for non-standard interpretation of ACF plots in the specific case of mixed-effects regression models with few observations per group.
Thursday, 2:05pm-2:25pm, North Hall 251

Elizabeth DeWitt
Independent Scholar
Math on Faith
Certainly, God calls us to live out our faith, including for our faith to impact our study and application of mathematics. But what of the converse of this question: how does math inform our faith? After reading and discussing for nearly the first half of our capstone course, we ask students to write about both these questions. I will briefly share resources and other details from this assignment. And since purpose is a driving force for the current generation of students, I want to make more explicit my own reflections on how I think studying mathematics is a fulfillment of our Godly purposes and can contribute to our faith.
Thursday, 10:05am-10:25am, North Hall 276

Audrey Dietz
University of Delaware
Hybrid Calculus Course
In 2021, post-COVID, having served as the primary course coordinator, I led the redesign of our largest enrollment math course at University of Delaware - Calculus 1 with an emphasis in business & economics applications. We removed all TA involvement and turned it into a hybrid course format with both an in-person and online component. Students meet once per week for 80 minutes in a classroom setting with the instructor. Outside of the classroom they are expected to watch three pre-recorded video lectures per week (each averaging 20-minutes in length) and complete a 3-question follow-up quiz on Canvas corresponding to each video lecture. This talk will cover details surrounding the implementation and design of the hybrid course format as well as data analysis on student satisfaction and performance.
Thursday, 3:35pm-3:55pm, North Hall 251

David B Dittenber
Jonathan G Clayton
Cedarville University
Searching for Faith and Engineering: Revitalizing the Christian Engineering Archive
In 2017, Steven VanderLeest provided a landmark overview of the Christian Engineering Educators Conference and Christian Engineering Conference proceedings in “Twenty-Five Years of Christian Engineering: A Literature Survey.” Since that time, the body of work has nearly doubled, with over 100 additional papers bringing the total archive to 212 publications (as of 2025). Although hosted on the Christian Engineering Society website, the papers have historically been difficult to access and search. To address this, a new initiative will make the archive publicly accessible through a modern, searchable digital platform. Alongside the accessibility initiative, an AI-assisted analysis extends VanderLeest’s survey by examining topic prevalence and identifying remaining research gaps in Christian engineering.
Friday, 11:40am-Noon, Science Building 103

Laurel Dovich
Retired
Sacred Geometry: Implications for Design in Shapes of Nature
The mystique of geometry has been tied to divinity, throughout history, and across many religions and cultures. Christian engineers are uniquely poised to find spiritual reflection in the intricate geometric patterns of nature, as they recognize God as the ultimate mathematician and engineer. Engineers can turn to nature to acquire professional insights as well. Nature’s geometry teaches optimization, both in spatial packing and in structural profiles, giving illumination and guidance in engineering design. New geometric techniques, chaos theory and fractals are being used to model nature’s patterns that don’t fit into traditional geometric shapes, opening even more lessons from nature for engineers. Mathematical observation of nature’s geometry instills awe and wonder for the regularity and order that pervade the natural world, gives inspiration for engineering constructs and gives a new appreciation for God’s exquisite design and meticulous craftsmanship.
Friday, 12:05pm-12:25pm, Science Building 103

Joseph P. Driewer
Dordt University
Educating Engineering Epistles
The letter has a long history as a technology for correspondence. Yet while letter materials and methods of production have changed, perhaps a constant has been the fact that the letter establishes the presence of an author in another location. In 2 Corinthians 3:1–3, the Apostle Paul employs a letter metaphor to defend his teaching. In the ancient world, teachers and officials often demonstrated their credibility through letters of reference (cf. Acts 9:2; 22:5). Paul, however, claims that his credentials are not written on paper but embodied in the Corinthians themselves, living epistles that publicly testify to the authenticity of his message. This paper explores how the concept of living epistles can inform and encourage our teaching at Christian colleges and

universities. Through biblical exegesis and connection to literature, this work suggests three key insights for Christian engineering education. First, it keeps at the foreground the main goal of the education, contributing to the development of living epistles. Second, it underscores the sending role we have as educators, who contribute to the ongoing “delivery” of letters into the world. Finally, and specific to engineering education, the letter metaphor invites us to reflect on what, exactly, engineers trained at Christian colleges and universities communicate and how those living letters are read as our engineers serve in various contexts. In this way, the letter metaphor provides an encouraging framework for reimagining our work as engineering educators.
Thursday, 4:00pm-4:20pm, Science Building 103

Patrick Eggleton
Taylor University
Authentic Faith in Practice: Meaningful Integration Within the Mathematics Classroom
This article reflects on how teaching mathematics with a focus on concepts, reasoning, and visual understanding can help students grow not only in knowledge, but also in character. I believe that mathematics is not just a technical subject. It carries a sense of order, consistency, and beauty that points to the Creator. In my own classroom, I have seen how using precise definitions and visual representations helps students appreciate the structure behind what they are learning. More importantly,
Thursday, 2:05pm-2:25pm, North Hall 276

Gayle Ermer
Derek Schuurman
Calvin University
A Faith and Technology Resource Hub: Building the Christian Engineer's Bookshelf
A wealth of material related to the interactions between faith and technology has been generated over time to help Christian engineers reflect on and evaluate their work and technology development more generally. However, there is currently no central location where this large variety of resources can easily be accessed. This paper will describe the process of developing a faith and technology resource hub. The vision for the hub is that it will include a comprehensive searchable directory of resources addressing faith and technology, as well as a browsable organized, curated, and annotated set of webpages containing links to particularly important and relevant references. This could be viewed as a continuation of work that was presented in a panel session at the 2009 Christian Engineering Conference titled “The Christian Engineer’s Bookshelf.” This panel was an initial attempt at identifying a set of foundational resources that Christians involved in technology could consult to bring their faith to bear on their work. The paper will include a review of other organizations and websites that offer repositories or collections related to this subject. It will provide details about the processes used to gather citations, with Zotero as the backbone for source gathering and organization. It will describe the prototype website format and capabilities, as well as presenting a set of questions that will be used to obtain feedback from conference participants. This work is funded by a grant from the Calvin Center for Christian Scholarship.
Friday, 10:50am-11:10am, Science Building 110

Amy Feaver
Grace College
Stacking the Fundamentals: LEGO as a Response to AI
As generative AI tools increasingly produce correct implementations of common data structures, students can bypass the conceptual reasoning they are meant to develop. This session presents a hands-on response: using LEGO bricks to model data structures before coding them. By physically constructing and manipulating them, students make abstract concepts visible and tangible. This embodied approach shifts the focus from code generation to structural understanding, reducing overreliance on AI tools while strengthening conceptual retention and debugging skills. And, let's be honest: I'll use any excuse to play with LEGO at work.
Friday, 11:40am-Noon, North Hall 253

Kaitlyn Fitzgerald
Villanova University
Faith Integration Across the Statistics and Data Science Curriculum
Thoughtful, disciplinary-specific faith integration can play an important role in the holistic development of students, equipping them to be thoughtful, ethical, and valued members of the workforce, as well as engaged citizens with a well-developed sense of vocation for how they can contribute good to their communities. Statistics and data science courses afford rich opportunities for such faith integration in undergraduate classrooms. Here, I discuss how to weave themes of stewardship of information and statistics for social good throughout an undergraduate curriculum, highlighting how these themes can be strategically revisited and deepened across courses as they connect to specific statistics & data science content. I provide distinct examples of curated readings, discussion prompts, and in-class activities that can be used in courses such as Introduction to Statistics, Data Science, Probability, Mathematical Statistics, and Applied Statistical Models to enrich students' theological, ethical, vocational, and statistical development.
Thursday, 10:05am-10:25am, North Hall 251

David Freeman
University of Cincinnati Blue Ash College
The Science of Imaginable Things: On the Mathematical Philosophy of Leibniz
In this talk we will explore a few aspects of the mathematical philosophy of Gottfried Wilhelm Leibniz. On one hand, we will highlight his belief that all mathematical truth is ultimately grounded in the mind of God. On the other hand, we will point out writings in which Leibniz argues that mathematical objects do not exist outside the realm of ideas. It can thus be argued that Leibniz would endorse the substantive reality of mathematical truth while denying the substantive existence of mathematical objects - they are merely “imaginable things.” We will build on these observations and point to common ground between the beliefs of Leibniz and the contemporary mathematical philosophy of Modal Structuralism, a perspective which also asserts the objectivity of mathematical truth but remains neutral regarding the ontological status of mathematics.
Thursday, 2:30pm-2:50pm, North Hall 276

Kayt Frisch
Mike Foster
George Fox University
Creating an AI Thought Partner for the Design Norms
Engineered artifacts have complex and nuanced impacts on the individuals and cultures that use them, and as the creators, it is our moral responsibility to consider as many of these implications as possible. The Engineering Design Norms (Norms), first proposed by Monsma et. al., provide engineers with a framework to do this hard and important work related to their designs. Previous papers at this conference have explored the applications of the Norms in various applications, and recently, a set of queries was suggested to help engineers apply the Norms to their products. The literature shows that the application of the Norms is time-consuming and difficult, due to the complexity and often unpredictability of our technologies. In this paper we explore the creation and use of a custom AI assistant (the Tool) as a thought partner to help engineers apply the Norms to their product design. We first explore the development of the tool, with particular attention to how the Tool itself was designed using the Norms, and then apply the thought partner to illustrative engineering design instances.
Thursday, 1:15pm-1:35pm, Science Building 110

Jocelyn Garcia
Tufts University
A Novel ILP Framework to Identify Compensatory Pathways in Genetic Interaction Networks with GIDEON
Though identifying the partition of a graph that maximizes the number (or weight) of edges across the partition is a known intractable problem, developing efficient heuristics for a related variant offers valuable insight into biological processes. In Baker's yeast, there exists a comprehensive collection of pairwise epistasis experiments that, for nearly every pair of non-essential genes, measures the growth of the double-knockout strain as compared to its component single knockouts. This data can be represented as a weighted signed graph termed the genetic interaction network, and we introduce a new Integer Linear Program (ILP)-based method named GIDEON to search for a diverse collection of Between-Pathway Models (BPMs) in this network, where BPMs are a bipartite graph motif signature that represents potential compensatory pathways in the network. With both an improved distribution-informed edge weighting scheme and an improved ILP method, GIDEON produces substantially larger collections of these BPM motifs with better enrichment of biological function compared to previous methods. We find some interesting new BPM gene sets including one with potential insights into antifungal drug targets through ties between ergosterol and aromatic amino acid biosynthesis.
Friday, 11:15am-11:35am, North Hall 253

