

Wonders of the Living World

Curiosity, awe, and the meaning of life



Study series for church-based small groups

The living world is beautiful, intricate, and highly ordered. Science is constantly revealing more about the incredible organisms on this planet which thrive and reproduce in even the most hostile environments. Non-scientists can enjoy finding out about these discoveries through today's rich variety of science-communication initiatives, and people of faith can say with even more confidence than before, 'All creation declares the glory of God!'

The Faraday Institute for Science and Religion exists to help people think about science and faith in an informed and constructive way, whether through academic research or activities such as this which are aimed at the general public. This resource is part of our work with churches, helping Christians and others in their community to engage in helpful discussion about science and Christianity.

Many of the Christians in the sciences that we interact with find their work gives them a sense of awe and wonder that leads to worship, as well as to deeper questions about the meaning and purpose of the world that cannot be answered by science alone. The aim of this material is to help church-based small groups share that experience, opening up several areas of discussion in the life sciences that are often ignored. Rather than focusing on contentious issues and debates, evidence for God, or questioning the science itself, we want to highlight the ways in which science reveals the wonder of creation and raises some theological and philosophical questions about the significance of life that are relevant to everyone, Christian or not.

This material is part of a larger project that includes a book (*Wonders of the Living World*, Lion, 2019), resources for schools, and other online articles and videos. We hope you enjoy it, and find that it feeds into the life and worship of your church.

Course summary

Session 1: Beauty. What can we learn about God through science? Embryos, wonder and the incarnation.

Session 2: Curiosity. Wonder and the limits of science; the genetic code and the life-friendly universe.

Session 3: Hope. Coral reef ecology; our place in creation, its intrinsic value and hope for the future.

Session A (advanced): The Snuggle for Existence. Pain, death and the place of cooperation in the living world.

Session B (advanced): Creation. Interpreting Genesis 1–2 and science; order from disorder.

Session C (advanced): Purpose. All creation praises God; the role of purpose in biology; convergent evolution.

Leaders

We have assumed that group leaders will be experienced Christians who don't need the basics of Christian theology explained to them, have access to people and resources to help them understand biblical and theological points, and know how to lead a discussion. We don't expect you to be a scientist, but it might be useful to have one in the group (especially a biologist), who can help answer questions on the science.

Intended audience

Church-based small groups or student Christian groups. Sessions 1–3 are suitable for non-scientists and those who are not regular members of the church. Sessions A–C require more scientific or theological knowledge. This is a transatlantic project, so both UK and US-based scientists are involved. We recommend a group size of no more than 8-10, so each person can contribute to the discussion.

Timing - each session is designed to be 60 minutes long. To extend, simply use more of the optional sections.

Equipment

- Something to download and play the videos on.
- Copies of each handout for the whole group, and a few copies of the video transcripts to aid discussion.

Note on evolution

This material assumes that evolutionary biology is compatible with a faithful reading of the Bible. Session A explores that idea, but for groups that want more time to explore concept, the 'Test of FAITH' course (testoffaith.com) or similar (see page 3) could be used as a starter or follow-up to these sessions.

Biographies of scientists and theologians featured in the videos

Dr Ruth M. Bancewicz is Church Engagement Director at The Faraday Institute for Science and Religion. She studied Genetics at Aberdeen and Edinburgh Universities, and was a postdoctoral research fellow at the Wellcome Trust Centre for Cell Biology (University of Edinburgh). After three years as the Development Officer for Christians in Science, she moved full-time to The Faraday Institute, where she now works on the positive interaction between science and faith.

Professor Simon Conway Morris is an Emeritus Professor in the Earth Sciences Department, University of Cambridge. He became a fellow of St John's College Cambridge in 1975, having taken a first-class honours degree in Geology from the University of Bristol, and was appointed to the Earth Sciences department as a lecturer in 1979. He has received numerous awards and medals, and has also appeared on TV and radio, including the *Royal Institution Christmas Lectures* for the BBC in 1996.

Professor Stephen Freeland received a BSc in Zoology from the University of Oxford, a Masters in Computing and Mathematics from the University of York, and a PhD from the University of Cambridge's Department of Genetics. A postdoctoral fellowship at Princeton University led to a faculty position in biology at the University of Maryland Baltimore County (UMBC), and a stint at the University of Hawaii node of the NASA Astrobiology Institute. Stephen is now Director of Interdisciplinary Studies at UMBC.

Professor Jeff Hardin is Raymond E. Keller Professor of Zoology and Chair of Integrative Biology at the University of Wisconsin-Madison. He holds an MDiv from the International School of Theology and a PhD in Biophysics from the University of California, Berkeley. He is the senior author of a widely used textbook, *The World of the Cell* (Pearson), and is the only scientist in the Religious Studies programme at the University of Wisconsin-Madison. He is Vice-Chair of the Board of the BioLogos Foundation, and serves as a faculty advisor for the Navigators and InterVarsity Graduate Christian Fellowship.

Dr Rhoda Hawkins is Senior Lecturer in Biological Physics Theory in the Department of Physics and Astronomy, University of Sheffield, and a visiting lecturer at the African Institute for Mathematical Sciences. She completed a degree in Physics at University of Oxford, and a PhD at the University of Leeds. Her postdoctoral research was at the FOM Institute for Atomic and Molecular Physics, Amsterdam, the Curie Institute and University of Pierre and Marie Curie, Paris, and the University of Bristol. Rhoda is a member of the Christians in Science committee.

