

## MILLER ENDOWED LECTURE

# THE DIRECT DETECTION OF GRAVITATIONAL WAVES AT LIGO

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**Tuesday**  
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**4 PM**

Rm 118  
**Nieuwland  
Science  
Hall**

A century after the publication of Einstein's General Theory of Relativity the era of Gravitational Wave astrophysics began with the detection by the Laser Interferometer Gravitational-wave Observatory (LIGO) instruments of a Binary Black Hole merger. This event on September 14 2015 came at the beginning of the first observation run of the upgraded interferometers.

I will describe the principle of operation of the LIGO detectors, the path to the first detection, its implications and other events seen during the first observation run. I will also discuss the second observation run, currently in progress, and I will look forward to what we expect over the next several years.