Susan Geer
Gary Raduns
Roberts Wesleyan University
Bridging the Epistemological Gap: The Problem-Solving Laboratory Extension (PSLE) as a Framework for Retention in Intensive First-Year Physics and Engineering Cohorts

Nationally, first-year physics and engineering students face intense cognitive load from concurrent STEM courses, leading to high attrition. To mitigate this, Roberts Wesleyan University implemented the Problem-Solving Laboratory Extension (PSLE). By synthesizing Modeling Instruction, the Burkholder Template, and the "Math in Physics" epistemology, the PSLE scaffolds the transition from procedural math to physical modeling. Longitudinal data (N=14) demonstrates a 64% program retention rate—double the historical baseline. Grounded in Physics Education Research, applying this framework within a Christian college context serves as a vital mechanism for stewardship, character education, and building a supportive learning community where all students can fully participate.
Thursday, 10:05am-10:25am, North Hall 295

Kirsty Gilpin
Southeastern University
Janet Vosen
Liberty University
Exploring Parental Goal-Setting and Its Influence on Mathematics Education in the Homeschool
Despite the central role of mathematics in the traditional K-12 state curricula, the outcomes of parental motivations for teaching the subject in a homeschool setting are underexplored. While traditional schooling focuses on standardized outcomes, homeschool parents often operate with a unique set of philosophical and personal priorities. The purpose of this study was to identify the primary goals homeschool parents set for mathematics education and how these objectives influence their instructional choices, persistence, and satisfaction. A qualitative approach was employed, involving semi-structured interviews with 14 homeschool parents. The participants represented a range of experience levels, from those with young children to those who had graduated students from high school. Data were analyzed using thematic analysis to identify recurring motivations, emotional factors, and shifts in pedagogical philosophy. Analysis revealed five primary themes that drive math education in the home: Practical life readiness: Early goals reflect meeting state requirements and a desire for functional literacy, emphasizing the ability to operate as a responsible citizen. A different math experience: A common motivator is the desire to provide an experience, different from the parents', that fosters confidence and an opportunity to enjoy mathematics. Character and Virtue Development: Parents prioritize math as a tool for building perseverance, framing it as a discipline for overcoming intellectual challenges. Theological Integration: Parents describe personal growth in seeing mathematics as a means to understand the logical order of creation and a subsequent desire to lead their children to a similar integration of mathematics with a Biblical worldview. Evolution from Compliance to Purpose: Parents cited the move away from "curriculum-checking" (teaching math simply because it is a "required" subject) toward intentional, student-specific instruction rooted in long-term personal growth as a primary factor in their increased satisfaction with math education in their homeschool. The findings indicate that for parents who are satisfied with their homeschool math instruction, mathematics is rarely just about academic achievement; it is a vehicle for character formation and spiritual growth. These insights provide a framework for

curriculum developers and educational mentors to support homeschool parents by addressing the emotional and spiritual dimensions of math instruction, rather than focusing solely on sequential content delivery.
Thursday, 3:10pm-3:30pm, North Hall 295

Jonathan Gingrich,
Edward Erfurt,
Charles L. Marohn Jr.
Dordt University
Teaching transportation engineering to promote flourishing communities
Traditional transportation engineering courses in the civil engineering curriculum focus mostly on highway design. While useful for fulfilling the required material needed to pass the Fundamentals of Engineering exam, it fails to account for the detrimental effects of focusing on unimodal transport in cities, leaving cities to be built only considering car-based infrastructure. This results in segmented cities that struggle to build healthy, flourishing community, require dependency on a personal vehicle which limits the opportunities of the multiple vulnerable populations (i.e., the poor, disabled, and elderly), and endangers anyone trying to navigate a city without the use of a personal vehicle.
Using the text “Confessions of a Recovering Engineer” by Charles Marohn Jr. and the organization Strong Towns, we have worked to provide a different perspective; one that encourages students to observe how design of streets and roads can reflect the values of a community. We encourage students to consider how values can influence design, and using a Crash Analysis Studio, how students can design streets to promote safety and encourage the flourishing of all community members. Through these methods, Christian institutions can encourage their students to see streets as conduits for community building, and how engineers can use their technical skills to promote cities that reflect the desired values of all people, both inside and outside of cars.
Friday, 12:05pm-12:25pm, Science Building 110

Ben D. Giudice
George Fox University
Sabbath and the Engineer: A Theological and Practical Exploration of the Pinnacle of Creation
Sabbath is not just Old Testament law: it is a gift from God and the pinnacle of creation, and it can transform not just our lives as Christians, but also bring numerous tangible and intangible benefits to the life of the engineer. This paper will explore the meaning and purpose of Sabbath, as well as two distinct but related aspects of it: the practice of complete rest for one day a week; and a “Sabbath sensibility,” in which practices of delight, thanksgiving, and praise imbue our everyday actions and habits. In relation to both of these aspects, the paper explains how observance of the Sabbath can make us not just healthier people, but also better engineers through transforming our perspective on our relationship to culture, the economy, the environment, and how we treat both people and things. Implications of this extend to how we derive our own significance or the significance of our creations. The paper will also discuss, practically, that engineers and engineering students struggle with keeping of the Sabbath day or maintaining a

Sabbath sensibility, and that this leads not just to idolatry of our work and career, but of our creations as well. The paper will conclude with a discussion of practical recommendations both for keeping of the Sabbath day, as well as for incorporating the idea and meaning of Sabbath (the Sabbath sensibility) into our engineering practice.
Thursday, 2:05pm-2:25pm, Science Building 103

Jenny Griffin
Dave Klanderman
Calvin University
Engaging Learning Activities and Perseverance in Mathematics Courses
How are engaging learning activities perceived by students? Can these and other pedagogical strategies result in students demonstrating perseverance in subsequent mathematics and statistics courses? We examine survey data from a precalculus course along with a small sample of follow-up focus interviews to frame our analysis of these questions. Pedagogical strategies including random groupings of students as part of whiteboard activities, daily formative quizzes linked to assignments, and providing opportunities for student voices in the discussion of key mathematical concepts will be highlighted. Join us to explore ways to heighten student engagement, develop perseverance, build a better understanding of the learning process, and improve metacognitive thought in a variety of mathematics and statistics courses. We will also discuss options for promoting greater success in subsequent mathematics and statistics courses.
Thursday, 4:25pm-4:45pm, North Hall 251

Paul Griffioen
Dordt University
A Distinctly Christian Understanding of the Technical Details in Engineering
Within engineering disciplines, much attention has been given to developing pedagogical techniques and practical applications that are distinctly Christian. However, not as much attention has been given to understanding technical engineering content from a distinctly Christian perspective. The main reason is that the technical details of engineering seem to be the same for both Christians and non Christians. After all, does being a Christian have any impact on the content of mundane technical details like integration and finite element analysis? Since the vast majority of time in engineering jobs, research, and teaching is spent on mundane technical details, this is a very important question to answer. In this paper, we present a framework for applying Scripture to the mundane technical content of various engineering disciplines, going beyond standard approaches where Christianity is applied to one's motivation, one's pedagogical techniques, or one's design practice. We place this framework in context by introducing the notions of doctrine, piety, and practice in engineering. We then leverage the concepts of common grace and the antithesis to develop our framework, using the notion of pseudoknowledge in 1 Timothy to understand how this framework can be applied in various engineering disciplines. We demonstrate how the technical details of engineering are in and of themselves Christian in character, and we illustrate this framework across various engineering fields with several examples.
Thursday, 4:00pm-4:20pm, Science Building 110

Paul Griffioen
Dordt University
The Trinitarian Foundations of Object-Oriented Programming
Object-oriented programming languages are widely used in academia, industry, and by hobbyists. However, computer scientists rarely reflect on the metaphysical assumptions that make such programming languages possible. In this presentation, we describe how the Trinitarian attributes of the Christian God provide the metaphysical foundations for classes and objects in all object-oriented programming languages. We introduce the problem of the one and the many, demonstrate how classes and objects are a particular instantiation of this problem, and show how the equal ultimacy of unity and diversity in the Trinity is the only answer to this problem. We discuss how non-Christian worldviews are unable to answer this problem and show that if true, they would make object-oriented programming impossible. We conclude by exploring how the Trinity as an answer to the problem of the one and the many can shape the teaching pedagogy of Christians in computer science and mathematics.
Thursday, 2:30pm-2:50pm, North Hall 253

Fred Haan
Calvin University
With Mind Awake and Thankful Heart: Being alert to connections between our faith and our engineering work
The book of Proverbs tells us that we gain wisdom by walking a path. Wisdom is not a door. It is not a technique. It is a path we walk with patient, faithful steps. One of Jesus' most common phrases was "Follow me." A helpful illustration that connects with this walking is a butterfly net that we might walk with. Our curiosity and alertness to connections is the mesh in that net. A net with a sparse mesh will not catch anything. The more alert you are to connections, the more connections you will make and the more tightly woven your net will become. Becoming a wise, Christian engineer is similar. We walk a path and along the way, we must make connections between many technical and social concepts to engineer well. As Christian engineers, we must make connections between all these concepts and our faith. In this paper, I will describe my experience of walking the path and weaving my butterfly net and waiting for connections and wisdom. I will also describe the connections caught in my net over the years between engineering education, manufacturing, tornado damage investigations, the Heidelberg Catechism, Gemba walks, and sheep.
Thursday, 1:15pm-1:35pm, Science Building 103

Olaf Hall-Holt
St. Olaf College
Ethical use of LLMs: Existence? Strategies?
Opinions on the use of Large Language Models vary widely, including among faculty and other campus policy makers. Is it possible to use LLMs ethically? We will examine some of the arguments for and against the use of LLMs. For those who think at least some use of LLMs may be done ethically, we will also consider and brainstorm strategies and suggested boundaries for LLM use.

