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**Dr. Jeffrey Cooke**

Associate Professor Swinburne  
University of Melbourne, Australia

***“The Eddington Experiment”***

Back in 1919, Einstein’s new theory of General Relativity was confirmed by two astronomers named Eddington and Compton. The experiment required a total solar eclipse to block out the Sun’s light in order to measure the effects of General Relativity on the position of stars near the Sun. The experiment was a success, but had difficulties with the measurements. Moreover, this experiment was not the first devised, nor the first attempted, but a series of unfortunate events had prevented earlier measurements. Subsequent experiments confirmed Eddington’s experiment thereby adding support to the theory of General Relativity.

***“How a Solar eclipse discovers gold.”***

With the Eddington experiment confirming Einstein, scientists knew that massive objects bend light waves. This is called gravitational lensing. General Relativity also predicts that black holes and neutron stars orbiting each other will cause ripples in the warping of space called gravitational waves, akin to ripples on the surface of a pond when a stone is dropped in it. This prediction launched a decades long, billion-dollar search for and, ultimately, the detection of black holes orbiting each other, earning the 2017 Nobel Prize in Physics. In August of that year, two neutron stars were first detected orbiting each other and their violent merger resulted in an extraordinary explosion that revealed the sites where most of the heaviest elements are produced, including gold and platinum. I will explain the role of our team in that discovery and the prospects for the future.

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**Fr. John Kartje**

Rector Mundelein Seminary

***“Show Us Your Face (and Your Sun),  
O Lord” – Eclipses as Spiritual Guides***

Eclipses have been interpreted to support a wide variety of worldviews: from dragons devouring the sun to the curvature of spacetime. Our understanding of the eclipse phenomenon provides a telling insight into how we perceive nature and God’s relationship with us.

***“Why Good Scientists Can Make Great Parishioners”***

Scientists are trained to effectively engage mystery – often driven by a sense of awe and wonder. The methodologies of modern science can provide powerful tools to help pastors build stronger parish vitality and mission.



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# Faith & Science Retreat for Priests/Religious

## April 5th–8th, 2024



**Mother of the Redeemer  
Retreat Center**

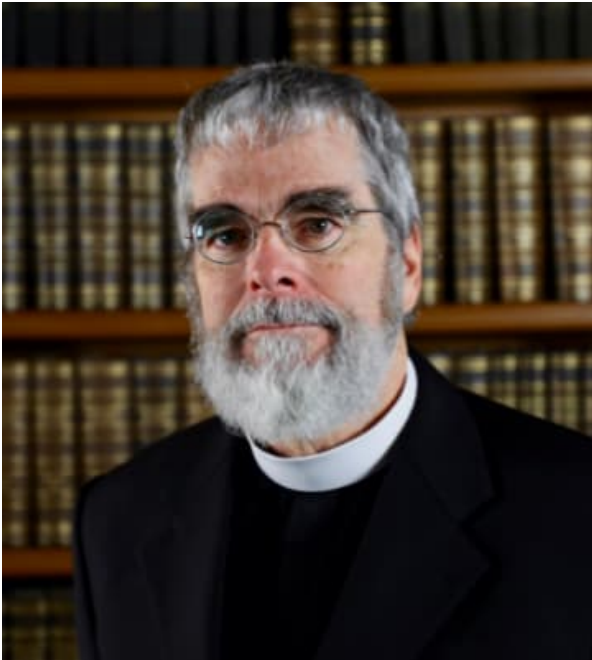
**8220 W. State Road,  
Bloomington, IN 47404**

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**Keynote Speaker:**  
**Br. Guy Consolmagno, S.J.,**  
**Director of the Vatican**  
**Observatory — Two talks:**

*“Your God is too small: The contrast between “the World” and “the Cosmos”, and “The Heavens Proclaim: Astronomy and the Vatican”*

The roots of the Vatican Observatory go back to the Gregorian Reform of the Calendar in 1582, and it has been part of an extensive history of Church support for astronomy (Galileo to the contrary!)



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**The Solar Eclipse on Monday, April 8th, 2024 will be a once in a life time experience in the U.S. Talks about our Faith and Science highlighting the work of the Vatican Observatory in Tucson, AZ.**



*The Church and Astronomy: Forgotten Stories—Dr. Christopher Graney*

When the subject is the Church and science, there are a few stories that “everyone knows” – and that perhaps as Catholics we might rather everyone forgot. These talks will focus on what everyone does not know, and what as Catholics we would happily remember, and celebrate, if we knew of them. And remarkably, some of these involve Galileo.

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*“Where Faith and Science Can Meet”*

Galaxies start out as mere fragments of their current selves. How do stars grow, evolve, and become a magnificent galaxy like the Milky Way that contains the Sun, the Earth and especially life? In this talk we will trace the growth of the Milky Way back to early cosmic times. We will see what the first galaxies are expected to look like, and will learn about how to use the world’s most powerful telescope, the new James Webb Space Telescope, as a tool for obtaining rare views of the distant universe. We will also learn what are the limitations of this exploration. We will conclude with a discussion of where this far-reaching science have its limits, and where it is that faith and science can meet.

**Dr. Brenda Frye**

Associate Professor/Astronomer at Steward Observatory, University of Arizona.



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**Fr. Timothy Sauppé, S.T.L.**



**Fr. James Kurzynski, S.T.L.**

