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Regulars

Opinion



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Stephen Hawking 60th Birthday Conference



Stephen Hawking racing to the conference [Photo and copyright Anna N. Zytkow]

Mathematicians and scientists love their subjects and hope that their enthusiasm will be infectious. Heartening numbers of them are willing to spend their time and energy spreading the word, giving public talks and interviews to further the cause of public understanding.

Earlier this month, *Plus* imposed on the generosity of some very eminent mathematicians and scientists, attending a conference in Cambridge to celebrate the occasion of Stephen Hawking's 60th birthday. The Astronomer Royal Sir Martin Rees, Sir Roger Penrose, eminent physicist Kip Thorne and Nobel prizewinner Gerardus 'tHooft, all found the time to talk to *Plus* about doing research, their latest scientific ideas, and more.



Kip Thorne and Don Page at the conference with Stephen Hawking [Photo and copyright Anna N. Zytkow]

Stephen Hawking himself also generously gave *Plus* permission to reprint the talk he gave at the conference. Faced with such an abundance of riches, it was an easy decision to make this issue of *Plus* the "Stephen Hawking at 60 Special".

Although all these researchers are famous – in particular, Stephen Hawking is a household name – the essential contribution that mathematics makes to their work is often ignored. In his bestselling book *A brief history of time* Stephen Hawking says how fortunate he was to have chosen a field where pure thought was all that was necessary to do good work. In his field – relativity and black hole cosmology – theory is far ahead of experiment.

This is not to say that experiment has no place in cosmology – that would be a nonsense. As the theorists at the conference said, the prospect of experimental data with which to test their ideas is a very exciting one. Such data will come from the new generation of gravitational wave detectors such as LISA and LIGO.



The LIGO gravitational wave detector in Hanford, Washington which will begin its gravity wave searches later this year, along with companion detectors in Hanover and Pisa. [photo used by permission of the LIGO Project, California Institute of Technology]

Opinion

With these instruments, cosmologists will be able to gaze into the farthest reaches of space and time, and back to the beginning of everything. It is an awe-inspiring thought that what will be revealed may already have been seen by mathematicians sitting at their desks here on earth.

Helen Joyce

If you would like to find out more, you can visit the [conference website](#).

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