Friday, 10:50am-11:10am, North Hall 253

Seth Hamman
Cedarville University
Free Resources for Teaching an Intro to Cybersecurity Course
I will give an overview of my free online textbook "Invitation to Cybersecurity" and the accompanying hands-on labs, slides, and biblical integration companion while also discussing the importance of cybersecurity education and why Christian colleges are unique equipped to address it. Free printed evaluation copies of the textbook will be available to all who are interested.
Thursday, 1:15pm-1:35pm, North Hall 253

Chuck Hampton, Mike Stob
Calvin University
Cal Jongsma
Dordt University
Dick Stout
Gordon College
The First ACMS Conference, 1977
The first ACMS Conference was held at Wheaton College in April 1977. Why have such a conference? How did Bob Brabenec manage to organize such a conference in the days before email? Who came? What was the program like? How did the conference lead to the eventual development of the organization? What did it mean for the participants? Some of the attendees of the first conference address these questions and others.
Friday, 11:40am-Noon AND 12:05pm-12:25pm, Science Building 010

Lisa Hernandez
Isai Uluan-Birrueta
Susanna Rempel
California Baptist University
Mosaic Number of (2,q)-Torus Knots
A torus knot is a knot that can be embedded into the surface of a torus. The mosaic number of a knot is the minimum number n such that a knot can fit onto an n x n grid in such a way that each tile contains at most one arc or crossing. We investigate the relationship between the crossing numbers of torus knots and their mosaic numbers and propose an upper-bound for the mosaic number of a (2,q)-torus knot.
Friday, 10:50am-11:10am, North Hall 259

Matt Heun,
Jeremy Van Antwerp
Calvin University
High-stakes teaching: Lessons from two decades of problem-based engineering education
[Blanked Author] has taught a senior-level engineering course using “high-stakes teaching” in a problem-based learning environment for more than two decades. This

paper (a) defines high-stakes teaching in an engineering context, (b) shares lessons learned from those decades of experience, and (c) argues that high-stakes teaching methods are beneficial for shaping Christian engineers of the future. Evidence from student focus groups supports the arguments. Readers are invited to consider other courses or learning environments in which these techniques could be employed.
Thursday, 3:10pm-3:30pm, Science Building 103

Frederic Holland
Independent Scholar
A Simple Approximation Relating the Mean, Standard Deviation and Skew for a Common Class of Shape-Varying Probability Distributions Models
This presentation introduces a simple moment-based function proposed by the author to relate the first three statistical moments-- mean, standard deviation, and skewness-- across several families of theoretical probability distributions. The proposed model is a two-parameter relationship between the ratio of mean to standard deviation μ/σ and the skewness coefficient. It is exact for Tweedie distributions, which include the gamma, inverse Gaussian, and Poisson families, and provides useful approximations for several other common distribution families, including the chi and lognormal distributions. By placing these models in a common moment-based framework, the function provides a unified approach for comparing their statistical behavior and identifying underlying similarities and differences among distributions that are often studied separately. The function shows how skewness, which is often less familiar to non-statisticians than the mean and standard deviation, influences the relationship between mean and variability within a given family of distributions. For distributions having the same mean, standard deviation, and skewness, the proposed model helps identify which distribution families have greater deviation below the mean, with implications for distribution model selection when more conservative (that is, lower) predictions of minimum values are desired. The framework may also be useful in teaching probability and statistics, in exploratory model comparison, and in motivating further theoretical study of relationships among probability distributions.
Thursday, 11:35am-11:55am, North Hall 251

Elizabeth Holmen-Crow
Point Loma Nazarene University
A fine introduction to Affine Geometry and related problems
In this presentation I will give an introduction to Affine Geometry with an emphasis on topological parallels (and the lack thereof) to well-known spaces including Euclidean and Projective Geometry. I will then discuss interesting problems that arise in affine geometry.
Thursday, 10:45am-11:05am, NH 259

Hyeeun Jang
Abilene Christian University
Viewing Mathematics through a Faithful Lens
This article reflects on how teaching mathematics with a focus on concepts, reasoning, and visual understanding can help students grow not only in knowledge, but also in character. I believe that mathematics is not just a technical subject. It carries a sense of order, consistency, and beauty that points to the Creator. In my own classroom, I have seen how using precise definitions and visual representations helps students appreciate the structure behind what they are learning. More importantly, as we work through

problems together, the process becomes more than just finding answers. Students experience failure, try again, learn to be patient, and grow in resilience. In many ways, it mirrors the life of faith like falling, standing up again, and continuing forward with purpose. This is why mathematics can become a space where not only knowledge but also perseverance and character are cultivated. For Christian educators, this approach offers a meaningful way to connect faith and learning.
Friday, 11:40am-Noon, North Hall 276

Peter Jantsch
Wheaton College
Alternative Grading as Faith Integration Practice in the Mathematics Classroom
Like many fields, mathematics has recently seen a move toward the humanization of the discipline—to view it within the wider context of culture and society. In addition to bringing to light long-standing inequities, this viewpoint provides another argument for the worth of mathematics: its ability to build particular virtues and satisfy fundamental human desires for flourishing. In this talk, I will look at previous attempts to classify the work of faith and learning in the mathematics classroom, especially considering a Christian approach to teaching mathematics. As a specific example, we will consider how alternative grading practices align with Christian values in the teaching of mathematics, and how the virtues and values of a Christian mathematics can contribute to the life of faith outside the discipline.
Thursday, 4:25pm-4:45pm, North Hall 295

Mike Janssen
Dordt University
OER for the Kingdom: My Journey into Open Educational Resources
In this talk, I will describe my journey toward open educational resources, including suggestions for how to get started using OER. I will also make the case that adopting OER promotes values resonant with the kingdom of God, including: stewardship; love of neighbor; and community. This talk will be aimed primarily at those who have not used OER, or are at the beginning of their OER journey.
Friday, 11:15am-11:35am, North Hall 295

Hanwan Jiang
LeTourneau University
Engaging and Exciting Student Learning Through Small-scale and Friendly Contests in Classroom
Post COVID classroom observations revealed a notable decline in student engagement, with many learners increasingly distracted by digital devices. Motivated to restore active participation and inspired by the competitive, collaborative spirit of American Society of Civil Engineers (ASCE) Student Symposium events, the author introduced a series of low stakes, short duration contests into civil engineering courses. These activities were intentionally structured to promote motivation, reinforce key technical concepts, and maintain a supportive learning environment while avoiding the stress and negative outcomes sometimes associated with classroom competition. Three laboratory based courses—Civil Engineering Materials Testing, Introduction to Surveying, and Wood

Design—were selected for pilot implementation based on their emphasis on hands on learning. The contests were designed around important course topics, implemented within limited time frames, and paired with clear communication to ensure students understood their purpose and low risk nature.
Two case studies illustrate the effectiveness of this approach. A “horse race” problem solving challenge improved students’ understanding of weight–volume relationships for aggregates, resulting in a 100% correctness rate on a mid-term test. A Concrete Frisbee Competition engaged students in applying mix design principles to create and test concrete frisbees. Teaching effectiveness survey was conducted and the results for concrete frisbee contest indicate that this contest stimulated students’ curiosity and enhanced their understanding of the course content.
Overall teaching evaluation results reveal that small, friendly, carefully structured contests can enhance engagement, strengthen conceptual understanding, and foster creativity and collaboration. The paper concludes that incorporating well designed small-scale contest into civil engineering education can be an effective strategy for improving post pandemic student engagement. More data from teaching surveys will be collected in the future and iterations will be made to refine timing, expectations, and assessment based on ongoing feedback.
Thursday, 4:50pm-5:10pm, Science Building 103

Jesús Jiménez-Reyes
Point Loma Nazarene University
Zeros of the Tribonacci Sequence Modulo a Prime
We associate a cubic curve to the tribonacci sequence and show that the number of points on this curve is an upper bound for the number of zeros of the sequence modulo a prime
Thursday, 3:35pm-3:55pm, North Hall 259

Todd Kapitula
Calvin University
Opinion formation in the presence of zealots
A nonlinear system of ODEs which models binary opinion formation is analyzed. The primary underlying assumptions for the model are: (a) there is no ``siloing", (b) everyone in the group is amenable to changing their mind, and (c) everyone wants to get along. Under these assumptions the models typically predict that almost the entire population will eventually take on one opinion or the other. However, by allowing for some members of the group to be indoctrinators and/or deradicalizers the model dynamics become much more interesting. This is joint work with student researchers Ashlyn DeGroot and Emma Schmidt (who actually did most of the work).
Thursday, 2:05pm-2:25pm, North Hall 259

Daniel Kiteck
Indiana Wesleyan University
On the Problem of God and Abstract Objects
The ontology of numbers and other mathematical concepts has been of interest in the philosophy of mathematics for some time, with no clear resolution. Connected to this is

the relationship between God's sovereignty and the seemingly eternal necessity of the existence of some abstract objects, such as the positive integers. This talk gives an overview of this so-called "Problem of God and Abstract Objects." Also, the speaker will discuss how it may be best to push some of this problem toward deep questions in theology, namely, the relationship between time and God; and the concept of Divine Simplicity.
Thursday, 11:10am-11:30am NH 276

Sarah Klanderman
Matt Dahlgren
Sarah Justice
Marian University
Reflections on Equity-Focused STEM Professional Development
Equity-focused STEM professional development is incredibly challenging work, requiring intentionality and care. Institutional context influences which needs and support are most impactful for a particular university community. Marian University is a Franciscan Catholic liberal arts institution in Indianapolis whose student body reflects a rich diversity of academic preparation, socioeconomic backgrounds, and racial and cultural identities. To better equip faculty and staff to support these students, we designed and then facilitated several learning communities centered on equity and inclusive teaching. In this session, we will summarize insights gained from these experiences, lay out a framework for developing equity-focused activities, and provide resources that can be used when leading similar learning communities in other contexts.
Thursday, 1:40pm-2:00pm, North Hall 295

Sarah Klanderman
Sarah Justice
Marian University
Lessons Learned in Alternative Grading
Alternative grading practices hold tremendous promise for improving student learning, yet implementation remains challenging for many instructors. At Marian University, a private, Catholic primarily undergraduate institution in Indianapolis, we developed a learning community to support educators through both the design and implementation phases of adopting alternative grading approaches. This session will include tips and tricks related to using alternative grading in STEM classes as well as generating buy-in and providing support for colleagues in other disciplines through learning communities.
Thursday, 3:35pm-3:55pm, North Hall 295

Sarah Klanderman
Marian University
Dave Klanderman
Jenny Griffin
Calvin University
One Medium, Many Classrooms: Graphic Novels in STEM

