Gravitational waves (GWs) are distortions in the fabric of space and time, predicted by Einstein's General Theory of Relativity, which are produced by various astrophysical phenomena. They were theoretically confirmed on September 14, 2015, when LIGO detected GW150914, the ripples in spacetime produced by the collision of two black holes. This was the first observation of gravitational waves and a significant milestone in the field of gravitational wave astronomy.

The detection of gravitational waves has profound implications for our understanding of the universe. By observing these waves, we can directly probe events that are hidden from our other senses, such as the collision of black holes or the explosion of supernovae. This opens a new window on the universe, allowing us to study fundamental physics and astrophysics in ways that were previously impossible.

The direct observation of gravitational waves will be one of the greatest discoveries of the 21st century. A gravitational wave observatory that would allow us to detect gravitational waves from massive black-hole mergers in the centers of galaxies, from the ultra-compact binary systems in our own Galaxy and from many other sources. The purpose of LISC is to exchange information about LISA with the wider science community.

## External Collaborations:

- **The Ligo Scientific Collaboration (LSC)**[^1] A well-organized collaboration of approximately 760 scientists worldwide who have joined together in the search for gravitational waves from the most violent events in the universe, such as the merger of black holes and neutron stars, the explosion of supernovae and the Big Bang.

- **The LISA international Science Community (LISC)**[^2] eLISA/NGO is a planned ESA space-based gravitational wave observatory that would allow us to detect gravitational waves from massive black-hole mergers in the centers of galaxies, from the ultra-compact binary systems in our own Galaxy and from many other sources. The purpose of LISC is to exchange information about LISA with the wider science community.

- **The LCGT and DECIGO collaborations**[^3] These are Japanese ground-based and space gravitational wave antenna projects.

- **The Ninja Project**[^4] The goal of the Numerical Injection Analysis (NINA) project is to bring the numerical relativity and data analysis communities together to pursue projects of common interest in the areas of gravitational wave detection, astrophysics and astronomy.

[^1]: [Ligo Scientific Collaboration](http://ccrg.rit.edu/research/gravitational-waves)
[^2]: [eLISA/NGO](http://ccrg.rit.edu/GW150914)
[^3]: [LCGT](http://ccrg.rit.edu/GW150914)
[^4]: [DECIGO](http://ccrg.rit.edu/GW150914)