



# KCETA Colloquium

## Towards space-based gravitational wave detection with LISA

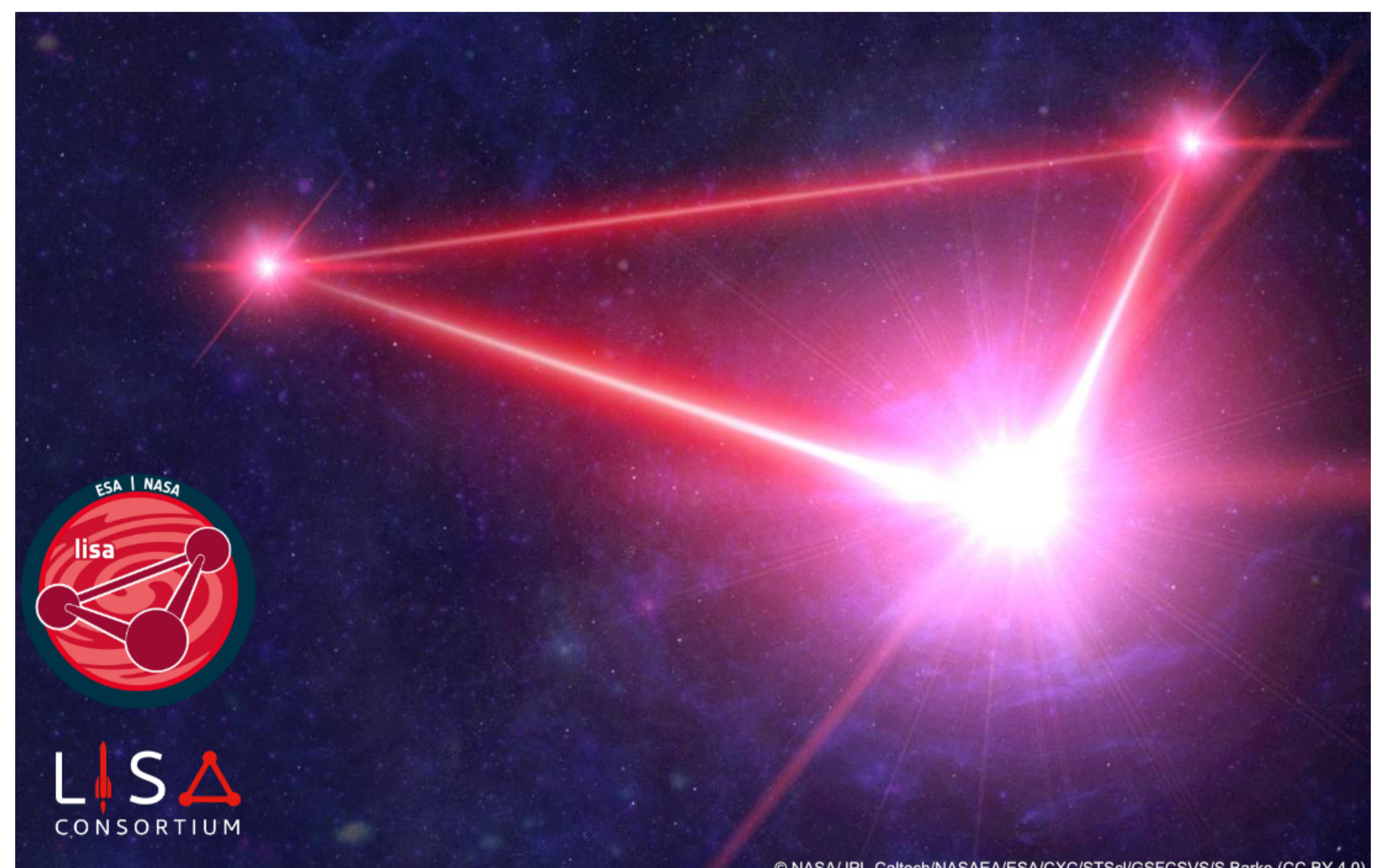
**Thursday, July 27, 2023**

**Kleiner Hörsaal A (CS) 15:45 - 17:00**

**Jun.-Prof. Dr. Oliver Gerberding**

(Institut für Experimentalphysik, Universität Hamburg )

The Laser Interferometer Space Antenna (LISA) will detect gravitational waves from astrophysical and cosmological sources at frequencies ranging from below 0.1 mHz to 1 Hz. LISA is thereby complementary to current and future ground-based detectors like LIGO, Virgo and the Einstein Telescope, which measure at frequencies above 1 Hz and typically observe objects of 10 to 1000 solar masses. LISA will instead detect mergers of supermassive black holes with more than 1 million solar masses.



The laser interferometer formed by the three LISA spacecrafts will form the largest ever human-made detector with an arm-length of 2.5 million kilometres. LISA is a mission of the European Space Agency ESA in collaboration with the US space agency NASA and is currently planned to be launched in the 2030s.

This talk will introduce the LISA mission concept and the science goals, and will provide insight into the instrument design and development, and the current mission status

The colloquium will also be live-streamed to Seminarraum 410 in Bld. 401 (CN).