



GWIC Statement of Support for GW Detectors July 18 2025

Since its inception almost 30 years ago, the Gravitational Wave International Committee has been overseeing the development of the exciting new field of gravitational wave physics.

Gravitational Waves were predicted a century ago by Einstein, and for many decades thought to be undetectable. But with persistent work by thousands of physicists and engineers, gravitational waves were brought within reach. In 1974 the Hulse-Taylor pulsar discovery with NSF-funded Arecibo Observatory demonstrated their existence, resulting in the 1993 Nobel prize for Physics, and spurring the development of the LIGO detectors for gravitational wave discovery.

It was with great joy therefore in 2015 that we witnessed the first direct observation of gravitational waves from the collision of two black holes by the NSF Advanced LIGO detectors in Louisiana and Washington State with the world's largest quantum sensor, opening a new window on Einstein's Universe.

In 2017, the Advanced LIGO detectors in collaboration with the European VIRGO detector witnessed the collision of two neutron stars that coincided with a gamma-ray burst, one of the most significant astrophysical events in history.

Later that year the leaders of the NSF LIGO project received the Nobel Prize for Physics, and individuals and collaborations globally also were given a host of other international awards.

Since 2015 LIGO has detected over 300 sources of gravitational waves, including the merger of the two most massive black holes to date, creating a treasure trove of scientific discovery.

Now, in July 2025, the international community has gathered in Glasgow at GWIC's biannual Amaldi meeting to hear about the latest developments in gravitational wave physics. This includes evidence for gravitational waves from supermassive black holes seen by the NSF-supported NANOGrav collaboration and other Pulsar Timing Arrays around the world, and the LISA space mission, a collaboration between ESA and NASA that will launch in 2035 set to further revolutionise our understanding of the universe.

The promise for transformational scientific discovery in this nascent field is strong, but progress is threatened by proposed cuts to the NSF and NASA budgets.

The committee strongly supports the efforts to preserve the critical financial support which enables progress in science and technology, develops the careers of a generation of scientists and engineers, and maintains the US's central and crucial ongoing role in this new domain of science.

Professor Matthew Bailes (GWIC chair) with the unanimous support of the Gravitational Wave International Committee.