



“Who Set Its Measurements? Mathematics in Creation”

Thursday, November 10, 1:30-2:25 p.m. | ROOM 202 | Chair: Kathryn Mulholland (University of Notre Dame)

“Discovering the Creator through Science and Mathematics”

Deborah Arangno (Holy Cross College)

Albert Einstein eloquently observed that “the most incomprehensible thing about the universe is that it is comprehensible.” In this paper I will argue that the universe is comprehensible, that the universe was conceived in such a way as to be intelligible to human reason, and that we are capable through our rational capacity to grow in an understanding of truth which redounds to a discovery of the Creator. Mathematics in particular relies upon an implicit faith that there must be some intrinsic order and logic to the Universe. Furthermore, I argue that there should never be any disparity between knowledge gleaned by science and mathematics, and Revelation as obtained by Faith. In this way we acquire wisdom, which itself transcends mere knowledge and the limits of Human reason. Finally, I will hold that the existence of order in the universe bears witness to Truth, which arguably is absolute and objective. Hence, it follows that the pursuit of knowledge is our natural desire for a vision of God. And it follows that as humans are spiritual, rational creatures made in the image of God (*imago Dei*), they are capable of knowing and valuing self, others, creation and Creator. In the words of astrophysicist Paul Davies, “The equations of physics have in them incredible simplicity, elegance and beauty. That in itself is sufficient enough to prove to me that there must be a God who is responsible for these laws and also responsible for the universe.”

Bio: Deborah Arangno, Ph.D. is the mathematics program director and an associate professor of mathematics at Holy Cross College. Her research focuses on particle theory, cosmology, category theory, graph theory and mathematical philosophy. During her time as a graduate student at Emory University — and in all of her years since — she has taught a variety of subjects, including undergraduate mathematics, statistics and physical science. Before coming to Holy Cross College, Arangno taught at several schools, one of which, an international university, took her to Italy, the UK, Germany, Kosovo, Kuwait, Abu Dhabi and Afghanistan. She also worked as the mathematician for the Directorate of Astrodynamics as well as on the Strategic Defense Initiative at the North American Aerospace Defense Command (NORAD). Her past and present research focuses on particle theory, cosmology, category theory, graph theory and mathematical philosophy. Arangno chose Holy Cross College for its Catholic and liberal arts background, as well as its tight-knit community of faculty and



students. She hopes that during her time at Holy Cross she can establish mathematics as an important aspect of the school's liberal arts education and help students realize their full potential.

“Creation and Mathematics”

Antonio Cercena (Mount Carmel Academy)

Mathematics, in its own distinctive manner, is a deep search for understanding God through His Creation. As human beings we desire an encounter with God in truth, goodness, and beauty. Mathematics, from Pythagoras and Euclid to the innovative work of Nicolai Lobachevsky and Henry Poincaré in non-Euclidean Geometry, has always pushed the limits of human reasoning and enlightened our understanding of the mystery of Creation—ultimately the mystery of love. In this paper I will investigate the nature of mathematics, its unique relationship with the *logos*, and how mathematical realities themselves offer a special encounter with God for the human person.

Bio: Antonio Cercena teaches at Mount Carmel Academy, an all-girls Catholic high school in New Orleans, LA. He has been teaching Catholic Theology for a total of six years at the secondary level. He received his Master's in Theology from the Dominican House of Studies in Washington DC and his Bachelor's in Foreign Languages at the University of Delaware. Antonio is currently working on a second Bachelor's in Mathematics. Some of his research interests are: Thomistic studies, the thought of Pope Benedict XVI, Eucharistic theology, Christian metaphysics, and *nouvelle theologie*.

“God the Geometer”

Brian Mulholland (University of Notre Dame)

When asked about mathematics, many people think of drudgery, calculations, multiplication tables and algorithms. However, mathematics, at its core, is about pursuing the mind of God. Galileo writes in *Opere Il Saggiatore*, “[The universe] is written in mathematical language, [...], without which [...] it is humanly impossible to comprehend a single word.” The compass, the geometer's tool, was often a symbol of creation for medieval scholars. If creation has “a grammar written by the hand of God,” then the structure and ordering of this grammar is oriented towards mathematics. Through seeking those mathematical principles, one would, in turn, be seeking God.