Dr Hilary Marlow is an Affiliated Lecturer in the Faculty of Divinity, where she teaches Old Testament and Biblical Hebrew. She is also a Fellow and Director of Studies at Girton College, University of Cambridge. She has honours degrees in Social Sciences (University of Manchester) and Biblical Studies (King's College London), and a PhD from the University of Cambridge. She was previously a research associate and then Course Director at the Faraday Institute, and a research associate for the Scriptural Reasoning online project at Cambridge Inter-faith Programme. She is a trustee of the Christian conservation charity A Rocha.

Professor Alister McGrath is Andreas Idreos Professor of Science and Religion at Oxford University, Director of the Ian Ramsey Centre for Science and Religion, a Fellow of Harris Manchester College, Oxford, and associate priest in the Diocese of Oxford. He studied Chemistry, Molecular Biophysics and Theology at Oxford. He studied for Church of England ministry at Westcott House, Cambridge, and served as a curate in Nottingham. He returned to Oxford as tutor (and later Principle) at Wycliffe Hall, was awarded a Professorship in Theology at Oxford, was the first director of the Oxford Centre for Christian Apologetics, and was Chair of Theology, Ministry and Education at King's College, London from 2008-2013.

Dr Margaret Miller is the Research Director of SECORE International, a conservation organisation for the protection and restoration of coral reefs. She was formerly an ecologist with the US National Oceanic and Atmospheric Administration's Southeast Fisheries Science Center. She received an undergraduate degree from Indiana University and a doctorate in Marine Ecology from the University of North Carolina (Chapel Hill). After some research with the University of Miami, she began work for NOAA-Fisheries as the lead benthic (sea floor) ecologist.

Professor Jeff Schloss is Senior Scholar at the BioLogos Foundation and T.B. Walker Chair of Biology at Westmont College, California, where he directs the Center for Faith, Ethics and Life Sciences. After undergraduate studies in Biology and Philosophy, Professor Schloss received his PhD in Ecology and Evolutionary Biology from Washington University. He has taught at University of Michigan and Wheaton College, Illinois. He is a chartered member of the International Society of Science & Religion, and serves on the editorial boards of Theology and Science, Science and Christian Belief, and Religion Brain and Behavior.

Further Reading and Resources

'Taking it further' sections are provided for all sessions. Here are some general resources that will be useful throughout the course.

Wonders of the Living World, www.wondersofthelivingworld.org

The official site for this project, which is part of the Faraday Institute's work with churches. Contains details about the book, short articles, videos and materials for schools.

The Faraday Institute's resources for churches, www.faraday.cam.ac.uk/churches

Regular articles and podcasts on the topics covered in this study material, and more information about the Faraday Institute's work with churches. (The rest of the Faraday Institute website features our academic research projects, recorded lectures, short papers and information about all our courses and activities.)

Test of FAITH, www.testoffaith.com

Another Faraday Institute initiative for churches. This 3-6 session course covers the relationship between science and Christianity, the Big Bang, Genesis, evolution, bioethics and neuroscience. To run the course you will need these resources, all of which are available for a reduced price from the Faraday Institute online shop (faraday.cam.ac.uk/shop).

- **Test of FAITH: Science & Christianity Unpacked (Leader's Guide)**
- **Test of FAITH: Does science threaten belief in God? (DVD)**
- **Test of FAITH: Science & Christianity Unpacked (Study Guide** – one for each member of the group)
- **Test of FAITH: Spiritual Journeys with Scientists** (optional, book of stories from the scientists in the DVD)

Christians in Science, www.cis.org.uk

An international network of those concerned with the relationship between science and Christian faith, open to scientists, teachers, students and all those with an interest in this dialogue. The website includes some useful resources, especially the 'Thinking About' leaflet series www.cis.org.uk/resources/thinking/. Similar initiatives exist in other countries, including [Australia](#), [Brazil](#), [Canada](#), [France/French-speaking Switzerland](#), [NZ](#), [Spain](#) and the [USA](#).

BioLogos, www.biologos.org

A US-based organisation that 'invites the church and the world to see the harmony between science and biblical faith as we present an evolutionary understanding of God's creation'. Includes many articles and videos.

BioLogos collaborated on the production of this excellent documentary and study guide on the relationship between evolution and Christian faith: fromthedustmovie.org/

Acknowledgements

This material was written by Ruth M. Bancewicz, with support from Cara Parrett (formerly Daneel), as part of a programme at The Faraday Institute, funded by the [Templeton World Charity Foundation](#). Many thanks to all the scientists and theologians involved, the Faraday staff for your support and input, and to the many friends and supporters who patiently and enthusiastically advised, shared ideas, read and tested this material, including Kathryn Applegate, Sandy Gunn, Jonathan Foster, David Gregory, Carina Loble, April Maskiewicz Cordero, Margaret Miller, Lyndon North, Mark Turner, Keith Suckling, and of course the groups that were willing to be part of the trial process, including Ruth's own church - City Church Cambridge.