iTHEMS Colloquium

From the Black Hole Conundrum to the Structure of Quantum Gravity

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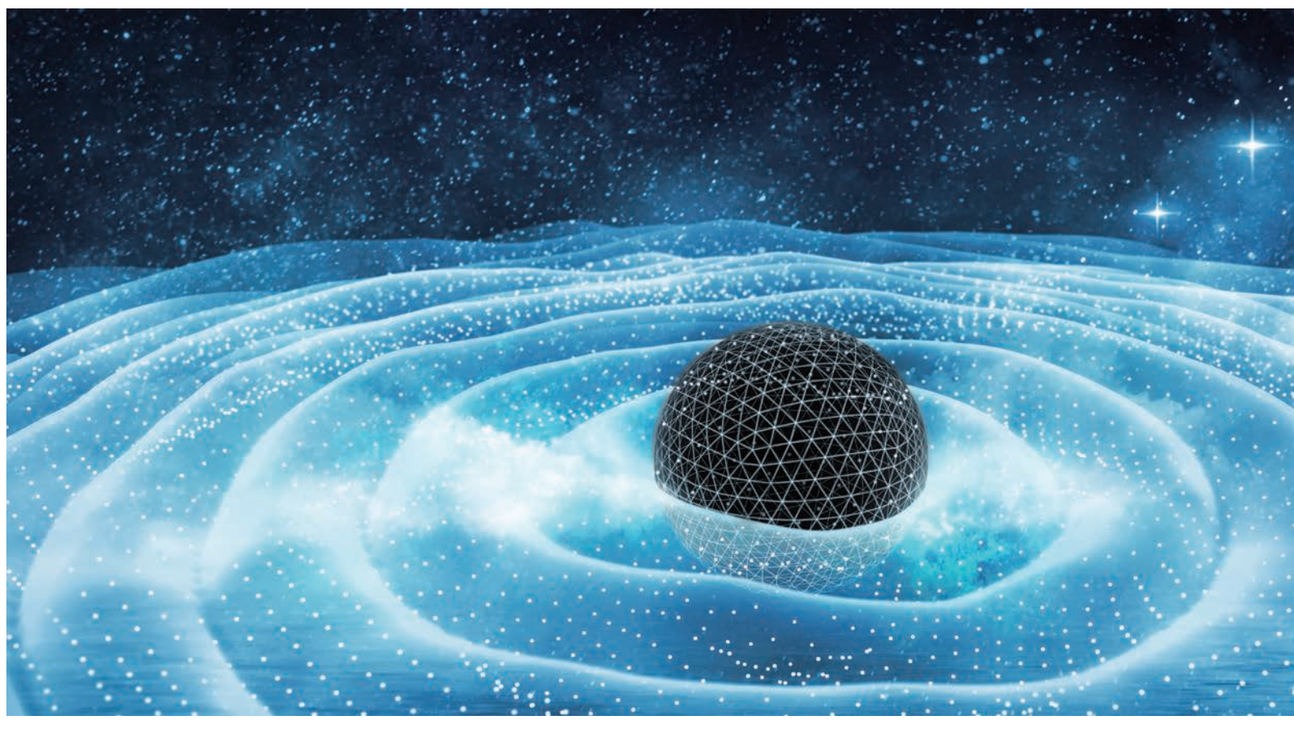
2022 7/26 Tuesday (JST) 15:30 - 17:00

2F Large Meeting Room, RIBF Bldg. (Bldg. E01)
RIKEN Wako Campus and Zoom

Having a complete quantum theory of gravity has long been a major goal of theoretical physics. This is because a naive merger of quantum mechanics and general relativity—though it works in certain limited regimes—suffers from major theoretical problems. A particularly acute one arises when one considers the quantum mechanics of black holes: two fundamental principles of modern physics—the conservation of probability in quantum mechanics and the equivalence principle of general relativity—seem to be incompatible with each other. I will explain how recent theoretical progress begins to address this problem and portray the emerging picture of how spacetime and gravity behave at the level of full quantum gravity.



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