

The Faraday Institute Summer Course 2022

Programme

Sunday

- 3pm** Arrival, Registration, Tea & coffee
- 4.45pm** Prof. Paul Ewart – Opening Words
- 5pm** (online) Dr Francis Collins ‘With All Your Mind’ (biographical talk)
- 7pm** Dinner, Bar

Monday

- 9.45am** Prof. Tom McLeish FRS ‘Towards a Wisdom-Based Theology of Science’
- 10.45am** Tea and coffee, Bookstall
- 11.30am** (online) Dr Francis Collins ‘Truth in Crisis: an Appeal to the Better Angels of People of Faith’
- 12.30am** Lunch, Free time
- 3pm** Tea and coffee, Bookstall
- 3.45pm** Prof. Sujit Sivasundaram ‘Global History of Science and Religion’
- 5.15pm** Meet the Speakers Panel:
Dr Denis Alexander, Prof. Tom McLeish FRS, Prof. Sujit Sivasundaram
- 7pm** Dinner, Bar



The
**Faraday
Institute**
for Science and Religion



Dr Francis Collins ‘With All Your Mind’

Our current secularized and technological culture leads many to conclude that a faith perspective is no longer relevant. But a rational approach to understanding the complexity and beauty of nature, as well as the intrinsic longings of the human heart, can be seen as signposts to a holy Creator God who seeks fellowship with each of us.

The life, teaching, death on the cross, and resurrection of Jesus brings this all together as an indescribably joyful synthesis of God’s creative majesty, love, and grace. For me, those realizations have made science a form of worship, and the laboratory a kind of cathedral.

‘Truth in Crisis: an Appeal to the Better Angels of People of Faith’

It is natural for scientists to assume with Descartes that humans are wired to be rational actors. But David Hume’s alternative view “Reason is a slave of the passions” turns out to be particularly at work in the present era of intense political passions, where misinformation and disinformation on critical areas such as the COVID pandemic or climate change seem capable of overriding objective truth. In fact, truth itself seems often to be under attack in an era of “alternative facts”. People of faith know Jesus’ words that the truth will set you free (John 8:32) and so ought to be in a particularly strong position to resist politically driven lies and conspiracies, but the opposite seems to be true. In our polarized society where distrust of scientific expertise is growing, how can we recover a shared sense of values that include truth and goodness?

Prof. Tom McLeish FRS ‘Towards a Wisdom-Based Theology of Science’

Before the 20th century, anyone whose work would now attract the label ‘scientist’ would have been called a ‘natural philosopher’. ‘Philos-Sophia’ – the love of wisdom – suggests that the story of Wisdom is one deeply constitutive of the scientific enterprise, albeit as deeply buried today.

This lecture traces the thread from Biblical Wisdom literature through to its nourishment of medieval and early-modern science, and suggests ways in which a recovery of Wisdom in science today would support a healthier public and educational framing of science, as well as enrich the discussion of ‘science and religion.’



Prof. Sujit Sivasundaram ‘Global History of Science and Religion’

The period between the rise and the fall of the British empire – that is, from the late eighteenth to the mid-twentieth centuries – witnessed an intense encounter between religious cultures and scientific ideas across the globe. Colonialism brought with it the movement of peoples and the imposition of new political structures worldwide.

Many religious believers sought to redefine their faith in line with new scientific thinking. This story cannot be reduced to either a model of conflict or of complementarity between religion and science.