Bio: Dr. Brian Mulholland is an Assistant Professor of the Practice in the Mathematics Department at the University of Notre Dame and the Director of the ASCEND program, which is the summer online program for the incoming first years. He works primarily in digital resource development and mathematical pedagogy. As a mission hire with the deNicola Center for Ethics and Culture, Brian Mulholland works to support the Catholic mission of the University through his research and teaching. Before teaching any class, he reflects on the words of Blessed Basil Moreau, "the mind will not be cultivated at the expense of the heart." His mathematical research interest is in the mathematics of quantum mechanics. He specifically looks at Segal-Bargmann Space.

**“BEARING GOD’S BREATH: CREATION AND CREATION”**

Thursday, November 10, 1:30–2:45 p.m. | Room 205 | Chair: Rev. Vincent Herreman, LC
(University of Notre Dame)

**“Nativity and Human Action in Dante’s *Commedia*”
Dominic Aquila (University of St. Thomas-Houston)**

This paper discusses the theme of nativity in Dante’s *Commedia*, illuminated by Hannah Arendt’s idea of nativity as a philosophical concept. Arendt understood nativity as imitative of God’s creative act, which introduced the principle of beginnings into human affairs. For Arendt nativity is a given, a fact of human physical birth, abounding in possibilities, which become manifest in human speech and action and constitute a second birth. Nativity figures prominently in Dante’s encounter with key figures in La *Commedia* and crescendos to the final canto of *Paradiso* with the Incarnation. At which point, nativity as a new beginning merges with an historical event that radically changed human history.

Bio: Dominic A. Aquila is Professor of History at The University of St. Thomas in Houston, Texas, where he was founding dean of The School of Arts and Sciences and provost and vice president for academic affairs from 2008 to 2017. Aquila has doctorate degrees in higher education administration from Texas Tech University, and in history from the University of South Africa. He earned an advanced degree in history from the University of Rochester. Aquila has an MBA from New York University, and a bachelor’s degree in music from The Julliard School. He also did graduate studies in composition at The Eastman School of Music. His most recent publication is “Music as a Liberal Art: The Poetry of the Universe” (2022) for the journal, *Religions, and The Church and the Age of Enlightenment, 1648-1848* (2022). Aquila and his wife, Diane, live in Houston, Texas and have eleven children and eight grandchildren.

**“A Reality Beyond Will: Augustine, AI, and the Vindication of Theophany”
Jordan Wales (Hillsdale College)**

Contemporary artificial intelligence reads the world as a statistically shifting pattern of input data, wherefore some argue that created “essences” are human impositions. I use Augustine’s metaphysics to



make sense of AI by explaining the world as a kaleidoscopic refraction of divine Wisdom. Moreover, Augustine's account of judgment casts AI's "neural networks" as a pointer to reality, subserving one's regathering of Wisdom's created echoes along a journey into the Trinity.

Bio: Jordan Wales is Associate Professor and Kuczmariski Chair in Theology at Hillsdale College. He advises the Holy See's new Center for Digital Culture, under the Dicastery for Culture and Education.

"Nothingness and Sacrament: Joseph Ratzinger's Theology of Creation"

Rev. Harrison Ayre (Maryvale Institute)

For Joseph Ratzinger, rediscovering a theology of creation is essential. He pays attention to the notion of 'nothingness'. Nothingness, for Ratzinger, is the principle of creation and the root of man being a creature. Because the Son is "eternally begotten" and receives all He has from the Father, this stance of the Son is what creation and, more particularly, man finds its ontological root in. I will conclude this paper demonstrating this, how this is the structure of creation and man, and how, more theologically, this is the very root of Christian existence.

Bio: Fr. Harrison Ayre is a priest of the Diocese of Victoria and currently Pastor of St Peter's in Nanaimo, and a PhD Candidate at the Maryvale Institute. He is the co-host of the Podcast "Clerically Speaking", co-author with Michael Heinlein of *Finding Christ in the Crisis: What the Pandemic Can Teach Us* and author of *Mysterion: The Revelatory Power of the Sacramental Worldview*. His PhD research is on Joseph Ratzinger's notion of "sacrament" as it relates to the crisis of history's mediation in the realm of ontology, and this paper explores this question in relation to Ratzinger's theology of creation.



“That the Works of God Might Be Displayed’: Disability in Creation”

Thursday, November 10, 1:30-2:45 p.m. | ROOM 215 | Chair: Charleen Katra (National Catholic Partnership on Disability)

“Created Autistically in the Image and Likeness of God”

Matthew Schneider, LC (Belmont Abbey College)

Christian revelation we are all created in the image and likeness of God. Slowly we have developed this also for the disabled in general, but not as much for specific disabilities, or from disabled individuals. This talk will examine how autistic individuals reflect the image and likeness of God.