Building upon a recently published book (*Using Graphic Novels in the STEM Classroom*) and even more recently produced math graphic novels (e.g., *AI, Logical*), we offer highlights from the use of graphic novels in four very different settings: a middle school math summer camp, a university honors seminar with an audience representing many different majors, an upper level university geometry course, and a middle school math methods university course. Join us to learn more about potential uses of graphic novels in STEM classrooms at a variety of different educational levels. We provide feedback from university students as well as observations by the instructors.
Thursday, 4:50pm-5:10pm, North Hall 251

Michael Kolta
Alex Damarjian
Palm Beach Atlantic University
Christian Ethics in Computers, Software, and Artificial Intelligence
I presented at the 2024 ACMS conference about my then in-progress book. The book has now been released and is being used as a supplemental textbook in computer science courses. The title is “Christian Ethics in Computers, Software, and Artificial Intelligence”. Topics include the ubiquity of computers and software, Christian ethics in software and AI usage and design, and a call to action. We search for what the Bible (both Old and New Testament) has to say about modern issues, such as content “sharing”, seemingly endless notifications, and letting computers make decisions on our behalf. Ethical evaluations of these modern issues often change when Biblical principles are considered. We encourage users to use software ethically via example. We encourage designers to design software for ethical use and provide examples. Everyone is rightfully very concerned about the role AI is playing in both our use of and the creation of software and unique insights are offered.
See www.kolta.net for more information about me and my book.
Thursday, 4:25pm-4:45pm, North Hall 253

Jonathan David Lasco
Charles Keesee
University of Jamestown
God, His Word, and Engineering
While there are many publications espousing the reasonableness of a belief in God and His Word, literature is limited on accomplishing that aim from an engineering lens. To fill that gap, the goal of this paper is to present the relationship of engineering to God and his Word, namely, the Bible. The paper starts with a juxtaposition of the wonders and perils of engineering in which for the former (wonders of engineering), a) engineering increases productivity, b) engineering provides solutions to scientific problems, c) engineering paves the way for globalization, and d) engineering provides opportunities for sharing Christ, and for the latter (perils of engineering), a) malpractice of engineering can be detrimental to peoples’ lives, b) engineering can be wrongly embraced as a messiah, and c) engineering makes sinning easier. Second, the paper presents the intersection of Bible and engineering by laying out the warrant from the Bible to pursue engineering as a field of expertise, giving examples of engineering works in the Bible, and giving examples of engineering principles that are found in the Bible. Finally, the

paper ends with presenting a case for God as the Great Engineer because God is the Engineer of the Universe, God is the Engineer of his Church, God is the Engineer of our lives, and God is the Engineer of our faith. It is hoped that this paper will encourage Christians by showing that it is reasonable to believe in God and His Word even from the standpoint of engineering.
Friday, 10:50am-11:10am, Science Building 103

Michael Leih
Point Loma Nazarene University
The Society of Information Management (SIM) Academic Council is currently researching the impact of generative AI (GenAI) on the IT workforce. The research team is hosting focus groups with SIM members from across the United States to determine how GenAI is transforming IT roles, required skills, and hiring practices within IT departments. The results of this research will be submitted to the MISQE journal in the standing SIM section of the publication. This talk will provide a preliminary overview of the current research results. Initial focus group analysis suggests that the impact of GenAI is affecting all levels of the workforce and requiring a shift from technical execution to creative problem-solving and a stronger focus on business acumen and critical thinking.
Thursday, 4:50pm-5:10pm, North Hall 253

Joseph Lin
Charleston Southern University
Imago Dei in the Age of Algorithms: Designing a Faith-Integrated Applied AI Liberal Arts Core
Artificial Intelligence increasingly shapes human reasoning, creativity, and decision-making, yet AI education is often framed as a purely technical endeavor. This paper presents the design of a university-wide Applied Artificial Intelligence liberal arts core course grounded in the Christian doctrines of Imago Dei, stewardship, and truth. The course is intentionally designed for non-computer science majors and emphasizes conceptual understanding, ethical discernment, and responsible application of AI technologies rather than programming proficiency. In this paper, we articulate the theological rationale, curricular structure, and a planned mixed-methods assessment framework intended to evaluate student learning, ethical reasoning, and faith integration. By positioning AI as a tool under human moral responsibility rather than an autonomous authority, this work offers a faith-informed pedagogical model for AI literacy suitable for Christian higher education.
Thursday, 2:05pm-2:25pm, North Hall 253

Steven Lippold
Geneva College
Redeeming Mathematics Education: Applying Poythress to Faith Integration
In his book Redeeming Mathematics, Vern Poythress introduced his framework, Multiperspectivalism, as it relates to mathematics. Focusing on this framework, we refine a version of Multiperspectivalism that is intended for the use of faith integration in the math classroom and demonstrate with several applications.

Thursday, 3:10pm-3:30pm, North Hall 276

Chad Mangum
Jared Kettinger
Clemson University
Philip De Castro
University of Utah
A Graph Theoretic Tool in Epistemology
This talk will introduce a graph theoretic construction intended for application in epistemology. More specifically, we will consider how the set of beliefs of a(n) (idealized) human can be represented with a directed graph and how the resulting object can shed light on the structure of that individual's belief set. Applications, and an invitation for identifying further applications, will be explored as time allows.
Thursday, 4:25pm-4:45pm, North Hall 276

Kelsey Marcinko
Whitworth University
Mathematics, Virtues, and Flourishing: Integrating Worldview Reflections in a Complex Variables Course
Through a university-sponsored workshop on the "Vocation of the Christian Professor," I developed a desire to explicitly foster student growth in connecting their work in mathematics with the virtues of their worldviews and their own flourishing. In this talk, I will discuss my first efforts towards this endeavor from my spring 2025 complex variables course. In addition to the mathematical content, I gave students additional assignments to foster reflection about their own approach to learning, the habits that they employ as students, and the connections between their worldview and their work in mathematics.
Thursday, 9:40am-10am, North Hall 276

Mandi Maxwell
Taylor University
Wait, I think you're misinterpreting that...
The motivation for this talk comes from a homework exercise that has always bothered me in the probability and counting unit of a Math for Elementary Teachers course. The problem references a Little Caesar's pizza commercial (from my childhood) which includes a calculated value. The textbook answers contend that the commercial's value is wrong, but I'd contend that they might not be looking at it from the correct perspective. In this talk, we'll discuss an interactive lab activity I designed to investigate this situation using counting methods and seek to definitively determine if the commercial's value could actually be correct!
Thursday, 4:00pm-4:20pm, North Hall 295

Beth McCoy
Bradley McCoy
Azusa Pacific University
Building student community as a faculty family

In Rosaria Butterfield's book The Gospel Comes With A House Key, she says " Radically ordinary hospitality begins when we remember that God uses us as living epistles and that the openness or inaccessibility of our homes and hearts stands between life and death, victory and defeat, and grace or shame for most people." In this talk, we will describe living as a faculty couple teaching, serving, and parenting together in the presence of students. We have found that being open with students about the ups and downs of family life has allowed students to be more open about their own life challenges, leading to a greater sense of belonging. Moreover, serving together as a family on campus has helped demonstrate to our students' genuine care and hospitality for them. All of this has opened doors for organic mentoring relationships that go holistically beyond academics.
Thursday, 4:00pm-4:20pm, North Hall 251

Michael J. McGinnis
LeTourneau University
Measuring and Encouraging Christian Faith Development in STEM Students
This paper presents the results of a data-driven study examining faith development among engineering students at [redacted] University. A 30-question survey administered to over 260 students across multiple disciplines revealed statistically significant growth in key dimensions of Christian faith during their college years. Using the Mann-Whitney U test, we found marked increases in students' love for God, devotion to spiritual practices, ability to articulate theological concepts, and discernment of vocational calling.
The study also analyzed the impact of specific educational practices on faith formation. Practices centered on relational engagement with professors—such as personal relationships, directed prayer, and integration of faith into class topics—consistently ranked highest in perceived impact. Comparative analysis between "High Changers" and "Low Changers" (based on depth-of-faith score changes) further highlighted the formative power of relational faculty engagement and the Bible/Theology core curriculum.
Additional data from alumni and institutional thriving studies reinforce the conclusion that people matter most in spiritual formation. Faculty behaviors—especially caring, mentoring, and excitement about student faith—emerged as the most influential factors. These findings offer actionable insights for Christian engineering educators seeking to foster authentic faith development in STEM contexts.
The paper concludes with strategic recommendations for curriculum design, faculty development, and institutional culture, aimed at deepening vocational discipleship and aligning engineering education with Christian mission.
Friday, 11:15am-11:35am, Science Building 110

Dale McIntyre
Grove City College
Ten Mathematical Scientists Who Recognized God's Hand in Their Work
This talk is, in essence, a continuation of my earlier talks: *Ten Mathematicians Who Recognized God's Hand in Their Work Parts 1) and 2)*. However, I've broadened the scope to include scientists who employed mathematics in an essential way in their work

as well as scholars known primarily as mathematicians. Included are English mathematician Sir Isaac Barrow, Italian physicist Allesandro Volta, Austrian botanist Gregor Mendel, and American NASA mathematician Katherine Johnson, among others. A brief bio of each mathematical scientist will be given, including the role faith in God and religious conviction played in their work *in their own words*.
Thursday, 9:15am-9:35am, North Hall 276

Benjamin Mood
Point Loma Nazarene University
Successfully Teaching Students to Create Compilers
Creating a compiler is a complex task, especially for students who haven't done it before. As it is a common feature of many programming language courses, the question becomes: how can we effectively get students to create a compiler? This talk will explore factors that have contributed to student success when creating and implementing a compiler, as well as suggestions for what not to do. It will draw on experiences teaching the programming languages class 5 times over 10 years - some successful and some not. The goal of this presentation is to provide the audience with ideas for developing successful yet complex programming projects in any class.
Thursday, 10:05am-10:25am, North Hall 253

Chris Moseley
Calvin University
Surprise and Illumination in Mathematics
A prominent 20th century philosopher once asserted that "there can never be surprises in logic". In this talk I claim that there have been, and continue to be, surprises in mathematical research, and that these are often breakthrough moments of insight. I will support this with a survey of examples from classical mathematics and more recent research, and Hadamard's commentary in his essay "The Psychology of Invention in the Mathematical Sciences".
Thursday, 4:25pm-4:45pm, North Hall 259

