



Dr. Ziri Younsi

University College London

Probing spacetime with horizon-scale images of black holes

Time: 10:00-11:00, 4 December (Wednesday), Shanghai time

Venue: N600 (TDLI)

Host: Yosuke Mizuno

Join Zoom Meeting: <https://us06web.zoom.us/j/86323416947?pwd=qHoksFgLQIU4MIDocLxfz0W5tIAQFN.1>

Meeting ID: 863 2341 6947

Passcode: 123456

Abstract:

With the advent of the Event Horizon Telescope (EHT) we can now image the direct vicinity of black hole event horizons using radio telescopes. In 2019 the first ever image of a black hole, in the heart of the Galaxy M87, was published by the EHT. In 2022, the EHT published the first image of the black hole in the heart of our Milky Way, Sagittarius A*. In this talk I will explain how we are able to model the electromagnetic emissions from these systems in both general relativity and other theories of gravity, via which physical interpretations may be obtained. I will then discuss the potential of event horizon-scale images of black holes to facilitate constraints of the spacetime geometry and test gravity.

Biography:

Ziri Younsi is a Lecturer at University College London. He obtained a Ph.D. from University College London in 2014. He was a postdoctoral fellow in the Black Hole Camera project at Goethe University Frankfurt, Alexander von Humboldt Fellow at Goethe University Frankfurt, Leverhulme Trust Early Career Research Fellow at UCL, and UKRI Stephen Hawking Fellow at UCL. His research utilizes multi-frequency polarized radiation transport to create physically accurate models of compact object environments, enabling scientific interpretation of observational data. He is an active member of the EHT, next-generation EHT, and LISA projects.

