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Upcoming UCT events

- **“Dark Side of the Universe 2014” Conference** – Experts to discuss simulations of galaxies, clusters and the Universe, surveying the Dark Universe, modified gravity and related topics at an annual international conference
- **Cosmic Africa a personal journey** – Public lecture by Professor Thebe Medupe on how Africans used stars to run their societies
- **“Does the Dark Universe exist?”** - Panel discussion to feature international experts

Date	Event/Topic	Highlights/Speakers	Contact
17-21 Nov	Dark Side of the Universe 2014 - international conference on the physics of the “Dark sector” Time: 8h30 (opening session on 17 November 2014) Venue: John Day Zoology Building, Upper Campus	<p>The University of Cape Town will host the Dark Side of the Universe 2014 conference, at which leading global experts will discuss the latest advances in the theoretical, phenomenological and experimental aspects of this issue.</p> <p>Discussions relating to the some of the following questions will take place:</p> <ul style="list-style-type: none"> • What is the mysterious Dark Energy that is accelerating the expansion of the Universe? • What is the invisible and yet-to-be-detected Dark Matter that holds galaxies together? • Which physics govern variable stars, binary stars, neutron stars and black holes, including the super-massive black holes at the centre of galaxies, like the Milky Way? • Can we detect and 	Kemantha Govender Tel: 021 650 5672 Cell: 084 737 6522 Email: kemantha.govender@uct.ac.za

		<p>exploit gravitational waves, the ultra weak ripples in the fabric of space and time predicted by Einstein, to open new vistas on the Universe?</p> <p>There will be interview opportunities with several experts including Professor Peter Dunsby, Co-Director, Centre for Astrophysics, Cosmology and Gravitation at UCT.</p>	
17 Nov	<p>Dark Side of the Universe 2014: Public Lecture by Professor Thebe Medupe, North- West University</p> <p>Time: 19h30 – 20h30 Venue: New Science Lecture Theatre, Upper Campus</p>	<p>Cosmic Africa a personal Journey: Professor Medupe asks people to join him on a journey across Africa to see how Africans, in the past and still today, use stars to run their societies. "I will take you to Namibia to meet the San of Tshumkwe as they attempt to come to terms with the solar eclipse; visit the Dogons of Bandiagara in Mali as they tell us of their calendar systems; and visit the 'Stonehenge of Africa' in Nabta Playa, south of Egypt in the Sahara. I will also take you through ancient West African manuscripts as they describe a model of the solar system," says Professor Medupe.</p>	<p>Kemantha Govender Tel: 021 650 5672 Cell: 084 737 6522 Email: kemantha.govender@uct.ac.za</p>
20 Nov	<p>"Dark Side of the Universe 2014" Panel Discussion Time: 19h00 – 20h30 Venue: University of the Western Cape</p>	<p>International experts will gather to discuss: "Does the Dark Universe exist?" They include Gianfranco Bertone (astroparticle physicist), Romeel Dave (The South African Research Chairs Initiative in multi-wavelength Astronomy), Ruth Durrer (Swiss astronomer) and Jean-Philippe Uzan (Director of the French National Centre for Scientific Research).</p>	<p>Kemantha Govender Tel: 021 650 5672 Cell: 084 737 6522 Email: kemantha.govender@uct.ac.za</p>

Background information:

Observations imply that about 95% of the Universe's energy lies in a "Dark Sector". In addition to 5% of the energy of the Universe made by ordinary matter (i.e. by atoms and molecules) there is a mysterious sector comprising of dark matter - a form of non-luminous matter of unknown composition, and of dark energy – a type of an antigravity field whose origin and composition are also completely unknown.

Dark matter makes up 23% of the Universe and possibly consists of a "sea" of exotic particles that interact very weakly with ordinary matter. They have never been detected in the laboratory or elsewhere but are thought to encompass any luminous structure of the Universe. Dark Energy makes up 73% of the energy of the Universe and is responsible for a mysterious force that is speeding up its expansion.

Understanding the Dark Side of the Universe is therefore one of the key fundamental science questions in physics and cosmology, and it may possibly lead to theories beyond the standard models of particle physics and Big Bang Cosmology. In the past few years all this has prompted various phenomenal strings of connections between Particle Physics, Astrophysics and Cosmology.

ENDS

Issued by: UCT Communication and Marketing Department

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