Daniel Norman
Forman Christian College University
A Professor, a Parable, and Pakistan
I spent most of the last 20 years living and teaching outside the U.S. Of the many places I ever considered teaching, Pakistan was not one of them. Last spring a Pakistani math professor from another university in Lahore came to my office. I can best describe it as a state of mind as an existential crisis. He had concluded from Kurt Gödel's incompleteness theorems that mathematics is not the source of absolute truth. I met with him each week for two hours at a time and have continued to correspond by text and emails. Although the casual observer would see my atypical career as very crooked and circuitous, every time I have experienced a surprising divine encounter like this one, I am reminded that God has made my path straight.
Thursday, 1:15pm-1:35pm, North Hall 276

Victor Norman

Calvin University
A Christian Perspective on Grading: Eschewing Competition
In this talk, we will examine from a Christian perspective, the practice of grading assignments and assigning letter grades at the end of the semester. We believe that many teachers currently assign grades from a philosophy of scarcity and competition, instead of a (Christian) philosophy of abundance. We will investigate where traditional grading practices come from and why many still continue to use them, and how to seek out where and when competition among students may be promoted in syllabi and practices. We will present a framework for removing competition from grading practices, and discuss implications of this change.
Thursday, 11:35am-11:55am, North Hall 253

Mark Nowack
College of the Ozarks
Caring for Engineering Alumni
Some engineering program graduates fail to flourish in the workplace and in society generally. This negatively impacts the communities that the schools serve and stands as a challenge to Christian higher education aims to bless students via their undergraduate experience. Since the numbers of such struggling alumni are relatively small, they are easily neglected in defiance of the Matthew 25:40 admonition to minister to the least.
This paper considers what has been done to date to address relationships with engineering program graduates beyond solicitation of alumni support. The paper further examines some historical and socio-cultural issues surrounding support for graduates, particularly in light of engineering programs' focus on vocational success. A great deal has been written on reaching out to alumni to encourage them to stay connected with their alma mater and hence give back. A few works indicate an increasing awareness of challenges faced by recent graduates. Additional works address assessing graduate workplace performance with a goal of adjusting program content. However, very little has been written on the topic of higher education responsibility to reach out to non-thriving alumni who have little to offer back, a challenge for Christian faculty in light of non-bias charges such as Luke 14:13 and James 2:1-4. The unaddressed question is whether higher education generally, and engineering programs specifically, should be concerned about post-graduation thriving shortfalls, and if so, should support be offered to individual alumni or should action be limited to program content changes?
An approach for graduate support inspired by parental support for adult children and the Apostle Paul's care for dispersed churches is proposed that addresses the gap in current graduate support. Several practical implications of this approach are identified in the context of initial implementation efforts. This alternative perspective on the relationship between engineering faculty and program graduates who are not thriving may be helpful to smaller engineering programs at Christian schools interested in supporting graduate success, particularly for those program veterans outside of the mainstream, the "least of these" former students.
Thursday, 11:10am-11:30am, Science Building 103

Markus D. Ong
Whitworth University
Diversity by Design for the Benefit of the Body
In materials science and engineering, we see diversity in the design of materials. From atoms to microstructures, materials are developed with particular properties in mind so that the material can perform appropriately for its designed engineering function. No material is ideal for everything, and a diverse set of materials is almost always required for the complete design of a usable product. In this paper, these concepts are presented by considering the underlying structure of materials for the benefit of the human body in biomedical applications. Just as a good engineer uses diverse materials and microstructures when designing devices, God likewise uses diversity among the members of the body of Christ so that it is appropriately equipped to fulfill its calling. Although we may be tempted to rank certain members of the body by desirable gifts, skills, or attributes, our evaluations often miss the glory of God's overall design. Members that are essential to promote a richer functioning of the body of Christ may lack traits that we typically esteem. This diversity is by design, and it is for the benefit of the body. As Christians, may we live in a way that seeks God's grace to be part of Christ's body according to our God-given calling and have hearts of worship and thankfulness for his good designs.
Thursday, 4:50pm-5:10pm, Science Building 110

Taylor Poe
Adelaide Zink
Mississippi College
An Undergraduate Research Journey
In this part-teaching part-research talk, we hope to walk through how a research project came about then explain the project. We examine circles on the hexagonal tiling of the plane and on the triangular tiling of the plane using non-Euclidean definitions of distance. We expound upon prior research done on conic sections under a taxicab definition of distance and Chebyshev definition of distance by adapting these definitions to the hexagonal and triangular tilings of the plane. Our research methods include drawing and observing conic sections of different sizes and conditions to make generalizations and rules for all conic sections of a certain type under these definitions of distance. Our findings include that circles under a hexagonal taxicab definition of distance appear to be the same as hexagons under a Euclidean definition of distance, that circles under a hexagonal Chebyshev definition of distance appear to be the same as diamonds under a Euclidean definition of distance, and that circles under a triangular Chebyshev definition of distance appear to be the same as a hexagram under the Euclidean definition of distance.
Thursday, 11:10am-11:30am, NH 295

Randy Pruim
Calvin University
Grammar(s) for Interactive Graphics
{ggplot} (and later {ggplot2}) brought Leland Wilkinson's grammar of graphics ideas to R, and from there they have spread to other languages, including Python. But {ggplot2} and it's ilk only handle static graphics. What about interactive graphics like the cool things you can find at

the *New York Times* and *Washington Post* websites? Recent developments to implement grammars for interactive graphics make interactive graphics accessible to people who don't have the inclination to learn tools like D3. I'll give a quick tour of the grammar for interactive graphics used in vegalite (https://vega.github.io/vega-lite/) and in the Python package altair and R packages {altair} and {vegabrite} that build on it. We'll illustrate interactive graphics using graphics I and my students have made. We'll also include a teaser for the new kid on the block, mosaic (https://idl.uw.edu/mosaic/), which promises to provide interactivity for much larger data sets.
Friday, 11:15-11:35am, North Hall 251

Alexander Roth
Peter Staritz
Taylor University
Using AI to Train Students for Meaningful Spiritual Conversations
The engineering workplace can be a spiritually dark place in need of the light of the Gospel of Jesus Christ. Jesus's Great Commission calls all Christians to go make disciples of people in all nations, including those in the engineering profession. However, research shows that the number of Christians actively sharing their faith has dramatically dropped over the last few decades, often due to insecurity or lack of experience in faith-based conversations. As Christian Engineering educators, we are called to train Christian engineers who are both technically excellent and can love their coworkers well through civil conversations on spiritual matters. To that end, we have integrated a discussion of Questioning Evangelism by Randy Newman into a junior-level engineering project curriculum and augmented the assignments with Artificial Intelligence (AI) spiritual conversation practice. Students use Large Language Model (LLM) AI to engage in low-stakes practice conversations using engineered prompts that portray a range of perspectives, from culturally Christian to staunch atheist. These exercises allow students to practice discourse techniques from readings, build conversational skills, and gain confidence before engaging in peer debrief discussions. Student feedback has indicated that these exercises have been an effective means of both solidifying helpful conversation techniques discussed in the readings and diminishing anxiety around faith conversations in the workplace through simulated practice.
Thursday, 3:35pm-3:55pm, Science Building 103

Melvin Royer
Indiana Wesleyan University
Comparison of Competing Species Dynamical Systems Models
Dynamical systems have been extensively used to model the evolving populations of two competing biological species. The original continuous-time Lotka-Volterra and discrete-time Leslie-Gowers models predict similar outcomes for species coexistence and domination. Both models have been generalized in many ways, but some generalizations exhibit more significant differences between the continuous-time and discrete-time versions. This talk will compare results from two of my related undergraduate research projects with students, one in continuous time and the other in discrete time. The discrete-time system exhibits more varied (and possibly realistic) behavior, but its stability is more challenging to analyze.

Thursday, 3:10pm-3:30pm, North Hall 259

Lauren Sager
University of New Hampshire
Rebecca Butler
Virginia Commonwealth University
Calculating Change: How One Experienced Learning Assistant Helped a Calculus I Instructor Differentiate their Instruction
This case study provides insight into how an experienced undergraduate learning assistant (LA) can be an agent of change when paired with a novice instructor in an active learning-based classroom. We explore the changes in the classroom actions of a graduate student instructor over two semesters in a purposefully designed active learning-based Calculus I course. When paired with an experienced LA in his second semester teaching the course, the instructor's teaching actions varied more – including short periods of lecture, class discussion, questioning along with the expected facilitation of group work. We seek to elaborate on the observed change with reflections from the instructor and LA on their classroom relationship.
Thursday, 11:35am-11:55am, North Hall 295

Michael Sill
Will Anklam
Naomi Hekman
California Baptist University
Mathematical Evidence of Structured Robustness in the Genetic Code
The genetic code translates sequences of three nucleotides (codons) into amino acids, forming the foundation of biological life. In this talk, we examine the genetic code through a purely combinatorial lens by modeling codon space as the Hamming graph H(4,3), where edges represent single-nucleotide mutations. An assignment function partitions this graph into synonymous classes corresponding to amino acids. We introduce a sequence of increasingly refined mathematical models to measure mutational robustness. First, we analyze a coarse baseline determined only by the degeneracy profile of the code. Second, we incorporate mutation geometry and measure the proportion of single-nucleotide substitutions that are silent. Finally, we study a subspace of all possible assignment functions and examine local optimality under degeneracy-preserving perturbations. Our results show that the standard genetic code exhibits substantially greater geometric robustness than random organization predicts and lies extremely close to a local maximizer within the natural geometry of assignment space. While our analysis does not rely on biochemical or chemical weighting, it reveals that the genetic code possesses structured robustness across multiple mathematical geometries, which we would expect as God is a good designer.
Thursday, 9:40am-10am, North Hall 259

Andrew Simoson
King University
Let there be Light: A Toy Model

This talk is a neo-Platonic mind experiment on the nature of light. Archytas, who was perhaps the first to write on optics and who was also a friend of Plato, proposed that light from the stars came to us in straight lines, all of which, together with the idea of circles, blossomed into what Euclid later cobbled together as the axioms and propositions of the Elements. In this spirit, we explore how far the idea of lines and circles may be pushed so as to reap the laws of reflection, refraction, and diffraction of light, before discovering that---just as we realized that the fifth Euclidean axiom need not be true---this fancy, too, might flounder.
Thursday, 11:35am-11:55am, North Hall 259

