LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ARNOLD SOMMERFELD CENTER FOR THEORETICAL PHYSICS

# Arnold Sommerfeld Lecture Series

## Professor Thibault Damour

### IHES, France

### Research Seminar:

## Black Hole Binary Dynamics from Classical and Quantum Gravitational Scattering

**Gravitational wave signals from coalescing binary black holes are detected, and analyzed, by using large banks of template waveforms. The construction of these templates makes an essential use of the analytical knowledge of the motion and radiation of gravitationally interacting binary systems. A new angle of attack on gravitational dynamics consists of considering (classical or quantum) scattering states. Modern amplitude techniques have recently given interesting novel results. These results are reaching a level where subtle conceptual issues arise (quantum-classical transition, radiative effects versus conservative dynamics, massless limit,...).**

**Thursday, May 12, 2022, 10:15 h, Room A 348, Theresienstr. 37, LMU and via Zoom**

Slava Mukhanov and Dieter Lüst