

S E M I N A R



Prof Amanda Weltman
University of Cape Town

Date:

Thursday, 27 February 2025

Time:

15h00-16h00 SAST

Venues:

- P213, Physics Building, East Campus, WITS
- Online

Who should attend?

All are welcome!

Enquiries:

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What we can learn from a growing sample of Fast Radio Bursts: A Cosmology Wishlist

ABSTRACT:

Fast Radio Bursts (FRBs) are relatively recently discovered transients, at cosmological distances, observed in the radio part of the spectrum. Their progenitor mechanisms are as of yet uncertain, and it is unknown how many classes of such objects exist. There are global efforts to detect large numbers of FRBs to aid in explaining the physics that drives them. In this talk, I will discuss the current understanding of Fast Radio Bursts (FRBs), highlight our local discovery efforts, and explore the potential of FRBs as very powerful cosmological tools to learn about our universe on large scales.

Amanda Weltman is the South African Research Chair in Physical Cosmology and a full professor at the University of Cape Town. In her work, Prof Weltman tries to uncover the fundamental laws governing our Universe using tools from particle physics. She has also been working in collaboration with experimentalists to find out how fast radio bursts can tell us more about the origin of the universe.

Prof Weltman did her undergraduate studies at the University of Cape Town, and her PhD at Columbia University in New York, under the supervision of Brian Greene. As a graduate student, she co-authored a series of papers on Chameleon Gravity. She later went on to work as a postdoctoral researcher at the University of Cambridge in the UK. She has been the director of the High Energy Physics, Cosmology and Astrophysics Theory (HEPCAT) group at the University of Cape Town since 2018.

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