Bio: Fr. Matthew P. Schneider, LC, STD is a priest with the Legionaries of Christ, the author of *God Loves the Autistic Mind: Prayer Guide for Those on the Spectrum and Those Who Love Us*, author of many tweets and popular articles, and an adjunct professor of Theology at Belmont Abbey College.

“Behold the Glory of God in Blindness: The Problem of Physical Evil”

Maria Sermersheim (University of Notre Dame)

Physical evil seems contrary to “good” creation. Jesus declared that a man was born blind “so that the works of God might be made visible through him,” and then Jesus healed him (Jn 9:3). But what about the many today who are not healed? Why does physical evil persist, and how might the works of God be made visible?

Bio: Maria Sermersheim is pursuing the Master of Theological Studies at the University of Notre Dame, from where she obtained her bachelor’s degree in 2022. She calls Evansville, Indiana, home, and she is a monthly columnist for her diocesan newspaper, *The Message*.

“Illumined—Not Blinded—by Love: Caregiver Testimony on Behalf of the Cognitively-Disabled”

Sara Chan (University of Notre Dame)



This talk explores how love enables special insights about good in the created world. More specifically, it is concerned with caregiver testimony about the good in the lives of the cognitively disabled. Many people tend to assume that life with cognitive disability is not worth living. Caregivers of the cognitively disabled have tried to speak up on their charges' behalf, only to find their testimony was dismissed as "delusions of love". I argue that far from undermining the objectivity of testimony, love and intimate care can give caregivers privileged epistemic access to the wellbeing of their charge.

Bio: Sara Chan is a PhD student in philosophy at the University of Notre Dame. Her research focuses on the metaphysical, epistemological and ethical issues surrounding marginalization, particularly disability and cognitive disability.



“FROM GLORY TO GLORY: EVOLUTION AND CREATION”

Thursday, November 10, 1:30–2:45 p.m. | ROOM 216 | Chair: Rev. Terrence P. Ehrman, CSC
(University of Notre Dame)

“Animals, the Human Animal, and God”

Christopher Baglow (University of Notre Dame)

In this paper, I will draw upon the insights of Walker Percy, Herbert McCabe and others to situate human beings as animals, but also rational, by inquiring into the phenomena of language. From Walker Percy, the nature of the human being as asserting/symbolizing animals will form the groundwork; from McCabe, the distinction between the animal nervous system and the system of language will provide a crucial way of illustrating that difference. Finally, this vision of the human being as a linguistic animal will be developed theologically in regard to the doctrine of human beings as the embodied image of God.

Bio: Chris Baglow is Professor of the Practice in the Department of Theology and the Director of the McGrath Institute for Church Life's Science and Religion Initiative. He is the author of *Faith, Science and Reason: Theology on the Cutting Edge*, 2nd ed. (Midwest Theological Forum, 2019) and is a member of the executive board of the Society of Catholic Scientists and serves as chair of its Theological Advisory Board.

“Evolution, Chance, or Necessity? Ratzinger’s Creation Theology in Dialogue with Teilhard de Chardin and Jacques Monod”

Santiago Sanz Sánchez (Pontificia Università della Santa Croce)

Joseph Ratzinger has dealt with the topic “creation and evolution” from the first steps of his theological career. I intend to delineate some aspects of his approach to this topic through the references we can find in his lectures and in his writings to two important French figures in contemporary scientific thought: the Jesuit Pierre Teilhard de Chardin and the atheist Jacques Monod. Both the positive and critical aspects of these two thinkers help Ratzinger to highlight the meaningfulness of the Christian notion of God the Creator as creative power, reason, and love.



Bio: Rev. Santiago Sanz Sánchez is a Professor in the School of Theology of the Pontifical University Santa Croce (Rome). His doctoral thesis on the relationship between creation and covenant obtained a medal in the award of the Pontifical Academies in 2005. He has also a PhD in Philosophy on the metaphysics of creation in Aquinas (Universidad de Navarra, 2006). He has published monographic studies on the theology of creation of Wolfhart Pannenberg (2007) and Joseph Ratzinger (2014 and 2016). Recently his manual on Creation Theology and Eschatology “Alfa e Omega” has been issued in Italian (2021).