Tuesday

9.45am	Steph Bryant and Lizzie Henderson: Introduction to Faraday Youth & Schools Programme
10am	Dr Deborah Haarsma 'Life Beyond Earth and the Place of Humans in the Cosmos'
11am	Tea and coffee, Bookstall
11.30am	(online) Prof. Cara Wall-Scheffler 'Evolutionary Anthropological Perspectives on Becoming Human'
12.30am	Lunch, Free time
2pm	Discussion Groups (Online Zoom Meeting with Breakout Rooms for all participants)
3.15pm	Tea and coffee, Bookstall
3.45pm	Prof. Rebecca Fitzgerald FMedSci 'Cancer Medicine: Science or Art?'
5.15pm	Meet the Speakers Panel: Dr Deborah Haarsma, Prof. Rebecca Fitzgerald FMedSci
7pm	Dinner, Bar

Wednesday

9.45am	Dr Ruth Bancewicz: Introduction to Faraday Churches Programme
10am	Revd Dr David Gregory 'Seeking the Divine in Scientific Imagery'
11am	Tea and coffee, Bookstall
11.30am	Prof. Brandon Vaidyanathan 'Beauty and Religiosity in Science'
12.30am	Lunch, Free time
14.30am	Optional Outing to Whipple Museum or Punting
4.45pm	Tea and coffee
5.15pm	Meet the Speaker Panel: Dr Ruth Bancewicz, Revd Dr David Gregory, Prof. Brandon Vaidyanathan
7pm	Dinner, Bar

Dr Deborah Haarsma 'Life Beyond Earth and the Place of Humans in the Cosmos'

Astronomical discoveries fill us with amazement at the wonders of the universe. The new James Webb Space Telescope (JWST) will reveal even more, including properties of planets around other stars. If these planets contain living things, JWST may see signs of it in the altered atmospheres of the planets. What would it mean for humanity to discover intelligent life beyond earth?

Would it change our view of God or our view of what it means to be human? Could consideration of modern astronomical findings alongside ancient Christian theology bring us to a deeper understanding of God, the universe, and ourselves?



Prof. Cara Wall-Scheffler 'Evolutionary Anthropological Perspectives on Becoming Human'



This lecture outlines numerous aspects of the human condition, including inferences that can be made about sociality and culture from paleontological and archaeological material. Crucial remains, and the interpretation of these remains, allows us to recognize that our physical body and the capacity of our mind to understand non-physical ideas

emerge together and most likely evolved in tandem. This offers us important insights into how learning about God is integral to human evolution.

Prof. Rebecca Fitzgerald 'Cancer Medicine: Science or Art?'

Cancer diagnosis and treatment is changing rapidly, with new technologies that mean we can read-out changes specific to an individual's tumour with unprecedented resolution and in a time frame that can impact on clinical decision making. These exciting advances also lead to challenges for the clinician, the patient, the health care system and society at large. For example, how do we make screening, diagnosis and treatment affordable and accessible for everyone? How do we be sure not to overlook the person amidst the science and technology – to deliver medicine in a way that is kind and personal (not just personalised).



Revd Dr David Gregory 'Seeking the Divine in Scientific Imagery'



Through much of Christian history, artists have used visual media to connect people with God and the Christian story. Scientists also use imagery to communicate with people. Popular science programmes often feature striking visual images to wow their audiences, provoking moments of wonder. Can such images enable encounter with the divine akin to the way art has allowed?

How might they be viewed so that they communicate not only scientific insights but also something of the divine artist behind creation, allowing fresh spiritual insights to both those in the church and in wider society?

Prof. Brandon Vaidyanathan 'Beauty and Religiosity in Science'

Abstract Drawing on data from a large international survey of scientists conducted in 2021 in the UK, US, Italy, and India, this presentation will discuss physicists' and biologists' views on the roles of awe, wonder, and beauty in the practice of science. It will also assess the relationship between aesthetics, religiosity/spirituality, and well-being among scientists.



