



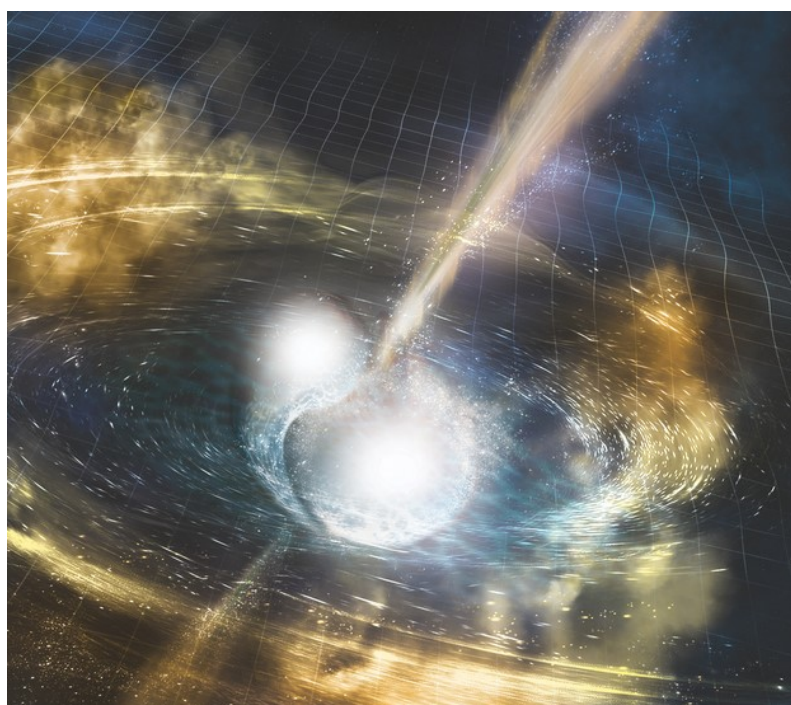
## PROBING THE UNIVERSE WITH GRAVITATIONAL WAVES



A free public seminar by Dr. Rainer Weiss, MIT

2017 Nobel Laureate and co-founder of the LIGO project

### ABSTRACT



NSF/LIGO/Sonoma State University/A. Simonnet

The observations of gravitational waves from the mergers of compact binary sources 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 about 100 years ago. The concepts used in the instruments and the data analysis methods 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 a vision for the future of gravitational wave astronomy.

### DETAILS

**When:** Friday, November 2, 2018, 11:35am—12:20pm. Arrive any time after 11:15am.

**Where:** Ballroom 6ABC, located on Level 6 of the Washington State Convention Center  
705 Pike St, Seattle, WA 98101. Directions at [wsc.com/directions](http://wsc.com/directions).

**Details:** Enter via the doors on Pike St. If you need directions within the convention center, ask an admission attendant to direct you to the **ASC LIGO seminar** on Level 6.

*This event, sponsored by the 2018 Applied Superconductivity Conference, is a free public seminar for the benefit of the scientific and educational communities in the Pacific Northwest. Visit our website at [ascinc.org](http://ascinc.org) for further information.*