

Gravitational Wave International Committee

report to PaNAGIC

25 October 2010

(prepared by Stan Whitcomb, Caltech [Secretary] and Jim Hough, University of Glasgow [Chair])

The Gravitational Wave International Committee (GWIC) was formed in 1997 to facilitate international collaboration and cooperation in the construction, operation and use of the major gravitational wave detection facilities world-wide. The membership of GWIC represents all of the world's active gravitational wave projects. In 2008, GWIC invited the three pulsar timing collaborations which are searching for very low frequency gravitational waves to join, so now it represents projects covering gravitational wave frequencies from nanohertz to kilo hertz. Each project has either one or two members on GWIC depending on size. Because the GWIC representatives are generally the leaders of each project, GWIC has access to broad expertise from throughout the community. GWIC also includes representation from the International Society on General Relativity and Gravitation and from the astrophysics/theoretical relativity community. GWIC meets annually, with recent meetings in Hannover (2010), New York City (2009), Pisa (2008), Sydney (2007), and Maryland (2006).

GWIC Activities in 2009-2010

GWIC convenes the biennial Edoardo Amaldi Conferences on Gravitational Waves, sponsored by IUPAP as a "class B" Conference. The Amaldi meeting is considered by many in the gravitational wave community to be their most important international gathering. The members of GWIC serve as the Scientific Organizing Committee for the Amaldi meetings. Amaldi 9 will be held on 10-15 July 2011 in Cardiff University.

In 2006, GWIC established an international prize, to be awarded annually to an outstanding Ph. D. thesis based on research in gravitational waves. The 2011 GWIC thesis prize was awarded to Holger Pletsch, AEI Hannover, and presented on the first day of GR19 in Mexico City. The number of theses nominated has grown every year since the prize was established, demonstrating the growing interest in gravitational waves.

In 2007, GWIC appointed a subcommittee to prepare a global road-map for the field of gravitational wave science, with the perspective to optimize the global science in the field. The charge to the committee is to cover both ground- and space-based detectors with a 30-year horizon. The committee obtained broad input from the communities involved to identify relevant science opportunities and the facilities needed to address them. At its June 2010 meeting, GWIC accepted the draft report (http://gwic.ligo.org/roadmap/Roadmap_100814.pdf), subject to some minor revisions. GWIC has already begun to implement some of the recommendations contained in the roadmap.

During 2009/10 GWIC provided letters of support to three different projects which would further the goals of the GWIC Roadmap:

- The Japanese project LCGT (Large Scale Cryogenic Gravitational Wave Telescope) for a 3 km underground cryogenic interferometer, has had initial construction funding approved. GWIC letters in support of LCGT seem to have helped. This approval follows the approval last year of Advanced Virgo, and these instruments together with Advanced LIGO and upgraded GEO will be the basis of a major worldwide network.
- GWIC provided a support letter to the US NSF for LIGO-Australia, the collaborative effort to place an Advanced LIGO detector in a site to be provided by the Australian gravitational wave community and operated as a component in the LIGO network.
- GWIC also provided letters in support of IndIGO, the gravitational wave collaboration being set up in India.

We were pleased to learn in June that LCGT had received approval and initial construction funds, in August that the National Science Board (of the US) approved LIGO-Australia subject to Australia agreeing to fund its portion of the project, and that IndIGO had received funds to construct a 3m prototype detector to help develop expertise in interferometry.

GWIC has provided inputs to both the OECD Global Science Forum and the ASPERA astroparticle roadmaps.

Membership of GWIC

Chair: James Hough

ACIGA: Jesper Munch

ALLEGRO: William O. Hamilton

AURIGA: Massimo Cerdonio

Einstein Telescope: Michele Punturo

EXPLORER/NAUTILUS: Eugenio Coccia

European Pulsar Timing Array (EPTA): Michael Kramer

GEO 600: Karsten Danzmann, Sheila Rowan

LIGO, including the LSC: Jay Marx, David Reitze

LISA: Thomas Prince, Bernard Schutz, Robin Stebbins, Stefano Vitale

MiniGRAIL and other Spherical Acoustic Detectors: Giorgio Frossati

NANOGrav: Andrea Lommen

Parkes Pulsar Timing Array (PPTA): Dick Manchester

TAMA/CLIO/LCGT: Seiji Kawamura, Kazuaki Kuroda

VIRGO: Francesco Fidecaro, Benoit Mours

Theory Community: Clifford Will

Executive Secretary: Stan Whitcomb