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CAMBRIDGE SOCIETY FOR THE APPLICATION and
APPRECIATION of RESEARCH

HOW COLD *IS* 'COLD'?

The hunt for Dark Matter

Professor Gerry Gilmore FinstP, ScD
Professor of Experimental Philosophy
Institute of Astronomy, University of Cambridge

Monday, 25th April, 2005; 7.30 - 9.00 p.m.
The Wolfson Lecture Theatre, Churchill College, Cambridge

Chair: Dr Richard Leaver, Scientific_Generics
Vote of Thanks: Brian Ford, CSAR Member of Council

About the lecture:

Professor Gilmore writes…….

Cosmologists can now say with some confidence that our Universe consists of 5 percent of matter like that of which we are made; 25 percent some other, still unknown, form of dark matter; and 70 percent of a still mysterious form of dark energy. The latter is controlling the fate of the Universe.

The dark matter, commonly called **Cold Dark Matter**, is the dominant form of matter, yet must be quite unlike any form of matter yet identified on Earth. Recent astrophysical studies are allowing the first determination of the gross properties of this matter, We are beginning to be able to say how Cold is Cold Dark Matter.

About the speaker:

Gerry Gilmore grew up in New Zealand, where he studied physics and was awarded the first PhD in astronomy in New Zealand. He worked as Senior Research Fellow at the Royal Observatory Edinburgh for 5 years, until moving to Cambridge in 1984.

He has been successively Advanced Research Fellow, The Royal Society Smithson Fellow at King's College, John Couch Adams Astronomer, and is now Professor of Experimental Philosophy and Deputy Director, Institute of Astronomy, Cambridge University.

He is Chair of the EC Coordination Network for Optical and Infrared astronomy OPTICON, Chairs the European Steering Committee for the next generation Extremely Large Telescope Design Study, is UK representative on the European Southern Observatory governing Council, and is a member of many international management, review and editorial boards.

He researches *'the nature of existence.....'*

The CSAAR Organising Secretary adds……

This is the stuff of dreams! Take a look at the following excerpt from http://www.admin.cam.ac.uk/news/press/dpp/2003072301

"By studying the motion of many stars the scientists have created a picture of how the mass of the galaxy is arranged. Surprisingly, when the Cambridge team looked at the stars at the edge of one such galaxy, Draco, they found that the outer stars were moving so quickly that the galaxy could only stay together if it contained 100 times more dark matter than the mass of the stars alone. Using detailed models of the motions of stars in a galaxy containing large quantities of dark matter, the group was able to demonstrate their observations could only be understood if the galaxy was surrounded by a large halo of dark matter."

The title of our speaker should give one a clue:

'Professor of Experimental Philosophy'!

Only at Cambridge could one find such a fine and intriguing job title

Coffee and biscuits available, as usual, in the foyer from ~7.00 p.m.

Richard Freeman
CSAAR Organising Secretary