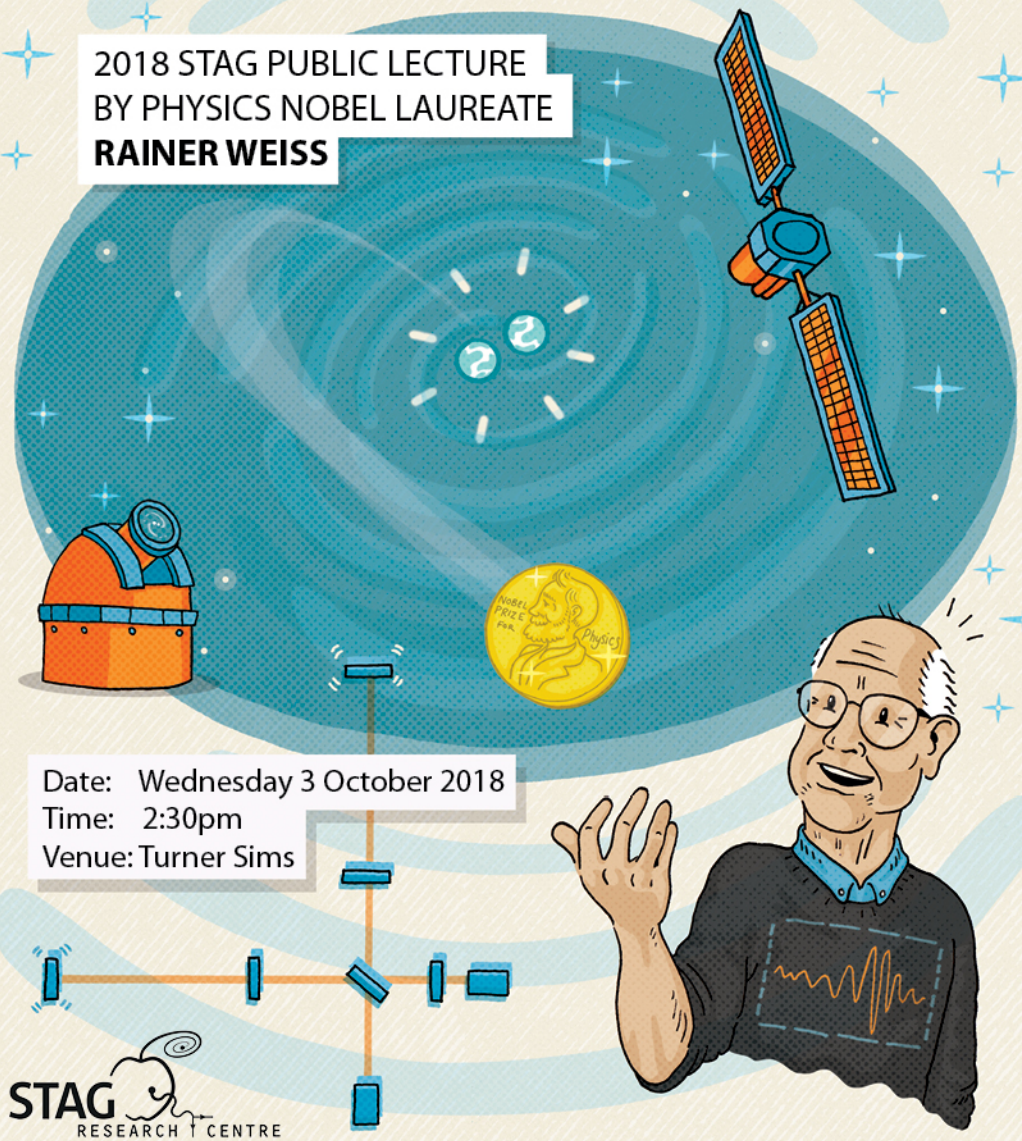
UNIVERSITY OF Southampton

PROBING THE UNIVERSE WITH GRAVITATIONAL WAVES

2018 STAG PUBLIC LECTURE
BY PHYSICS NOBEL LAUREATE
RAINER WEISS



Date: Wednesday 3 October 2018
Time: 2:30pm
Venue: Turner Sims

STAG RESEARCH CENTRE

To book your tickets please go to **www.turnersims.co.uk/events**

More than 100 years ago, Albert Einstein described gravity in terms of a flexible combination of space and time.

According to his theory, changes in gravity move as waves across the cosmos. For the next half century this idea was controversial, but in the 1960s scientists agreed that gravitational waves were very much real and that it should be possible to catch them. However, the waves are extremely weak so detecting them proved a serious challenge.

The 2018 STAG lecture will be given by Rainer Weiss, who was recently awarded the Nobel Prize in Physics for his many contributions to the development of the technology required to detect gravitational waves. His lecture will describe some of the difficult history of the subject and introduce the concepts used in the sensitive instruments that finally made the breakthrough detection of colliding black holes in 2015.
He will discuss the observational results and their relation to Einstein's theory and astrophysics, and provide an exciting vision for the future of gravitational wave astronomy.

The lecture is hosted by the Southampton Theory, Astrophysics and Gravity (STAG) Research Centre, which brings together world-leading experts of fundamental physics and astronomy. Our STAG researchers are pursuing challenging problems ranging from the ultimate building blocks of matter to the evolution of the Universe and actively engage with high-profile international experiments and observational facilities.

In the morning preceding the STAG lecture there will be an interactive masterclass for 14-18 year olds. This masterclass will use fun activities to illustrate the mathematics underpinning gravitational waves and to explore modern applications of mathematical sciences.

Please contact **STAG-centre@soton.ac.uk** for more information.