

# Gravitational Wave International Committee

## report to PaNAGIC

19 September 2011

(prepared by Stan Whitcomb, Caltech [Secretary] and Eugenio Coccia, University of Rome "Tor Vergata" [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 Cardiff (2011), Hannover (2010), Pasadena (2009), New York City (2009), Pisa (2008), and Sydney (2007).

### **GWIC Activities in 2010-2011**

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 was held on 10-15 July 2011 in Cardiff University, with an attendance of nearly 300 scientists and students.

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 Haxing Miao, University of Western Australia, and presented at the Amaldi Conference in Cardiff. The number of theses nominated has grown every year since the prize was established, demonstrating the growing interest in gravitational waves. The awarding of the GWIC Thesis Prize to Haxing marks the fourth continent (in five years) to be so recognized since its inception, making it truly an international award. Finally, GWIC entered into an agreement with Springer, under which the winner of the GWIC Thesis Prize will be nominated (with the presumption of acceptance) to be published in the Springer Thesis Series. This will provide added recognition and an additional monetary award to the Thesis Prize winner.

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. During 2011, GWIC completed and published this Roadmap ([http://gwic.ligo.org/roadmap/Roadmap\\_100814.pdf](http://gwic.ligo.org/roadmap/Roadmap_100814.pdf)). GWIC has used this document to provide inputs to both the OECD Global Science Forum and the ASPERA astroparticle roadmaps.

At its 2011 meeting, GWIC accepted the application of the Indian Initiative in Gravitational-wave Observation (IndIGO) as its newest member. IndIGO is a rapidly growing national collaboration. We were pleased to learn that IndIGO had received funding to set up an Indo-US Centre to facilitate exchanges of scientists and students as a way to build capability in India, one of the activities that we had written a letter of support for in 2010.

Also at its 2011 meeting, Eugenio Coccia was elected as the chair of GWIC for a two-year term. GWIC thanks Jim Hough for his leadership over the past four years. A number of other GWIC membership changes have occurred as leadership positions in the different projects have changed

### **Membership of GWIC**

*Chair:* Eugenio Coccia

*ACIGA:* Jesper Munch

*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:* Gabriela Gonzalez, David Reitze

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

*NANOGrav:* Maura McLaughlin

*Parkes Pulsar Timing Array (PPTA):* Dick Manchester

*Spherical Acoustic Detectors:* Odylio D. Aguiar

*TAMA/CLIO/LCGT:* Takaaki Kajita, Seiji Kawamura

*VIRGO:* Francesco Fidecaro, Jean-Yves Vinet

*Theory Community and ISGRG:* Clifford Will

*Executive Secretary:* Stan Whitcomb