“An Evolutionary Creation: Finding Goodness, Order, and Purpose in Evolution”

Daniel Kuebler (Franciscan University of Steubenville)

Biological evolution is an inherent part of God’s Creation. Yet, it is frequently described as a blind and indifferent process, one in which death and extinction play a central role. But such a reading goes well beyond the biological data. What the data demonstrates is that evolution is not some random unpredictable process, but rather it is focused to some extent by the underlying structure of the universe. Why then has Creation been organized in this manner? While science lacks the methodological resources to address this, a Catholic understanding of Creation can help shed light on the issue.

Bio: Dr. Dan Kuebler is the Dean of the School of Natural and Applied Sciences and a Professor of Biology at Franciscan University in Steubenville, Ohio, where he teaches courses on evolution, cell physiology, and science and faith. In addition, he maintains a research laboratory that studies the properties of adult stem cells from human bone marrow and adipose tissue and their efficacy in treating orthopedic disorders. Dan is the co-author of *The Evolution Controversy: A Survey of Competing Theories* (Baker Academic, 2007) and has written both academic and popular articles on issues related to science, religion and ethics. He is Vice-President of the Society of Catholic Scientists and has a book forthcoming on the intersection of Evolution and Catholic theology.



“Behold, I Make All Things New”

Thursday, November 10, 1:30–2:45 p.m. | Room 206/207 | Chair: Andrij Hlabse, SJ
(University of Notre Dame)

“The Viriditas of the Cross: Creation and Redemption in St Hildegard of Bingen’s Prayer Book”

Joshua Anthony (Archdiocese of Chicago)

St. Hildegard of Bingen speaks eloquently of God’s creation in all her works. The St. Hildegard Gebetbuch (Codex Latinus (CLM) 935 in the Bayerische Staatsbibliothek, Munich; (Small ND 3363 H55 H553) is however an essentially soteriological text, basing personal appeals for healing and deliverance from ills of body and soul on events from salvation history. I examine St Hildegard’s theology of “salvation as new creation” in these prayers.

Bio: Joshua Anthony studied Classics and Theology at the University of Notre Dame (BA ‘20). He taught Latin with Great Hearts Academies for two years and currently teaches in the Archdiocese of Chicago.

“The *Heptaplus* of Giovanni Pico della Mirandola: A Renaissance Theology of Man and Creation.”

Samuel J. Roberts (University of Notre Dame)

This paper examines the Renaissance philosopher Pico della Mirandola, his Kabbalistic commentary on Genesis (entitled *Heptaplus*), and how this work can lead contemporary theologians to a richer understanding of man and his relationship to the natural order.

Bio: Samuel J. Roberts is a doctoral candidate in History at the University of Notre Dame. He received his bachelor’s in History from Hillsdale College in 2019 and his Masters in History from Notre Dame in 2022. His research interests include the intellectual history of the Renaissance, the Latin Platonic tradition, and cultural exchange between Europe and East Asia throughout the early modern period.



William of Auvergne and St. Bonaventure on the Beauty of Creation
Andreas Waldstein (University of Notre Dame)

In this paper, drawing on the writings of St. Bonaventure and the early 13th century bishop of Paris, William of Auvergne, I discuss the beauty of creation, and the proper response of the creature to that beauty. All of creation, I argue, is in some respect beautiful, though not everything is beautiful simply speaking. An ugly thing is a thing with diminished beauty, and it is impossible that a thing be ugly without also being beautiful in some respect. The beautiful is thus identical in subject with being and the good, though it differs from goodness and being in account.

Bio: Andreas Waldstein is a third year doctoral candidate in philosophy at Notre Dame. He is a Solomon Fellow with the de Nicola Center for Ethics and Culture. His primary research interest is in medieval philosophy, particularly in the areas of metaphysics and aesthetics. He also does some work on ancient and early modern Aristotelianism and Neoplatonism, and contemporary aesthetics. Andreas received his BA from Thomas Aquinas College.



“Co-Creation Towards the Universal Destination of Goods”

Thursday, November 10, 1:30–2:45 p.m. | Room B02 | Chair: Brian Boyd (University of Notre Dame)

“JubileeDAO and Catholic Cryptocurrency: A New—Doubtless Very Different—Jubilee”

Filipe Lemos (Federal University of Technology Parana) & Christian Morrision (University of Notre Dame)

Our financial system contains two forms of structural injustice: There is originating injustice from the Cantillon effect within the global reserve currency, and there is ongoing injustice in the pecuniary externalities of the global market. The Church expects tithing, but individual giving is an ad hoc rather than a structural response. We describe how a novel distributed autonomous organization and cryptocurrency, based on the principles of the jubilee, could connect Catholic parishes worldwide into an economy of communion, and we explain our pilot program under development in South Bend, IN; Paraná, Brazil; and Abuja, Nigeria.