Michael Stob
Calvin University
The NCAA Power Index
In 2024, the NCAA adopted a method for rating teams in each of the team sports that it sponsors in Division III. This method is used to choose the competitors in post-season tournaments. The rating of a team is a number determined entirely by a "mathematical" function. There is some interesting linear algebra here as well as some interesting computational issues. We'll look at this method using the specific example of the 2025 Division III Women's Volleyball season which featured 415 teams playing schedules of approximately 30 games each.
Thursday, 2:30pm-2:50pm, North Hall 251

Nathan Sunukjian
Calvin University
Are you there math? It's me, Uncertainty and Anxiety -- Probability in the 17th and 18th centuries
One possible worry about the rise of AI is that chatbots will become an arbiter of truth, in your important medical decisions, in your relationships, and in understanding the world in general. Using mathematics as the final standard for making decisions with confidence (and sometimes anxiety) has a long history -- but a varied one. At different points in history, different kinds of mathematics have provided different epistemologies. In this talk, I'll compare some of the uses of (and controversy surrounding the use of) mathematics to understand truth and certainty in the 17th and 18th centuries. Particular cases from this time period will include issues of criminal justice (jury selection, equitable sentencing), public health (vaccination), and risk management (gambling and trying to find loopholes around sin). Descartes, Pascal, Laplace, and d'Almebert will be our guides.
Thursday, 1:15pm-1:35pm, North Hall 251

Brian Swartz
Messiah University
Gospel Allegories in Engineering Mechanics
Three central ideas in a study of engineering mechanics – biaxial tension stress, residual stresses, and indeterminate analysis – provide insight into parables that Jesus used to describe Himself and the coming Kingdom. Jesus' descriptions of fresh wine in aged wineskins and new fabric patching an older garment directly relate to familiar

concepts in engineering mechanics. Furthermore, a study of indeterminate systems demonstrates the pursuit of a unique solution that satisfies different constraints, just as the Gospel presents Jesus as a unique solution that displays God's love and mercy while also satisfying His holiness and justice. The reader's existing understanding of engineering mechanics may produce insight into complex spiritual truth. Recognizing the connection between Gospel truth and engineering concepts leads to greater appreciation for the discipline of engineering and the relationship we have with the ultimate Creator.
Thursday, 10:45am-11:05am, Science Building 110

Cameron Sweet
Saint Martin's University
Problem Solving: Mathematics and Climbing
Belay systems safely stop a fall and minimize the impact force on the climber and belayer. Impact force on a climber is dependent on natural forces, equipment attributes, and the fall factor. Properly secured protection is designed to hold in the direction of fall. Adjusting length of payout rope based on height of fall minimizes the fall factor and impact force. We will examine equations for the fall factor and forces acting on the climber and belay system to consider decisions and outcomes when climbing.
Thursday, 2:05pm-2:25pm, North Hall 295

Philip Tan
Messiah University
Efficiency-Loving Engineers and our "Inefficient" God
Efficiency is a hallmark of engineers. As the old saying goes, "An engineer can do for a dollar what any fool can do for two." Indeed, engineers who follow Jesus likely view their efforts to save time, money, and resources as glorifying to God. After all, surely one way to love my neighbors is to serve them by reducing waste! But does maximizing efficiency always advance God's kingdom? A survey of scriptural examples—creation, the Exodus, the incarnation, Christ's miracles, and evangelism—demonstrates that God has often deliberately chosen to work in surprisingly "inefficient" ways. On the other hand, God is never wasteful, but the ratio of useful output to total input in his dealings defies straightforward methods of quantification. Ultimately, Christian engineers need a shift from the pursuit of efficiency to the cultivation of stewardship. A proper view of efficiency will transform the way engineers live out their callings—whether in the classroom, in the workplace, or in everyday life.
Thursday, 1:40pm-2:00pm, Science Building 103

Jon D Tirpak
Sabattis LLC
A Professional Metallurgical Engineer's Perspective of Refining of Souls and Metals per Malachi 3: 1-3 and The New American Bible Revised Edition
Researched and written from the combined perspectives of a licensed, professional metallurgical engineer with decades of experience in forging, casting and process management and a convert to Catholicism, this paper explores Malachi 3: 1-3. Specifically, attention is directed at this scriptural passage: "For he will be like a refiner's

fire, like fullers' lye. He will sit refining and purifying silver, and he will purify the Levites, Refining them like gold or silver…."
Furthermore, this paper will explore a perspective of purification via the Catholic "process model" connecting the Church Militant, Church Penitent, and Church Triumphant while recognizing prior work presented by others at Christian Engineering Society Conferences.
From other research of Metals of the Bible, metal refining is an analogy for purifying souls not only for the Church Militant but also for the Church Penitent ultimately leading souls to the Church Triumphant. This transition across the "Churches" is examined briefly from both a Process Management perspective and a Plan-Do-Check-Act Cycle perspective.
The paper includes summaries of limits and allowances for research of scripture from the United States Conference of Catholic Bishops; a summary of preliminary research on Metals of the Bible; search terms, tools, & processes; summaries of relevant metallurgical concepts and processes; and comparison of the purgation of souls with the refining of metals (then and now).
As a bonus, the Secrets of Metallurgy will be revealed.
Ultimately, pure souls (read pure gold or pure silver) will realize Beatific Vision and Life Everlasting.
Thursday, 11:35am-11:55am, Science Building 110

John Tixier
LeTourneau University
Engineering Program Initiation at Northrise University
Northrise University is a private Christ-centered university, with a campus on 640 acres outside of Ndola, Zambia. After more than a decade of planning and development to implement an engineering degree at Northrise, the program began in January 2025 with the first cohort of engineering freshmen. The second cohort will be accepted in January 2026 and will have completed their first semester – and the first cohort three semesters – of instruction as of the 2026 CEC gathering. Previous CEC papers have documented the planning and development efforts, which are summarized in this paper for background. This paper presents the status of the program, ongoing development efforts, and collaboration opportunities with Engineering professors and professionals. Planning and development began in about 2015 with the vision of an Engineering program at Northrise and culminating with the dedication of the Engineering building in the summer of 2024 and the first cohort in January 2025. First cohort retention is also examined. A description of courses taught so far and those still under development is provided. While integration of faith and learning is core to a Northrise education, a strong distinction of the Northrise engineering program is a series of three sequential Introduction to Engineering courses, taken in the second, third, and fourth semesters of the five-year program. In addition to introductory topics on engineering principles and practice, each course includes a hands-on design and build project each semester. Lessons learned from completed courses are offered in the paper. Most upper-level courses are under development, and faculty recruiting is on-going; a progress report is provided. Finally, collaborative opportunities for ex-patriot engineering faculty or professionals are described. These include a semester sabbatical, teaching one or

more courses and/or contributing to course development. Perhaps a year (or more) stint for a retiree could be considered. Contribution to remote seminars is also a possibility.
Thursday, 11:35am-11:55am, Science Building 103

Jonathan Tot
Ph.D. Student, Dalhousie University
Demonstrating Euler's Formula Without Calculus
It is often a struggle to motivate (or even explain) Euler's Formula with more junior students, in particular those who have learned the algebra of complex numbers but have not yet encountered differential calculus or Taylor series. It seems it would be a distinct benefit if it were possible to understand exp(i x) as exponentials *arithmetically*, which is to say, as the result of a process of repeated multiplication. In this talk, we first examine 'Euler' on the right-hand-side, introducing the complex roots of unity, seeing in no uncertain terms that they relate closely to Euler's Formula. We then attack the Formula from the left-hand-side, deducing from some basic principles that we really must place e^{ix} within the complex unit circle. We conclude by identifying a handful of properties for e^{ix}, to which cos(x) +isin(x) is the unique solution.
Thursday, 11:10am-11:30am, NH 259

Carlson Triebold
Point Loma Nazarene University
Education-based service-learning projects
Service-learning projects are used as teaching tools allowing students to put their knowledge and classroom experience to use in practical ways. Ideally, they learn to professionally interact with clients and synthesize material learned in a wide variety of classes into solutions to cross-disciplinary applications. But where can interesting projects that fit these parameters be found? In the Fall of 2025, students at Point Loma Nazarene University worked on projects creating interactive class materials for lower-division courses in computer science and mathematics. Topics included machine learning, Python, and linear algebra. Their clients were the professors currently teaching those classes. This presentation will discuss the process of mentoring the students and reflections of how effective the projects were as teaching tools.
Thursday, 10:45am-11:05am, NH 253

Simon Tse
Trinity Western University
Moore's Method with Cognitive Augmentation
In the real analysis course "The Real Line," a Guided Inquiry Learning variant of the Moore method is used to explore the foundational completeness of the real numbers. The curriculum is structured as a parallelized, mastery-based, and tiered model where students advance autonomously in ad hoc groups, pausing to recalibrate at the close of three distinct units. This uncoupled, milestone-regulated pacing creates a highly equitable environment: it relieves the pressure on developing students by requiring complete clarity before unlocking new material, while simultaneously pushing stronger students through a weekly honors seminar that examines faith-driven views of

completeness through a historical lens. To support this rigorous struggle, students are given guidelines to use generative AI outside of class for "cognitive augmentation" — a relentless 24/7 tutor preparing them for in-class peer explications and oral defenses. Finally, the student-led inquiry is punctuated by a few instructor-led 15-minute lectures per thematic unit, to contextualize the work by the history of philosophical and theological struggles of figures like Cantor and Kronecker, equipping students with a Christian philosophical lens to view their pursuit of absolute certainty.
Thursday, 9:15am-9:35am, North Hall 295

Matthew Tsutsui
Portland State University
Math, Christianity, and the Pursuit of “Getting” It: Some Helpful Principles for College Students
Math and Christianity share several seemingly contradicting features. They both promise truth accessible to everyone, yet only a few seem to access it. They both are attractive (if, ever) for their fruit, but not always appealing at the root. And both, in the wrong hands, inflict harm—the opposite of what they preach. Pondering these characteristics through the attitudes of (liberal) college students led me to rethink how I, as an instructor of a corequisite remediation course, should integrate faith and math in a meaningful way. As part of an ongoing book project, I will share several life principles that can support a student’s mathematical learning and search for Jesus. I will illustrate and support the effectiveness of these principles with math problems, Bible verses, some scholarly work, and personal anecdotes. Although results aren’t deterministic, students who develop these principles for math or Christianity may finally “get” it.
Friday, 10:50am-11:10am, North Hall 276

