



Communication and Marketing Department
Isebe loThungelwano neNtengiso
Kommunikasie en Bemerkingsdepartement

Private Bag X3, Rondebosch 7701, South Africa
Welgelegen House, Chapel Road Extension, Rosebank, Cape Town
Tel: +27 (0) 21 650 5427/5428/5674 Fax: +27 (0) 21 650 5628

www.uct.ac.za

7 October 2024

UCT professor to ‘explore new windows on the universe’ in her inaugural lecture

Professor Amanda Weltman of the University of Cape Town’s (UCT) [Department of Mathematics and Applied Mathematics](#) will present a fascinating inaugural lecture titled *"From the laboratory to the sky: New windows on the universe"* on Tuesday, 8 October 2024 at 17:00 SAST in M304, Maths Block, on upper campus.

In this lecture, Professor Weltman will take the audience on an extraordinary journey through the cosmos, exploring the connections between theoretical cosmology, astrophysics and fundamental physics. From the smallest vibrating strings to the vast expanse of the universe, she will examine how scientists build theories and test them across varied environments and scales, providing insights into current understanding of the universe and the profound challenges facing cosmology.

Professor Weltman is a theoretical physicist at UCT, specialising in connections between theoretical cosmology, astrophysics and fundamental physics. She is renowned for proposing and developing chameleon gravity, an innovative theory of gravity that makes novel predictions and explains dark energy consistent with all observations.

“While my research career began with string theory and high-energy physics, it has now spanned across experimental physics, phenomenology, cosmology and astrophysics. My greatest contributions have come from illuminating the interconnections between these fields and using unexpected approaches to test new theories. I will discuss the novel theory of gravity I developed as a PhD student and the many efforts over the years to discover its effects in both laboratories and through astrophysical observations. The audience will be invited to join me on this exciting journey, culminating in the groundbreaking potential of using the radio sky as a laboratory for fundamental physics discovery,” she said.

Professor Weltman’s work on chameleon gravity has made waves in the scientific community, offering explanations for dark energy and making novel predictions that align with astrophysical observations.

Her academic journey is equally remarkable. She earned her PhD from Columbia University in 2007 under the supervision of world-renowned physicist Professor Brian Greene, and went on to complete a postdoctoral fellowship at the University of Cambridge’s Centre for

Theoretical Cosmology, led by Professor Stephen Hawking. She joined UCT as a lecturer in 2007 and was promoted to full professor in 2020.

Her research has garnered global recognition, amassing over 10 000 citations and earning numerous accolades, including the Meiring Naude Medal from the Royal Society of South Africa and the Silver Jubilee Medal from the South African Institute of Physics. Since 2016, she has held the South African Research Chair in Physical Cosmology and is the head of UCT's High Energy Physics, Cosmology & Astrophysics Theory Group, which she founded in 2019.

Date: Tuesday, 8 October 2024

Time: 17:30 SAST

Venue: M304, Maths Block, upper campus

[RSVP](#) to attend the lecture in-person or online.

ENDS

Issued by: UCT Communication and Marketing Department

Velisile Bukula

Head: Media Liaison
Communication and Marketing Department
University of Cape Town
Rondebosch
Tel: 021 650 2149
Cell: 071 642 3495
Email: velisile.bukula@uct.ac.za
Website: www.uct.ac.za