PRESS RELEASE
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THE MISSING UNIVERSE

Only 5% of the universe is made up of atoms. The other 95% is not. So what is it?

Dr Jo Dunkley explores the latest research on the 'missing' 95% at Science Oxford Live at 7:30pm on Thursday 25th August, 2011.

One of the outstanding problems in cosmology is to understand the 'missing' 95% of the universe. The familiar atoms we are all made of only make up a small fraction of what we think is out there.

We think that about a quarter of the universe is made of Dark Matter, most likely an undiscovered type of particle that we cannot see, but feels the effect of gravity.

The other 70% is what we call Dark Energy, thought to be a form of energy that has the strange effect of making the expansion of the universe accelerate.

Dr. Jo Dunkley is a lecturer at the University of Oxford and is involved in determining properties of the universe including the nature of Dark Matter and Dark Energy.

Finding out what these are, and coming up with ways to investigate their behaviour, is a central part of current research in cosmology. It brings together research in astrophysics and particle physics, and combines theoretical studies with large international experiments.

Dominic McDonald, Head of Public Engagement at Science Oxford Live, said *"I first met Jo in 2006 when she was the keynote speaker for a conference to inspire 13-16 year olds. Six years on she is now a leading figure on the Dark Universe and I am delighted to welcome her to Science Oxford Live."*

Asked about the subject of Thursday's event, Dominic added
"this is a huge unsolved area. We do not know what the vast majority of the universe is actually made up of. Oxford University is leading research into this and it will be fascinating to hear about this challenging area, including the latest developments, from Jo."

Emma Wightman, Programmes Delivery Manager at Science Oxford Live, said
"Jo is an exceptional Cosmologist and Astrophysicist and a fantastic role model."

Join Dr. Jo Dunkley at Science Oxford Live on Thursday 25th August to hear about the latest research into the 'Missing' universe.

Book your place now:
http://www.scienceoxfordlive.com/whats-on-events/the-dark-universe

More about Dr. Jo Dunkley:
http://www-astro.physics.ox.ac.uk/~Dunkley/Home.html

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IMAGES:

Dark Universe Image: http://www.scienceoxfordonline.com/wp-content/uploads/2011/08/galaxy.jpg

Dr. Jo Dunkley Image: http://www.scienceoxfordonline.com/wp-content/uploads/2011/08/JoD.jpg

NOTES:

Dr. Joanna Dunkley
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Dr. Dunjley is a RCUK Research Fellow in Astrophysics, and a Senior Research Fellow at Exeter College. Dr. Dunkley has been at Exeter since 2007.

Before moving to Oxford Dr. Dunkley was at Princeton as a post-doc, and before that she was at Oxford doing a DPhil in Astrophysics. She did her undergraduate degree in Natural Sciences at Cambridge University.

Dr. Dunkley's research is in cosmology, and she is particularly interested in the Cosmic Microwave Background (CMB), relic light that provides us with a snapshot of the early Universe. She has been involved in determining properties of the Universe such as its expansion rate, its density, and how much dark matter and dark energy there appears to be. She has also used cosmological data to test inflationary models describing the rapid expansion of the Universe in the first fraction of a second. As part of my research, she is a member of the Wilkinson Microwave Anisotropy Probe science team, a NASA satellite located a million miles from Earth, and she is also involved in a CMB experiment in Chile, the Atacama Cosmology Telescope.

There are important questions she hopes to be able to answer in the coming years. These include: Is Inflation the correct description of the early Universe? What is the nature of dark energy? Is cold dark matter composed of particles, and if so what sort of particles are they?