Jeudi 16 novembre 2023 à 11h (IAS, bâtiment 121, salle 1-2-3)

Characterising the young Universe with the radio sky

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About a billion years after the Big Bang, the Epoch of Reionisation saw the first light sources in the Universe slowly ionise the primordial atoms of the surrounding IGM. Learning about this distant epoch has the potential of unveiling crucial information about the formation of the first stars, galaxies, and early black holes, which sourced it. However, its observation remains elusive.

In this talk, I will tell you how cosmologists are using gigantic radio interferometers in the most remote locations and state-of-the-art CMB telescopes to understand the nature and evolution of the first ever light sources. I will give an overview of what has already been done, and what is yet to achieve to get our answers. Then, I will describe my contributions to this great adventure, from modelling the evolution of the Universe and developing innovative techniques to sift through the enormous amounts of data produced, to plugging antennas in the South African desert!