Thursday

9.45am	Dr Pui Him Ip: Intro to Faraday Tutorial Courses Programme
10.00am	(online) Prof. Lydia Jaeger ‘Human Liberty in a World Described by Science’
11.00am	Tea and coffee, Bookstall
11.30am	Dr Denis Alexander ‘Are We Slaves to Our Genes?’
12.30am	Lunch, Free time
2pm	Discussion Groups (Online Zoom Meeting with Breakout Rooms for all participants)
3.15pm	Tea and coffee, Bookstall
3.45pm	Prof. Christopher Southgate ‘Being Human in the Light of Natural Disasters’
5.15pm	Panel Discussion: ‘A Christian Response to Natural Disasters and Human Suffering’
7pm	Group Photo and Reception
7.30pm	Gala Dinner, After Dinner Address: Prof. Bob White FRS

Friday

9.45am	Mr Graham Budd ‘Artificial Intelligence: Humanity in the Age of AI’
10.45am	Tea and Coffee, Bookstall
11.30am	Prof. Paul Ewart ‘Order, Randomness & the Meaning of Life’
12.30am	Prof. Paul Ewart - Closing Words
12.45am	Lunch and Departures

Prof. Lydia Jaeger ‘Human Liberty in a World Described by Science’

Free will confronts us with a paradox: on the one hand, we experience ourselves as being able (on some occasions) to decide for ourselves which course of action to take. On the other hand, the scientific view of human beings sees them as determined by a set of scientifically-describable factors. The present paper starts by examining the Kantian strategy, and other NOMA-type approaches, to overcome this paradox and finds them wanting. It then argues for radical non-reductionism: each particular science captures a certain dimension, but does not provide a complete description of reality. Even taken together, the natural sciences do not exhaustively describe reality, and therefore cannot exclude free will. According to Steven Horst’s cognitive pluralism, scientific laws describe partial causal contributions. Therefore, however successful any scientific model may be, it cannot preclude the possibility that there are other causal factors at work. Finally, creation is shown to offer a framework that is both coherent and succeeds in allowing human liberty to find its place in a world described by science. In particular, creation provides key presuppositions underlying the scientific method, while at the same time recognizing the multidimensionality of reality and significant human freedom.



Dr Denis Alexander ‘Are We Slaves to Our Genes’

There is a common misconception that our genomes – all unique, except for those in identical twins – have the upper hand in controlling our destiny. The latest genetic discoveries, however, do not support that view. Although genetic variation does influence differences in various human behaviours to a greater or lesser degree, most of the time this does not undermine our genuine free will. Genetic determinism comes into play only in various medical conditions, notably some psychiatric syndromes. Denis Alexander here demonstrates that we are not slaves to our genes. He shows how a predisposition to behave in certain ways is influenced at a molecular level by particular genes. Yet a far greater influence on our behaviours is our world-views that lie beyond science – and that have an impact on how we think the latest genetic discoveries should, or should not, be applied.



Prof. Christopher Southgate ‘Being Human in the Light of Natural Disasters’

This talk will reflect on what natural disasters tell us about the ambiguity of God’s creation, and go on to look at the characteristic ways communities respond to shock-events. We shall consider the implications for Christian worship, prayer, and the search for wisdom.



Graham Budd ‘Artificial Intelligence: Humanity in the Age of AI’

The past 10 years have seen unprecedented advances in Artificial Intelligence, through ever-larger deep neural networks. AI is already (often invisibly) shaping our daily lives, with vast opportunities to



benefit humanity in applications from healthcare to autonomous vehicles. How can we address the risks around bias, privacy, safety and accountability, which are becoming more apparent as AI capabilities accelerate ? How will AI affect the future of work and society ? The rise of AI also poses fundamental questions for science, theology and philosophy about what it means to be human and intelligent, which will influence the choices we make in shaping the future of AI. Are humans “just another machine”, and what is the nature of personhood in the age of AI ?

Prof. Paul Ewart ‘Order, Randomness & the Meaning of Life’

The order observed in the universe, and described by the laws of Nature, is often cited as evidence of an underlying Mind that is identified with God. Nature, however, is permeated with randomness that suggests the ultimate absence of purpose or meaning in existence. This lecture will explore the possible rationale for God’s making randomness an inherent part of his Creation and that explains its role in a morally responsible and dynamic relationship with God. Thus, randomness, instead of being a robust argument for atheism, becomes a strong argument for the existence of a personal God.

