

UNIVERSITY OF
Southampton

PROBING THE UNIVERSE WITH GRAVITATIONAL WAVES



**2018 STAG PUBLIC LECTURE
BY PHYSICS NOBEL LAUREATE
RAINER WEISS**

MIT on behalf of the LIGO Scientific Collaboration


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

The observations of gravitational waves opens a new way to learn about the universe as well as to test General Relativity in the limit of strong gravitational interactions – the dynamics of massive bodies traveling at relativistic speeds in a highly curved space-time. The lecture will describe some of the difficult history of gravitational waves proposed about 100 years ago. The concepts used in the instruments and the methods for data analysis that enable the measurement of gravitational wave strains of 10^{-21} and smaller will be presented. The results derived from the measurement, their relation to the Einstein equations and the astrophysical implications will also be discussed. The talk will end with a vision for the future of gravitational wave astronomy.

The STAG Research Centre brings together world-leading academics from three research groups – Particle Physics, Astrophysics and Gravitation – to explore issues of fundamental physics and astronomy.

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

Please contact Barbara Seiter at
STAG-Centre@soton.ac.uk for further information.

 **Find out more about the STAG research centre:**
www.southampton.ac.uk/stag

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