



**Wissenschaftlicher Abendvortrag**  
**(in englischer Sprache)**

**Dienstag, 1. November 2016, 18:30 Uhr**

Magnus-Haus Berlin, Am Kupfergraben 7, 10117 Berlin

**Prof. Dr. Bruce Allen**

Director, Max Planck Institute for Gravitational Physics, Hannover

**The Discovery of Gravitational Waves**

Diskussionsleitung: Prof. Dr. Wolfgang Eberhardt, Wiss. Leiter Magnus-Haus Berlin

**Anschließend kleine Bewirtung. Die Veranstaltung wird gefördert durch die WE-Heraeus-Stiftung.**

**Anmeldung:**

[http://www.dpg-physik.de/dpg/magnus/formulare/formular\\_2016-11-01/anmeldung-2016-11-01.html](http://www.dpg-physik.de/dpg/magnus/formulare/formular_2016-11-01/anmeldung-2016-11-01.html)

**Zur Person:**

Bruce Allen (born May 11, 1959) is an American physicist and director of the Max Planck Institute for Gravitational Physics in Hannover Germany and leader of the Einstein@Home project for the LIGO Scientific Collaboration. He is also a physics professor at the University of Wisconsin–Milwaukee. He has done research work on models of the very early universe (inflationary cosmology, cosmic strings). Allen currently leads a research group working on the detection of gravitational waves. In this role, he was one of the first scientists to become aware of the initial detection of GW150914 at Laser Interferometer Gravitational Wave Observatory (LIGO), in September 2015. Allen's research work has been funded by the US National Science Foundation since 1987.

**Zum Inhalt des Vortrags:**

Gravitational waves were predicted by Albert Einstein one hundred years ago, but in spite of many attempts during the past fifty years, had never been directly observed. This talk follows announcements earlier this year by the LIGO and Virgo Scientific Collaborations, based on data from the first four-month observing run the advanced LIGO gravitational wave detectors (aLIGO). In two instances, on 14.9.2015 and on 26.12.2015, we have directly detected the gravitational waves emitted by the final orbits and merger of massive black hole binary systems. I describe the main results and the basic physics of these systems, as well as some of the "behind the scenes" details of the discovery and subsequent analysis. As the aLIGO detectors improve during the coming few years, the prospects for further exciting discoveries are outstanding.