

“Written with rigour, creativity, and the day-to-day insight of a true scientist. [*God in the Lab*] has widened the horizons of the science and faith debate by bringing new and needed perspectives. I heartily recommend it.”

Dr Sharon Dirckx, Tutor at the Oxford Centre for Christian Apologetics, author and former brain imaging scientist

“[*God in the Lab*] is both well researched and contains a fresh and inspiring personal narrative. It should reignite in others a passion for the friendship between science and religious belief.”

Revd David B. Rowe, Warden of the Lee Abbey Community

“Ruth Bancewicz’s beautifully-written book demonstrates how science enhances faith, with many examples from real scientists who are Christians, and many memorable quotations. This is a great book to give to those who believe there is a conflict between science and faith.”

Professor Sir Colin Humphreys, Director of Research at Cambridge University and President of Christians in Science

“On a topic so often dominated by the culture wars, Dr Bancewicz brings a fresh and much-needed emphasis on wonder to conversations about science and Christian faith. She reminds us that the beauty, awe, and creativity of the natural world points to its Creator. This readable book would make a great gift for a pastor or student.”

Dr Deborah B. Haarsma, Astronomer and President of BioLogos

Dr Ruth Bancewicz studied genetics at the Universities of Aberdeen and Edinburgh before working as the Development Officer for Christians in Science, a post she held for three years. She is now a Senior Research Associate at The Faraday Institute for Science and Religion, Cambridge (UK), where she works on positive expressions of the science–faith dialogue and has developed the Test of FAITH resources.

For more articles, videos, and podcasts visit www.godinthelab.org

God in the Lab

How Science Enhances Faith

Ruth M. Bancewicz

MONARCH
BOOKS

Oxford, UK, and Grand Rapids, Michigan, USA

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Foreword

Many books have been written from a faith-friendly perspective, showing how the Christian faith creates intellectual space for the natural sciences. Dr Ruth Bancewicz, a former research biologist, has given us a work that moves this discussion up to a higher level. Her concern is not merely to show that science is consistent with faith, but that science *enhances* faith. This richly documented book weaves together Dr Bancewicz's own experience as a scientist with the stories of other scientists, who have found that their faith was deepened by their research and reflections. These personal narratives convey the rich potential for dialogue and interaction between science and faith far more effectively than reams of reasoned argument.

Readers will find much within these pages that is helpful, stimulating, and challenging. Perhaps the most original and important sections of the work deal with the importance of beauty and the human imagination in both science and the Christian faith. Dr Bancewicz's exploration of these themes opens up lines of thought that will be new to many readers, and has the potential to bring a deepened appreciation of the world which science investigates. It will be warmly welcomed by all those thinking about the relation of science and faith.

Alister McGrath

**Andreas Idreos Professor of Science and Religion
University of Oxford**

Chapter 1

The Theologian and the Telescope

Science is not threatened by God; it is enhanced.

Francis Collins, former director of the Human Genome Project¹

the historical titans of the scientific revolution – Galileo, Kepler, Bacon, Pascal, and Newton – all devout believers to a man – could interrelate their Christian faith and their scientific discoveries.

Nancy Frankenberry, philosopher of religion²

I have always enjoyed science, particularly when it involves studying living things. I have happy memories of wading around rivers and rock pools on high school field trips, encountering microscopic organisms in university lab classes, and examining cells and tissues as a research student. Doing science brings the joy of exploration and the freedom to ask questions. There is a feeling of wonder and awe at what is found and an enjoyment of its beauty. Those moments of discovery raise deeper questions about the universe and our experience of it.

Now that I am working in science and religion for a

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living, I have learned that it's important to keep reminding myself about the reality of life in the lab. During any intense discussion about an issue or seeming point of conflict between science and faith, we need to remember what life is like for those who actually do research every day. So I have developed a passion for helping people to enjoy the wonder of the natural world, and see beyond the debates to the more personal or spiritual side of science.

What I hope to achieve in these pages is best illustrated by a story about a theologian and a telescope. The theologian was a colleague from another department in Cambridge, and the telescope belonged to some friends of his. As we sat down to lunch one day, my colleague mentioned that he had visited these friends the night before. It was a clear night, so they had spent some time looking at the stars.

My colleague was a keen amateur astronomer as a teenager, but he had become involved in so many academic debates about science and religion that he eventually lost interest in science. That evening, he was reminded how beautiful and fascinating the universe can be. He realized that the experience of scientific exploration itself can foster awe, wonder, and – for people of faith – worship. As the theologian and former biophysicist Alister McGrath has often said, science points to questions that are too deep and too complex to be answered by science itself.³

These experiences of science enhancing faith are not unique. Science has a long tradition of being complementary to Christianity, although that is not always recognized now. The universities in medieval Europe taught both science and theology, and at the time they weren't even necessarily seen as

separate subjects. Experiments and field studies were largely carried out by the clergy, and it was only in the nineteenth century that science was established as a separate profession. The occasional points of conflict between science and faith have been well publicized by those who wish to drive a wedge between science and faith. In reality, these debates were not “scientists versus the Church”, because science has always been supported from the inside by Christians who are passionate about exploring the universe that God has made.⁴

