INTEROFFICE MEMORANDUM

TO: GRAVITATIONAL WAVE INTERNATIONAL COMMITTEE

FROM: LEE SAMUEL FINN

SUBJECT: MINUTES OF JULY 2004 GWIC MEETING

DATE: 2/10/05

MINUTES OF 2004 GWIC MEETING

Venue: 18 July 2004, Jurys Hotel Ballsbridge, Dublin

In attendance:
B. Barish,
B. Berger,
M. Cerdonio (chair),
H. Collins,
K. Danzmann,
R. DeSalvo,
V. Fafone,
M.-K. Fujimoto,
A. Giazotto,
J. Hough,
O. Jennrich (website),
W. Johnson,
S. Katsanevas,
D. McClelland,
F. Menzinger,
B. Mours,
P. Saulson (minutes),
B. Schutz,
K. Tang,
K. Tsubono,
C. Will

REPORTS FROM THE CHAIR:

1) The acoustic detector groups are preparing a coherent plan for the medium and long-term development of resonant detector technology, considered both in isolation and in the context of interferometer development. They will present their written plan to the GWIC Chair, who will in turn present it to a subcommittee of others to assess it. This subcommittee will be chaired by Stan Whitcomb, and its other members will be Bernard Schutz and Eugenio Coccia The preparation of the written plan will be made by a Working Group, coordinated by Michele Bonaldi that includes Viviana Fafone and Luciano Gottardi, and will expand to include others. Both the plan preparation and evaluation are to occur by the time of the next GWIC meeting.
2) The new GWIC website is available at <http://gwic.gravity.psu.edu>.
3) PaNAGIC and IUPAP AC2 have endorsed the 2005 Amaldi meeting. Commissions C4 and C9 will also support the proposal, though not as their first priority. Endorsement by IUPAP, together with award of 6K$ of funding, is expected to take place at the October IUPAP Council meeting.
4) The GWIC Guidelines on Publications and Presentations have been approved by GWIC members and has been working for several months.
5) The Statistics Committee has been working. (More later.)

PROJECT REPORTS:

All of the projects represented at the meeting gave status reports. The viewgraphs that were used in those presentations can be found on the GWIC web site [[THESE ARE NOT YET AVAILABLE: WAITING FOR REPLY FROM JENNRICH]]

REPORT ON EGO ACTIVITIES (MENZINGER)

EGO now has a budget of 9 million euros, and staff of 60 people (including seconded personnel.) It is building up its computing capability. Commissioning activities on the Virgo interferometer now run on a daily schedule of 0800 – 2300. Several 5-day engineering runs have been carried out. EGO is preparing to be able to staff science operations on a 24/7 basis. EGO's R&D support activities are quite broad, and include support both to GEO and to the bar community. The 2005-6 period will see a new R&D program.

The Virgo EGO Scientific Forum is to be launched soon, with a founding meeting in late autumn of 2004. The idea is to enlarge the research community around Virgo. The relationship between the VESF and the LSC is one topic to be discussed.

REPORT ON CEGO (TANG)

The China Gravitational Wave Observatory has attracted the interest of about 100 scientists, of whom 50 have become seriously involved. The major activity right now is training of interested scientists, with a goal to next build a 100-meter prototype interferometer. The large CEGO interferometer will be built underground, in a facility that can also host other underground physics experiments.

CEGO has received a small amount of initial funding, and is applying for more funds as well as approval of the main project. Some senior scientists in China have doubts: Will the field take off? Are there enough experienced scientists? In order for CEGO to succeed, it will need outside endorsements.

Action for GWIC: Make a prompt statement endorsing CEGO, including a promise of GWIC membership upon approval of project status (the draft letter is reproduced here: will be sent after approval of the minutes).

Dear Keyun,

This letter is to thank you for your very interesting presentation of the CEGO initiative to GWIC, the Gravitational Wave International Committee,

An additional GW detection facility would significantly strengthen the global and growing network of GW detectors, especially as it opens the way to a new frequency domain and fills the frequency gap between the present GW interferometers and the future orbital GW detectors.

GWIC supports the CEGO initiative and encourages its member experiments to host and train Chinese scientists.

As soon as the CEGO initial phase is approved (i.e., the NAO-C test interferometer), GWIC will welcome CEGO as one of its full standing members. In

anticipation of approval we offer a standing invitation to you or a delegate of your choice to participate in GWIC meetings as an observer.

