

## XIV. ENCOUNTERS

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**MAIRI SAKELLARIADOU**  
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Most of the fundamental questions in cosmology - which for a long time belonged to the realm of philosophy - can now be addressed within a physical theory and tested against increasingly accurate observational data. We live the golden age of cosmology. Still, fundamental puzzles remain. The most obvious is what, if anything, happened before the Big Bang? Another is what is the Universe made of? Cosmology is a multidisciplinary discipline which combines theoretical physics, gravitational physics, astrophysics, and particle physics, as well as mathematics. It requires a blend of theoretical developments and astrophysical and particle physics data. Thanks to astronomical discoveries and technological advances over the last century, in 2016 scientists in the LIGO collaboration, in which Mairi Sakellariadou participated, detected gravitational waves using two interferometers located thousands of kilometres away on Earth.

Her current research follows two main directions: (I) use gravitational waves to probe the Universe and test fundamental theories, (II) use quantum gravity proposals to build cosmological models and in return use current observational and experimental data to test the validity of such proposals.

Professor Mairi Sakellariadou obtained a degree in Mathematics from the University of Athens. She then studied astrophysics at the University of Cambridge and continued her studies at Tufts University (Massachusetts, USA) where she received her PhD in physics. Since her PhD she has held various research positions at the Université Libre de Bruxelles, the University of Tours, the Université Pierre and Marie Curie (Paris VI), the University of Geneva and CERN. She was Associate Professor at Athens before joining King's College in 2005, where she has been Professor of Theoretical Physics since 2011. She has recently been (from 2020-2021, 6 months) Associate Scientist at the Theoretical Division of CERN, and (from 2021-2023) Visiting Professor at the Vrije Universiteit Brussel (VUB). She is the current president of the European Physical Society.

### References of interest

[CernCourier interview 2024](#)

[Mairi Sakellariadou at King's College](#)

[Among the scientists who confirmed Einstein's gravitational waves](#)

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