Russ Tuck
Gordon College
Senior project experience report
Capstone projects for computer science are common, and vary widely. We will share the most valuable things we've learned from 10 years experience using industry experience to refine a much longer academic tradition. The goal is to help students learn to solve a real problem for a real customer, while demonstrating the ability to independently learn a new programming tool or language. Key learnings include ways to adapt agile development for this context, having juniors observe as part of their preparation, setting regular milestones that get the software into users' hands early so there is time for fixing unanticipated problems and meeting unanticipated needs, and tracking code contributions in order to address under-contribution early and effectively. Together, these refinements have significantly improved the rate of fully successful projects, as measured by whether users are still using them a year later.
Thursday, 9:40am-10am, NH 253

James Turner
Calvin University
Faith Seeking Beauty: A proposal for integrating faith in teaching mathematics

A proposal for integrating faith perspectives in teaching mathematics will be described in this talk. Central to the approach is to combine with the results essential to the subject-matter the significant discoverers together with the narrative of those discoveries. This approach opens the door to explore such features in connection with such faith components as creation ex nihilo, God as the Word (Logos), and humanity as created imago dei. Along the way, I will describe how certain concepts that are common to both theological and mathematical reasoning, such as analogy and the role of symbolism, can provide ways of seeing both in a common light and, so, be integrated in teaching a mathematical topic.
Friday, 11:15am-11:35am, North Hall 276

James Turner
Calvin University
The Mathematician's Mind Redux
In 1903, Henri Poincare wrote a reflection on mathematical discovery. In 1945, Jacques Hadamard produced a follow up to Poincare's reflection that expanded upon the nature of discovery and invention in mathematics based upon then theories of human consciousness. In this talk, we outline how Poincare's original reflections along with Hadamard's organization of them in terms of preparation, incubation, illumination, and verification can be understood within a framework of human understanding as provided by contemporary commentators of the philosophy and theology of Thomas Aquinas.
Thursday, 4:50pm-5:10pm, North Hall 259

Alana Unfried
California State University Monterey Bay
masder.net - A Tool for Understanding Statistics and Data Science Programs
The MASDER team develops validated, theory-based instruments that help educators and researchers measure student motivation, instructor attitudes, and learning environments in undergraduate statistics and data science. We also study the current landscape of undergraduate statistics and data science education in the United States. This talk will present the MASDER website (masder.net), which facilitates the online administration of MASDER surveys, and presents our findings on the current Data Science landscape in the US - the results of a five-year NSF project (DUE-2013392). Use of the website allows any educator or researcher to 1) easily administer high-quality, validated, customizable surveys, 2) connect data between surveys and manage survey instances seamlessly, 3) download data and view automated reports comparing their class to the national sample, and 4) contribute to the growing national database of survey responses. Additionally, the website presents the MASDER team's research on recommendations for undergraduate Data Science programs and trends on what is being taught in Introductory Data Science courses. Come learn how you might benefit from using masder.net, and get a behind-the-scenes look at how the website works.
Thursday, 1:40pm-2:00pm, North Hall 251

Justin R. Vander Werff
Kevin J. Timmer
Dordt University

A normative design process for code-based infrastructure design
Design norms for engineering based on Herman Dooyeweerd's modal aspects were introduced in the landmark book Responsible Technology and revisited in A Christian Field Guide to Technology for Engineers and Designers. While these norms were initially introduced primarily in the context of the prototype-style design most common in fields such as mechanical and electrical engineering, recent work has shown that these design norms are also very applicable to code-based infrastructure design usually most associated with civil engineering. This paper aims to extend this work into the design process, since typical approaches to design methodology often seem to also cater to prototype-style design rather than code-based design.
What should an integrally Christian design process look like? Typical design processes, whether or not they are based on the design norms, often involve an iterative methodology that designs and analyzes, prototypes, tests, re-designs, re-prototypes, and so on. However, infrastructure design typically is based on code requirements, rather than being based on an iterative prototype and testing process. Therefore, it is often difficult to apply design processes that are more geared toward this iterative style. One promising alternative to iterative design that has been briefly explored is the double-diamond model of discovery, definition, development, and delivery. In this paper, we explore this and other similar concepts in the context of the design norms to present a distinctively Christian approach to design that is appropriate for code-based infrastructure design.
Thursday, 2:05pm-2:25pm, Science Building 110

Justin R. Vander Werff
Dordt University
Developing distinctively Christian engineering textbook content
Engineering education continues to change. One particular aspect that is very different than a generation ago is the place of engineering textbooks. Students increasingly have less appetite for traditional engineering textbooks, given the apparent prevalence of information everywhere, however helpful it may or may not be. Even when traditional textbooks are used, students typically will simply rent them for the few months of the course and then return them, rather than tab them, earmark them, mark them up, and give them a hallowed spot on their bookshelf as we may have done a generation or two ago when we were engineering students.
However, rather than to cause us to bemoan what used to be, students' appetite for more agile, less traditional, more focused material can actually provide us an opportunity as Christian engineering educators to develop our own material from a Christian worldview. While most of us have understandably taught much of our technical engineering content from typical, supposedly "neutral" textbooks, we know that in actuality worldview always matters and none of these standard texts are really neutral. Developing our own material can provide us with an opportunity to re-think what we may have taken for granted and work from a biblical context.
A few technical areas where I have had the opportunity to develop my own material are introductory statics, structural analysis, structural steel design, and reinforced concrete design. In this paper I will share some observations, challenges, and lessons learned from this work. In addition, hopefully this work will stimulate conversations with other

Christian engineering educators who might be interested in developing similar materials in their own disciplinary areas.
Friday, 11:40am-Noon, Science Building 110

Timothy J. Van Dyke
Messiah University
Machina ex Deo: Seeing Engineering as Inspired by the Creator
“In the beginning, God created the heavens and the earth.” (Genesis 1:1) And so with a simple statement, Moses describes a rich, multifaceted, complex, creative endeavor. Similarly, but in a much more limited way, when engineers create new technological solutions, they are engaged in a rich, multifaceted, creative, complex endeavor. When examining how the Christian faith relates to this endeavor, there are of course bound to be a variety of different approaches which can be used to examine how these two spheres intersect. And while each of these different approaches might yield valuable insights into this intersection and valuable ideas of how a Christian should practice engineering, it is clear that no one single approach to the issue will discover all possible influences of Christian faith on engineering. As a way to organize this discussion, it might be helpful to categorize these ideas by which steps of the engineering process they impact. As will be discussed in this paper, doing so shows that there has been limited discussion on the impact of Christian faith on one significant step in the work of engineers do and that is the step of creatively generating possible technological solutions to the problem that has been posed. This is surprising since this step lies at the very heart of what engineers do and is the step that sets engineering apart from many other disciplines. However, examining how a Christian engineer might perform this particular aspect of the work differently from a non-Christian engineer gives new insights into how the Christian faith can be integrated with engineering and additionally I believe into how the Christian faith can impact engineering education. This is, then, the goal of this paper: to briefly examine the ways in which the Christian faith has been said to impact engineering, to identify a significant aspect of the work of engineers which is often underemphasized in these considerations, to contemplate how the Christian faith might influence this particular area, and to consider the implications of this influence on Christian engineering education.
Thursday, 4:25pm-4:45pm, Science Building 110

Mike Veatch
Gordon College
Short Names and Large Sets: The Library of Babel and the (False) Infinite Monkey Theorem
Mathematicians consider sets that are more numerous than needed to describe the physical world. Large finite sets are constructed using combinatorics: the size is exponential in the number of digits or characters an element can have. I will raise some philosophical objections to such sets. On the one hand, the “combinatorial explosion” is essential; without it, objects could not have short, unique names. However, discussion of immense sets sometimes neglects the inverse: not all long strings can correspond to physical objects. Borges' "The Library of Babel" and the Infinite Monkey Theorem are

examples. I will argue that large indexes, like the library, and small probabilities, like randomly typing Hamlet, should have no ontological status.
Thursday, 4:00pm-4:20pm, North Hall 259

Kenneth D. Visser
Calvin University
Our Calling to Create More Good, An Aerospace Engineer's Perspective
Our God gave engineers the mandate in Genesis to continue to shape and tend our world into even greater things for His glory. Aerospace engineering is a good example of our ability to make 'more good' from the goodness that God has bestowed upon us in creation. Producing aluminum to build aircraft from bauxite, for instance, utilizes the 'gold and onyx' resources given to us in Genesis 2 to make a strong and light material, a material that God did not directly give us. Combining this with the physical principles of lift on a moving body in a fluid, also part of God's creation, enables us to create vehicles to fly through the air. The result is a handiwork of more of the 'good', if you will, from what was given to us initially in God's creation and is a reflection, in a small way, of our being made in God's image. As well intentioned as this may sound, however, do we always critically consider that our solutions could have longer term impacts that may not be good at all? Is our understanding of 'good' good enough? Do we reflect on the potentially sinful use of what we have developed and think about what might be required to mitigate that? The airplane can help us explore the world and to spread the gospel, but it has also been used as a weapon of destruction, so how does our 'creating' fit in with a proper interpretation of the 'ruling' and 'subduing' mandate that glorifies our Maker? The focus of this paper is on our calling at creation to create more good from the inherent good God has given us and our accountability for that in light of our creational mandate. Several strategies of how we might consider our creative more good impact, drawing on the author's aerospace engineering experiences in industry, academia, and the entrepreneurial world, are presented along with helpful normative guidelines drawn from the literature.
Thursday, 1:40pm-2:00pm, Science Building 110

Saroijni Vudumu
Anderson University
For Such a Time as This: Affirming Human Creativity in the Age of Generative AI
Title: For Such a Time as This: Affirming Human Creativity in the Age of Generative AI
Generative AI systems are now able to design circuits, write code, and create engineering documents, which raises questions about whether machines could one day replace human engineers. This paper argues that, even though AI can do many impressive tasks, it has limits: it can follow patterns and perform work, but it cannot show the God-given creativity, moral judgment, or spiritual responsibility that humans have. Based on the belief that humans are made in God's image, this paper offers a Christian view to help students understand what makes human engineers unique and the ethical limits of using AI in their work. It also discusses how teachers can guide students to use AI in a responsible way while building important virtues such as patience, perseverance, honesty, and humility—qualities needed for good engineering but not found in machines. Using a biblical perspective, the paper encourages students

to see technology as a helpful tool, not a replacement for human creativity, so their work shows both skill and moral care. In today's fast-changing world, Christian schools have the task and opportunity to prepare students not only with modern engineering skills, but also with a strong biblical foundation that helps them serve faithfully "for such a time as this."
Friday, 11:15am-11:35am, Science Building 103

