Gravitational waves (GWs) are distortions in the fabric of space and time, predicted by Einstein's General Theory of Relativity. 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. By viewing the universe in GWs, we will be able to directly observe events like black hole collisions that are hidden from traditional electromagnetic-based (e.g. optical or radio) astronomy. In addition, if past experience with infrared, radio wave, and gamma-ray astronomy are any indication, GWs will provide us with a unique view of fundamental physics. The direct observation of GWs itself will be one of the greatest discoveries of the 21st century. A generation of low-temperature, underground interferometers may manage to reach down to a few hertz or so. To view very massive GW sources, such as mergers of the supermassive black holes (which reside at the core of most galaxies), or rapid binary systems with neutron stars and black holes, we need a space-based GW detector. Such a detector, known as the Laser Interferometer Space Antenna (LISA), has been planned for many years; its current incarnation is as a European Space Agency mission known as eLISA/NGO. These are Japanese ground-based and space gravitational wave antenna projects.

The LIGO Scientific Collaboration (LSC) is 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) 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 are Japanese ground-based and space gravitational wave antenna projects.

The Ninja Project is 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.