Contribution ID: **607** Type: **Plenary talk**

Progress of Taiji Program and Nature of Gravity & Spacetime

Monday, 8 July 2024 10:30 (30 minutes)

Taiji is a Chinese space mission to detect gravitational waves with frequencies covering the range of 0.1mHz to 1.0Hz by utilizing a triangle of three spacecrafts in orbit around the Sun, which aims to probe the super (intermediate) mass black hole merges and extreme (intermediate) mass ratio in-spirals, to study the most challenging issues concerning the origin and evolution of massive black holes and universe, and to explore the nature of gravity and spacetime as well as dark side of the universe. In this talk, I am going to introduce briefly Taiji's mission, scientific objectives and payload design, and present a brief report on Taiji's roadmap with the testing result of Taiji-1, the current status of Taiji-2 and the prospection of Taiji-3. I will also bring a discussion on the nature of gravity and spacetime beyond the general relativity and Riemannian geometry, which enables to establish gravitational quantum field theory (GQFT) to combine consistently the general relativity and quantum field theory, and to unify all basic forces within the framework of GQFT.

Presenter: WU, Yue-Liang (UCAS)

Session Classification: Monday plenary session