



# Tuning in to Cosmic Symphonies with Giant Radio Telescopes

We live in an enormously exciting time for black hole and gravitational wave research, with several new radio telescopes shedding new light on their nature. The Event Horizon Telescope (EHT) is making increasingly detailed images of black hole shadows, while South Africa's MeerKAT radio telescope is able to sense gravitational waves created by close pairs of in-spiralling black holes across the universe. I will describe how cutting-edge technology built on (South) African soil is able to test if Einstein had the last word on gravity. I will also look to the future with an expanded EHT array that will be able to make movies of our Milky Way black hole, while the international Square Kilometre Array project will transform our understanding of millions of black holes across cosmic time.

**Venue:** Merensky Building, lecture hall  $\alpha$ .

**Date:** Monday, 19 August 2024 at 18:00.

## Biography

Roger Deane is a Professor at the University of the Witwatersrand, Johannesburg, and an Extraordinary Professor at the University of Pretoria. He completed his doctorate in 2012 at the University of Oxford and returned home to carry out postdoctoral research at Rhodes University as well as the University of Cape Town. In 2018 he moved to the University of Pretoria where he established the Radio Astronomy Research Group. He now holds the DSI/NRF SKA Chair in Radio Astronomy at the University of the Witwatersrand, where he serves as Director of the Wits Centre for Astrophysics. His research interests are focussed on the cosmic evolution of galaxies and their supermassive black holes, using the power of next-generation radio telescopes, such as South Africa's MeerKAT radio telescope (a precursor to the Square Kilometre Array) and Very Long Baseline Interferometers, like the Event Horizon Telescope.



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