



What is GWIC... and why should I care?

Pulsar Timing Meeting
Arecibo
August 2, 2008



What is GWIC (Gravitational Wave International Committee)?

- Formed in 1997 to facilitate international collaboration and cooperation in the construction, operation and use of the major gravitational wave detection facilities world-wide
- Affiliated with the International Union of Pure and Applied Physics as a sub-committee of IUPAP's Particle and Nuclear Astrophysics and Gravitation International Committee (PaNAGIC)
- Formally, similar status to ICFA (International Committee for Future Accelerators)



Who is GWIC?

ACIGA David McClelland

ALLEGRO William O. Hamilton

AURIGA Massimo Cerdonio

EXPLORER/NAUTILUS Eugenio Coccia

GEO 600 Karsten Danzmann,
James Hough (Chair)

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

TAMA/CLIO/LCGT Seiji Kawamura, Kazuaki Kuroda

VIRGO Francesco Fidecaro, Benoit Mours,

Theory Community Clifford Will

Executive secretary Stan Whitcomb



GWIC

Gravitational Wave International Committee

GWIC Goals

- Promote international cooperation in all phases of construction and exploitation of gravitational-wave detectors;
- Coordinate and support long-range planning for new instrument proposals, or proposals for instrument upgrades;
- Promote the development of gravitational-wave detection as a astronomical tool, exploiting especially the potential for coincident detection of gravitational-waves and events in other fields (photons, cosmic-rays, neutrinos);
- Organize regular, world-inclusive meetings and workshops for the study of problems related to the development and exploitation of new or enhanced gravitational-wave detectors, and foster research and development of new technology;
- Represent the gravitational-wave detection community internationally, acting as its advocate;
- Provide a forum for the laboratory directors to regularly meet, discuss, and plan jointly the operations and direction of their laboratories and experimental gravitational-wave physics generally.



What does GWIC do?

- Regular meetings of Project Directors to exchange information about status and plans
- Encourage and foster inter-project collaborations (e.g., recent LIGO-Virgo agreement)
- Encourage inter-project vetting and notification of new results
- Advocate for support for new and continuing GW projects around the world



GWIC-sponsored Meetings

- Sponsors meetings to encourage scientific communication and community
- Amaldi Meeting:
 - Biennial international meeting
 - Focused exclusively on gravitational-wave detection
 - Encourage communication across the full GW spectrum
 - Next : Columbia University, 21-27 June 2009
- LISA Symposium
 - Alternates with Amaldi meetings
- GW Advanced Detector Workshop



GWIC Thesis Prize

- Created to encourage young scientists in the field
- Recognize notable research on any aspect of gravitational wave science
 - originality and creativity of the research
 - importance to the field of gravitational waves and gravitational wave detection, broadly interpreted,
 - clarity of presentation in the thesis.
- Awarded on an annual (calendar-year) basis
 - First announcement ~September
 - Call for nominations ~ November
- Presented at Amaldi or other prominent GW meeting each summer
- \$1000 plus certificate



GWIC Roadmap

- Develop a strategic plan that lays out the excitement of the field, the potential great discoveries and the facilities and resources needed to reach that potential
 - Ground-based, space-based, including pulsar timing, CMB polarization
- Goals of Roadmap-
 - Plan that global GW community can rally round and advocate
 - Excite other scientists & funders about great opportunities in field, its potential impact and synergy with other sciences
 - Show we have a realistic and coherent science-driven plan
- Membership
 - Benoit Mours, Cliff Will, David McClelland, Flavio Vetrano, Jay Marx (chair), Karsten Danzmann, Kazuaki Kuroda, Sheila Rowan, Stan Whitcomb, Stefano Vitale, Sterl Phinney



Why do we want a GWIC Roadmap?

- Need to be able to speak with a strong voice as the current generation of detectors mature and new detectors begin planning
 - Higher cost projects may require greater international collaboration
 - Need to communicate the importance to funding agencies
- Increasing competition between GW projects and projects in other fields
 - E,g,, “Beyond Einstein” prioritization by NASA
 - Need to make a strong science case to our colleagues in other fields
- Ensure that key future R&D directions are properly explored



Potential Impact: ICFA Example

- ICFA (International Committee for Future Accelerators) has same “legal” authority as GWIC
 - I.e., none
- Last two years have demonstrated ICFA’s power as **the "conscience" of the field**
- ICFA subpanel, International Linear Collider Steering Committee,
 - Made key design decisions (“recommendations”) on ILC technologies
 - Established ILC Global Design Effort (GDE)
 - Recommended Director for GDE
 - Recommended ILC Research Director
- Derives its influence from the support of its community



Invitation to Join

- Invited presentations on the state of pulsar timing at GWIC meeting in May this year
 - Andrea Lommen, Andrea Possenti
- Enthusiastic decision to invite pulsar timing community to join GWIC
- Ask pulsar timing community to recommend how to be represented
 - One representative from each of three collaborations?
 - Two representatives representing the larger community
 - Some other arrangement?
- General guidance
 - Leaders who can speak for community
 - Some degree of stability (not a yearly rotation)
 - Commitment to participate



So, What Does GWIC Want from You?

- Want you to feel a part of the broader GW community
- Want you to tell us how you want to be represented in GWIC
- Want you to participate in Amaldi and other GW meetings, and to include us in your meetings (when appropriate)
- Want you to nominate your good students for the GWIC Thesis Prize
- **Want you to tell us how GWIC can help you do the best science possible**