A recent survey by the American sociologist Elaine Howard Ecklund showed that both faith and spirituality are still thriving in the scientific world. Between 2005 and 2007, Ecklund and her team carried out nearly 1,700 surveys and 275 in-depth interviews with senior scientists in twenty-one elite US universities. Their goal was to paint a more accurate and up-to-date picture of how scientists approach religion, and the results make interesting reading. About 50 per cent of all the people interviewed were members of a specific religious group, and 30 per cent were atheists.⁵ The remaining 20 per cent did not believe in God, but valued something beyond science that they chose to call spiritual.⁶

Some of these “spiritual but not religious” scientists had a strong sense of awe and wonder at the natural world. There was a sense of mystery too – a belief that there is something beyond the material. These people found that their spiritual values motivated them to do things differently: to spend more time teaching so that others could share the same experience, to choose what they saw to be more worthwhile fields of research, or to change their behaviour outside of the laboratory. So while there may be some individuals who reject

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discussions about science and faith, there are plenty of others who are interested in a more thoughtful dialogue.

My own experience of science followed the usual pattern: an early interest that was encouraged by the adults around me, including my Christian parents, followed by years of study and a long apprenticeship in the techniques of laboratory research. There are always a few early-career scientists who decide to leave the lab and follow other science-related vocations, and I realized I was one of these people when I felt myself gravitating towards my desk. I enjoyed reading, writing, and giving presentations, and found that experiments interrupted the flow of my work! It was time for me to leave the lab, but not without some regret at no longer being able to see beautiful things under the microscope.

The unexpected part of my route out of the lab was that it led into science and religion. I was a Christian by the time I arrived at university, so I had joined Christians in Science (CiS): an international organization for those interested in the dialogue between science and faith. My decision to leave science coincided with an advertisement for a CiS staff position, so I instantly applied. A few months later I began to work with science students, lab researchers, and many others, helping to supply them with resources and organize events where various faith-based issues could be discussed.

After several years travelling the length and breadth of the UK with CiS, I moved to The Faraday Institute for Science and Religion in Cambridge, where I now work on the relationship between science and Christianity. I am more than content with my new career outside the lab, but I remain fascinated by science.

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My first few years in Cambridge were spent developing *Test of FAITH*, a series of resources to help churches and other groups tackle questions about science and Christianity. During this time I was challenged to recognize that while debates and discussions are important, they're not the whole story. In a video interview, Alister McGrath said that it is also important to start new conversations about how science enhances faith, rather than always responding to issues.⁷ So I followed up this idea, was given some generous funding from the Templeton World Charity Foundation to communicate some of these more positive stories, and my blog scienceandbelief.org is part of that work.

This book is the final output of that project, and is an exploration of the experiences in science that can enhance faith. It's also about the human side of science: what drives and motivates us, and what we enjoy. For those scientists who are Christians, their research is simply one expression of a faith that covers every aspect of their life. For many others, science and religion will seem like two separate worlds, and the topics addressed in this book will act as a bridge between the two.

The journey described here is a personal one. Imagination, creativity, beauty, wonder, and awe are all subjects that are close to my heart, and I have thoroughly enjoyed exploring them. I'm not one for travelling alone, so during my writing I have spoken with a number of working scientists who are also Christians. Their stories are included in these pages, reflecting their own unique perspectives on science and faith.

I'll begin by explaining how science works, including the people and their quirks as well as the day-to-day business of

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research. Practising scientists may wish to skip this chapter, but others will hopefully appreciate a fly-on-the-wall view of life in the laboratory. Next I will explain why I am a Christian, and how I see science and faith fitting together. The trajectory of the rest of the book is through creativity and imagination, which are vital to the practice of both science and Christianity, to the beauty, wonder, and awe that scientists experience in their work, and that (for some) lead beyond science to God.

These pages will contain no arguments for God as such, but are more of a thought experiment, particularly when it comes to beauty, wonder, and awe. If the God of the Bible existed, what would you expect to see in the world? Does viewing the universe through the lens of faith make it look more coherent? I find that what I see in science helps my faith to grow, and enlarges my view of God.

With apologies to social scientists, when I write about “science” here, I mean natural science (e.g. biology, physics, and chemistry). I should also add that this is not intended to be an academic book, although I have referenced plenty of more scholarly works for those who want to follow up particular points. I have touched on some complex issues, and my aim has simply been to share some of what I feel is interesting and valuable, drawing on enough of the thinking of others to start an interesting conversation.

I have noticed that when I throw a topic like beauty or awe into a debate, people start to tell stories and listen to each other. We sometimes concentrate so hard on getting our point across that it’s difficult to engage with others, so we need to find some ways to begin again. Like my friend the theologian, it’s easy to get lost in abstractions. I hope that

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these insights gleaned from the laboratory and the library will help to start some dialogues where it's possible to learn from each other and appreciate both the fascination of science and the deeper questions that it raises.