Bio: Filipe Lemos is a founding member of JubileeDAO, an DevOps Engineer at Brasil Paralelo, and a Research Professor by Courtesy at the Forensic and National Security Sciences Institute, Syracuse University. From Curitiba, Brazil, he has a B.Sc. in Electronic Engineering from the Federal University of Technology Paraná, a M.Sc. in Forensic Sciences from Syracuse University and is finishing his Ph.D. in Computer Engineering from the Federal University of Technology Paraná.

Bio: Christian Morrision is a founding member of JubileeDAO, an assistant business analyst for Notre Dame’s UEE division, and a contract web developer for non-profit organizations. From Redlands, California, he will complete a B.A. in Economics and Classics with a minor in Digital Marketing this spring at the University of Notre Dame.

“Practicing Communion Economy”

Emma Coley and Bertrand Fitzgerald (Simone Weil Catholic Worker, Portland, OR)

What is the mundane economy of the Body whose source and summit is the celebration of the Eucharist? We will explain how our community (and, soon, parishes) is working with Notre Dame



Federal Credit Union on a no interest lending practice that prevents and redeems interest bearing debt through community guarantees. We will draw on Scripture and our community's experience of this beachhead practice to point out the potential contours of a parish-based communion economy.

Bio: Emma Coley is a live-in volunteer at the Simone Weil Catholic Worker (Portland, OR). From Cuyahoga Falls, Ohio, she completed her undergraduate studies in Religion at Princeton University.

Bio: Bertrand Fitzgerald is the founder of the Simone Weil Catholic Worker (Portland, OR). He received his MTS from Notre Dame in 2008 and was formerly a live-in volunteer at South Bend's Peter Claver Catholic Worker.

“Credit Unions as Institutions and Metaphors for Lay Catholic Life”

Bob Kloska (Notre Dame Credit Union)

I will share a brief history of credit unions both internationally and in America. I will highlight the role of the Church in promoting member-owned, not-for-profit banks and share a vision of reclaiming a model of parish life wherein Catholic banking is as normal as Catholic schooling or charitable outreach to the poor.

Bio: With an extensive background in Catholic education, Bob Kloska is currently Chief Partnership Officer for Notre Dame Federal Credit Union, the largest Catholic-oriented credit union in the United States. Operated with Catholic Social Teaching in mind, last year it served over 830 parishes and schools located in 26 dioceses.

“The Nature of Money and the Need for a Jubilee”

Brian Boyd (University of Notre Dame)

I will explain how the universal destination of goods (from the ancient jubilee to the medieval *monti di pietà* to contemporary Catholic Social Teaching) forms the necessary material basis for more popular aspects of Catholic Social Teaching such as human dignity, solidarity, and integral human development. I will then draw on Alasdair MacIntyre's work to emphasize the vacuity of moral concepts unless and until they are illustrated through real-life examples. If every ethics implies a



sociology, then Catholic ethics cannot be lived except through projects such as those undertaken by my co-panelists.

Bio: Brian Boyd is a moral theologian who focuses on political economy in light of Church teaching. Boyd is a Postdoctoral Teaching Fellow at Notre Dame, a James Buchanan Fellow at the Mercatus Center at George Mason University (as of January 2023), and a founding member of JubileeDAO.

“Fair Credit: A Jubilee Initiative”

Jack O’Leary (University of Notre Dame)

I will explain how the Jubilee Initiative for Financial Inclusion (JIFFI) uses microfinance and financial empowerment training to accompany the South Bend community toward financial independence. For the last ten years, Notre Dame students have worked towards JIFFI’s mission on a voluntary basis and have provided almost 100 loans to residents of the local community. Our 501(c)3 provides low-interest loans as an alternative to predatory options, teaches personal finance courses at local schools, and is piloting a program aimed to incentivize saving and connect clients with standard financial institutions.

Bio: Jack O’Leary is the Chief Executive Officer of the Jubilee Initiative for Financial Inclusion and a senior studying Economics at the University of Notre Dame. From Stuart, Florida, O’Leary also works for the University’s Kellogg Institute for International Studies to research digital training as a tool for global small business development.