

Press Release: Embargoed until Sunday December 16th.

World's leading cosmologists gather in Cambridge: Hawking to launch new Centre for Theoretical Cosmology

In 1982, a historic workshop called "The Very Early Universe" was organised by Professor Stephen Hawking and his colleagues in Cambridge. At the meeting, the detailed predictions of a remarkable new theory, the inflationary universe model, were worked out, showing how subatomic quantum fluctuations¹ could be amplified into the large scale density variations which later formed galaxies and stars. For the past quarter century, the model has set the agenda in cosmology, defining the key observational tests and theoretical challenges.

On December 16th, 2007, many of the world's leading theoreticians will gather once again, for a 5-day meeting celebrating the historic workshop in 1982 and reconsidering the future of the field. Will inflationary theory be extended to explain the beginning of the universe? Can it be linked to superstring theory² or some other unified description of all particles and forces? Can it be reconciled with the discovery of the dark energy³ driving the expansion of the universe, which shook the physics world in the late 1990's? How do competing theoretical models fare? These and other questions will be hotly debated by the participants of "The Very Early Universe 25 years on," from December 17th to 20th.

On December 19th, the conference participants will join Cambridge University's Vice Chancellor, Dr. Alison Richard, and other distinguished guests for the opening of the University's Centre for Theoretical Cosmology (CTC). A new sculpture of Professor Hawking, by Ian Walters⁴, will be unveiled. Professor Hawking and the CTC Director, Professor Neil Turok⁵, will outline their ambitious plans to make the CTC a world hub for the development and testing of theories of the Universe.

Contact: Judith Croasdell, 01223 337843, email
J.Croasdell@damtp.cam.ac.uk.

Reporters wishing to attend the conference should contact Sue Gadsby at VEU_workshop@damtp.cam.ac.uk. Accommodation and meals may be purchased in advance.

For more details, see the website
<http://www.damtp.cam.ac.uk/user/gr/VEU/>

Notes:

1. Quantum fluctuations are the tiny, normally imperceptible vibrations of electromagnetic and other fields in the vacuum, i.e. empty space.
2. Superstring theory is the most ambitious and successful attempt yet at a unified description of all of the laws of physics.
3. Dark energy, also commonly referred to as the cosmological constant, is the energy associated with empty space. In the late 1990's, strong evidence emerged that the dark energy density is positive, causing the expansion of the universe to accelerate today.
4. The late Ian Walters is renowned for his full-body sculpture of Nelson Mandela which now stands in Parliament Square. He also made the sculpture of Mandela on the South Bank, and sculptures of Harold Wilson, Tony Benn, Barbara Castle, Eric Heffer, Trevor Huddleston and other labour movement leaders. Ian's sculpture of Stephen Hawking was his last public work before he sadly succumbed to cancer in 2006.
5. Professor Turok was recently awarded a TED prize for 2008: see www.ted.com.