Becky Wakeman
Indiana Wesleyan University
Extending the Table: AI Tools that Welcome Students into Mathematical Community
The biblical practice of hospitality involves creating space where strangers become guests and guests become family. In mathematics classrooms, however, many students remain perpetual strangers—hesitant to ask questions, uncertain of their belonging, and convinced they are not "math people." This presentation examines how AI-powered course support can function as an extension of Christian hospitality, lowering barriers to participation while maintaining the formative relationships central to teaching. Evidence from implementation across multiple mathematics courses reveals three key mechanisms: availability (24/7 access without judgment), personalization (adaptive support meeting students where they are), and scaffolding (guidance without removing productive struggle). The session provides practical tools for deploying AI course assistants, assessment strategies for measuring belonging outcomes, and ethical frameworks for discerning when AI enhances versus undermines the relational work of teaching. Participants will gain actionable strategies for using AI to welcome more students into mathematical community.
Thursday, 10:45am-11:05am, NH 295

Emily Wenger
Duke University
Reclaiming Data Agency in the Age of AI
As AI models grow in size and scope, so does the amount of data needed to train them. Unfortunately, individuals whose data is used in large-scale AI models may face unwanted consequences, such as privacy or intellectual property violations. Many existing solutions simply work to mitigate privacy risks of AI data use via methods like differential privacy, encrypted model training, and federated learning. But what if, instead, users had agency over how and if their data is used in AI models? This talk introduces the concept of **data agency**, individuals' ability to know and control whether their data is used in AI systems. It proposes technical tools enabling data agency, including methods to trace or disrupt data use in AI systems, and considers possible limitations. Finally, it will discuss how data agency tools complement existing AI data privacy protection approaches and could amplify nascent efforts to regulate AI data use.
Thursday, 3:35pm-3:55pm, North Hall 253

Josh Wilkerson
Regents School of Austin
The Classical Christian Movement: How they teach (and don't teach) math

The classical Christian school movement has grown tremendously in the past decade. Many Christian universities have begun programs that offer degrees or certificates in classical education. The "classical" education framework as it is broadly implemented, while it can take different forms, largely focuses on the liberal arts, great books, and the humanities, but the classical movement has yet to find its footing when it comes to mathematics. This presentation will give a brief overview of the classical Christian school movement, share the findings of a national survey of classical schools on their perception of how to teach mathematics, and highlight areas where the movement could benefit from the voices of ACMS members.
Thursday, 3:10pm-3:30pm, North Hall 251

Dusty Wilson
Highline College
Building Thinking Classrooms comes to College
Building Thinking Classrooms (BTC) has swept K-12 math education nationwide. Based on his research, Peter Liljedahl invites us to replace teaching habits wherein our strongest 20% of students think for 20% of the time with the BTC practices where 80% of students think 80% of the time. But will this work in a college classroom? This talk will outline the successful implementation of BTC in college algebra, calculus, and linear algebra and conclude by inviting you to take a leap of faith.
Thursday, 4:50pm-5:10pm, North Hall 295

Jason Wilson
Biola University
Luuk Van de Weghe
Independent Scholar
How Using Statistics to Compare the Names in the Gospels and Acts with the Historical Reference Distribution Supports their Historical Reliability
In September 2023, the Journal for the Study of the Historical Jesus published a statistical critique of Richard Bauckham's argument for the historicity of the Gospels and Acts based on the name frequencies matching the historical reference distribution. They argued the observed name frequencies fit a uniform distribution no worse than they fit the historical reference database of first-century Palestinian Jewish names. They went further to claim weak evidence against the historical reliability of the Gospel and Acts name data (Gregor and Blais, 2023). In this presentation, I first summarize the scholarly exchange that followed, including our critique of Gregor and Blais' methodology and our use of statistical goodness-of-fit testing showed the names in the Gospels and Acts fit the contemporary historical reference distribution at least as well as those found in the works of Josephus. I then present new results extending this analysis across time. Because name distributions are known to change historically, we applied the same goodness-of-fit tests to reference datasets from the periods preceding (330 BCE–5 BCE) and following (74–135 CE; 136–200 CE) the time of the Gospels and Acts (4 BCE–73 CE). We find that the Gospel and Acts name distributions fit the contemporary period only, and not earlier or later periods. This temporal specificity strengthens the case that the names reflect the historical onomastic environment of their purported

setting and provides further statistical evidence consistent with the historicity of the Gospels and Acts.
Thursday, 11:10am-11:30am, North Hall 251

Matthew Wright
St. Olaf College
Polynomial Identities for Generalized Fibonacci Sequences
The Fibonacci, Pell, and Lucas sequences satisfy certain families of polynomial identities. The existence of these identities for three well-known sequences suggests that other sequences of generalized Fibonacci numbers (i.e., integer sequences defined by second-order linear recurrences) may also satisfy such identities. Perhaps surprisingly, not every generalized Fibonacci sequence satisfies the type of identity in question. In this talk, I will define polynomial identities, explain which families of generalized Fibonacci sequences satisfy such identities, and show how these results follow from the theory of recurrence relations and the classic Waring formula. This work grew out of a computational mathematics course and involved contributions by students at St. Olaf College.
Thursday, 1:40pm-2:00pm, North Hall 259

Rebekah Yates
Houghton University
Summing it up: integrating mathematics with faith, learning, and life in a senior seminar course
As our students proceed through individual courses in their math majors, it can be easy for them to keep their learning discrete, separating algebra from analysis, geometry from probability, etc. It is also tempting for them to compartmentalize their mathematical learning from their learning in other courses and their faith. While we work with our students throughout their education to recognize the many virtues that mathematics cultivates and the ways in which mathematics can inform and enrich a Christian life even after graduation, at Houghton, we particularly focus on helping students integrate all areas of their learning and faith and articulate that integration in our senior seminar class. I will share the ways in which we seek to do so through reading discussions, major projects, and other assignments throughout this capstone course.
Thursday, 1:40pm-2:00pm, North Hall 276

Jonathan Zderad
Daniel Deutsch
University of Northwestern -- St.Paul
Applications of Tony PI in Assistive Robotics
Tony PI is a 16 inch humanoid robot, manufactured by HiWonder of Hong Kong, and powered by Raspberry Pi. Tony PI is equipped with vision and realistic joint movements. This talk will discuss the potential of humanoid robots in performing various day-to-day tasks, especially as it relates to biomedical applications of assistive robotics for individuals with disabilities. This talk will specifically focus on Tony Pi’s ability to bring objects to humans, to help humans identify and sort objects, and to implement algorithms to accomplished specific human-beneficial tasks.

Thursday, 4:00pm-4:20pm, North Hall 253

Shelley Zhang
Gordon College
What to Teach and Not to Teach When AI Programs So Well?
With AI tools now capable of generating high-quality, often flawless code in minutes, computer science education faces a fundamental challenge: what core content should continue to be taught, and what traditional elements may no longer be essential? This paper explores this question by reviewing the current capabilities and limitations of major AI programming assistants (such as GitHub Copilot, ChatGPT, and similar large language models), analyzing prevalent computer science curricula, envisioning the evolving landscape of computing careers in an AI-augmented world, and identifying the enduring human skills—such as critical thinking, system design, ethical reasoning, debugging complex AI outputs, and problem formulation—required for long-term success. Ultimately, we propose targeted revisions to CS curricula to better prepare students for effective collaboration with AI rather than competition against it.
Thursday, 11:10am-11:30am, North Hall 253

Yang Zhao
Indiana Wesleyan University
Divine Power Entrusted to Christian Electrical Engineers
Technology plays a vital role in modern society, shaping an individual's lifestyle and a country's strength. However, secular leaders and technology developers tend to pursue only profits, not glorifying God. It is essential for Christians studying science, technology, engineering, and mathematics (STEM) fields to incorporate Christian worldviews, values, and ethics into their professional endeavors, making God-honoring decisions. Meanwhile, it is essential to educate Christian college students in STEM majors to become the leaders and developers of technology that shapes the world. STEM majors are becoming increasingly popular among Christian liberal arts colleges and universities. It is a calling for Christian educators to study the integration of the Christian faith and the STEM disciplines and to share the information with Christian college students. Scholars have published numerous articles on the relationship between engineering and the Christian faith. This paper focuses on integrating the Christian faith and electrical engineering. The thesis is that God entrusted electrical engineers with His divine power and called Christian electrical engineers to love God and people. To support this thesis, I examine the notion that God laid the foundation for human engagement in electrical engineering. As the "greatest electrical engineer," God embedded examples of "electrical engineering systems" within His creation. In response to God's calling, Christian electrical engineers are stewards of His divine power, advancing technologies, promoting the common good, and sharing the Gospel.
Thursday, 3:10pm-3:30pm, Science Building 110

Nicholas Zoller
Southern Nazarene University
Developing a Baseball Statistics Course

Baseball stands out among professional sports as one of the most data-centric sports. Statistics courses at all levels, from introductory courses to advanced courses, use examples from baseball to illustrate statistical concepts. For example, slugging percentages illustrate a weighted average, standard scores offer a way to compare the performances of players across time, and correlation shows how to measure the strength of the relationship between team earned run average and team winning percentage. In this talk, I will explain how I designed and taught an introductory statistics course focused on baseball statistics. The course was taught in May 2025 during the 3-week May Term at Southern Nazarene University. We learned about the usual topics in introductory statistics. In addition, we took a field trip to an historical site near Luther, Oklahoma that told part of the story of the Negro Leagues. During the final exam, students gave presentations in which they argued for the election of eligible players to the Baseball Hall of Fame using appropriate baseball statistics.
Thursday, 9:40am-10am, North Hall 251

Valorie Zonnefeld
Dordt University
Belonging in Mathematics: A Christian Vision for Flourishing
As Christians, we know the comfort of belonging. Scripture is full of imagery and examples of belonging as God's children, chosen, holy, and dearly loved, but how does belonging affect students in mathematics? This presentation will examine research on the importance of belonging in mathematics, including actions that the Dordt Mathematics and Statistics Department has taken to foster belonging among their students.
Thursday, 4:00pm-4:20pm, North Hall 276