



University of Oxford
Department of Physics
Halley Lecture



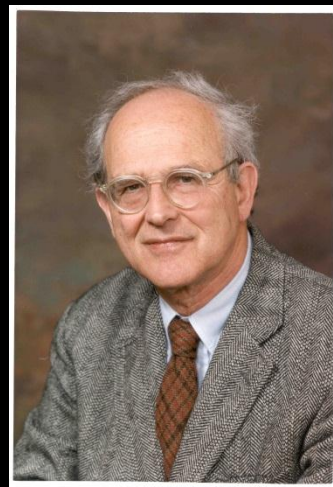
'Observation of the mergers of binary black holes: The opening of gravitational wave astronomy'

Professor Rainer Weiss,

MIT on behalf of the LIGO Scientific Collaboration

Wednesday 7th June 2017 at 5pm

(to be seated by 4.50pm)



Abstract: The recent observations of gravitational waves from the merger of binary black holes open 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 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 measured waveforms, their relation to the Einstein field equations and the astrophysical implications are discussed. The talk will end with our vision for the future of gravitational wave astronomy.

This lecture will be followed by
a Drinks Reception in the
foyer of the Martin Wood

Martin Wood Lecture Theatre
Clarendon Laboratory
Parks Road, Oxford
THIS LECTURE IS OPEN TO THE PUBLIC