



£1.58 million in new grants will support high quality academic research in the debate about the origins of biological complexity



The mechanisms driving evolution are subject to continuing scientific debate, but in this age of intense specialisation it is sometimes difficult to break down existing barriers and ask new questions in a inter-disciplinary context. Attempts to build new bridges can be provocative, especially when they span areas as broad as archaeology, biochemistry, computer modelling, genetics & development and philosophy. Yet the rewards may be very great. Generous funding from the John Templeton Foundation has enabled the Cambridge Templeton Consortium to award 18 new grants to scientists, social scientists and philosophers. All of the projects find novel ways of investigating how complexity has emerged in biological systems.

“What is needed in this area is a fresh drive for academic rigour from all of the participants, which this new initiative will fund,” says Consortium chairman, Professor Derek Burke.

The competition for these grants was high, with 150 applications being submitted from all over the western world. After a lengthy process of peer-review, the consortium picked 18 winners. “This is clearly an emerging area of science, and we are pleased that these grants are specifically aimed at encouraging work that would not easily fall under the remit of any other grant-awarding body,” says Derek Burke.

The Cambridge Consortium’s grants are unique in the interdisciplinary nature of its remit. While individual grants will enable high quality research that approaches the issue from a wide variety of angles, many of the individual awards sponsor collaborative work by people from different academic disciplines.

All of the work will study how biological systems (molecular, cellular, social etc) can become more complex as they evolve. Questions addressed by the projects include:

- Did the ability to have metabolic reactions develop before genes evolved?
- Why are biologists so afraid of asking ‘why’ questions, when physicists do it all the time?
- Are biological molecules, ‘fine-tuned’ so that the development of advanced nervous systems and consciousness is almost inevitable?
- Can experiments using a digital evolutionary model answer why intelligence evolved, but artificial intelligence has been so hard to build?
- Does ‘emergence’ (the idea that new properties can appear that are more than simply a sum of the ingredients) really exist?
- What lessons can rock art and material remains teach us about the development of human self-awareness?
- Are archaeological markers for the emergence of early human complex behaviour transferable between widely differing Pleistocene environments?
- Can the geometric ordering of specific sheets of cells throw light on the questions currently being raised about design in nature?
- What principles allow individuals to develop social and colonial organisations?

Universities and Organizations receiving grants include:

Australian National University, Australia
Duke University, USA
Foundation for Applied Molecular Evolution (FfAME), Florida, USA
Harvard University Medical School, USA
Keck Graduate Institute of Applied Life Sciences, USA
Michigan State University, USA
NERC Centre for Ecology and Hydrology, UK
Saginaw Valley State University, USA
University of California, San Francisco, USA
University of Cambridge, UK
University of Connecticut, USA
University of Edinburgh, UK
University of Georgia, USA
University of Leeds, UK
University of Leicester, UK

Notes to Editors

To arrange interviews with any of the Directors of the Cambridge Templeton Consortium, or to obtain a full list of grants and names of recipients, please contact:

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A full list of grants and names of recipients is also available on the website
www.cambridge-templeton-consortium.org

The *Cambridge Templeton Consortium* is directed by:

Chair: Professor Derek Burke, former Vice Chancellor of the University of East Anglia.

Biochemistry and Fine Tuning: Dr Jonathan Doye and Dr Ard Louis, Department of Chemistry, University of Cambridge.

Evolutionary History and Contemporary Life: Professor Simon Conway Morris FRS, Department of Earth Sciences, University of Cambridge.

Becoming Fully Human: Professor Graeme Barker FBA and Dr Chris Scarre, the McDonald Institute for Archaeological Research, University of Cambridge.

The *John Templeton Foundation* (www.templeton.org) seeks to pursue new insights at the boundary between theology and science through a rigorous, open-minded and empirically focused methodology, drawing together talented representatives from a wide spectrum of fields of expertise.