REPORT ON AMALDI 6 (FUJIMOTO):

Amaldi 6 will be held 19-24 June 2005 in Okinawa, Japan at Bankoku-Shinryokan, a resort-style convention hall. N. Mio chairs the Local Organizing Committee. The International Advisory Committee will be set within one month.

It is planned that the meeting proceedings will be published in CQG, as for previous Amaldi meetings; however, negotiations with the journal are necessary since the last meeting issue was too large. These negotiations (particularly about the page allocations to speakers and poster presenters) are under discussion.

- The major milestones for the meeting include
- September 2004: launch meeting web site
- December 2004: name session chairs
- February 2005: call for papers
- Mid-May 2005: early registration deadline
- August 2005: proceedings submission deadline

Envisioned expenses for attendees: Registration fee of 45 or 50 kY, accommodations 7 to 28 kY/night, and food 1 to 3 kY/day.

REPORT ON GWDAW 9 (MOURS)

The meeting will be held from 15 to 18 Dec 2004, at Veyrier du Lac, near Annecy. (This is about a 1 hour drive from the Geneva airport.) The meeting will follow the traditional format, running from Wednesday morning until Saturday noon. The participant cost is expected to be about 250 Euros, which will cover 3 lunches, 1 dinner, and a copy of the proceedings. Frederique Marion will chair the Local Organizing Committee. The first circular will be released in early September.

REPORT ON LISA 5 AND 6 (JENNRICH)

LISA 5 was held during the week just prior to the GWIC meeting. It had 170 participants. 77 papers were given, and there were also 30 posters. The proceedings will be published in CQG.

The organizers felt that this format had too many talks for the length of the meeting. One possibility would be to expand the meeting. Other thoughts include reducing the number of ground-based talks, and/or expanding the poster session.

Two proposals have been submitted for LISA 6, both from the U.S. One is from Goddard Space Flight Center, for a meeting that would be held in Annapolis, Maryland. The other is from the University of Texas at Brownsville, for a meeting that would be connected to the Summer School in Gravitational Wave Astronomy on South Padre Island. In neither case would the meeting be close to MG11.

OTHER MEETING DATES:

- Aspen 2005: 16 – 22 Jan 2005
- GravStat: 19–21 May 2005
- Aspen Summer Workshop "LISA Data: Sources, Analysis and Science": 29 May – 19 June 2005
- Detecting Gravitational Waves Using Pulsar Timing Arrays: 21–23 July 2005
- Aspen 2006: in Elba 14 – 20 May 2006

DISCUSSION OF MEETING FORMATS

The question arose about how much the LISA meeting should include talks on ground-based research, and similarly how much the Amaldi meeting should include talks on space-based research. Danzmann urged that the two communities not be separated, but instead that the overlap of meeting topics be maintained, with, each series of meetings keeping its own primary emphasis. This position was endorsed by GWIC and is the GWIC recommendation to the LISA and Amaldi organizers.

There was some discussion about the schedule of gravitational wave talks at the GR17 meeting. Schutz reported that he had been told by Curt Cutler (chair of the Scientific Organizing Committee) that the cost of meeting rooms is an important determining factor of how many talks can be accommodated. Saulson noted that the time for reporting results of observations was too brief.

The relationship between the Amaldi or LISA meeting and the GR and MG conferences was also discussed. Danzmann argued against scheduling our meeting back-to-back with the larger meetings, as this makes for too long a trip. McClelland proposed that the afternoon parallel sessions at the big meetings ought to, in fact, constitute the Amaldi or LISA meeting, not be an addition.

Will proposed asking that the GR meetings feature gravitational experiments more than before. Johnson thought that theory and experiment talks should be grouped together on a topical basis, for example on burst sources of gravitational waves.

Cerdonio and Will will consider these ideas and draft a set of recommendations.

COLLABORATIVE RESEARCH

GEO/LIGO: Hough reported on the successful link between GEO and LIGO for Advanced LIGO. The UK component of GEO will supply suspensions and some optics, and has been funded at a level of 12 M Euros for this work. The German component of GEO has bridging funds of 1 M Euros for its contribution of laser systems. GEO is also making an important contribution in research on mirror coatings.

European collaboration: Danzmann reported on APPEC (Astro-Particle Physics European Coordination- http://appec.in2p3.fr/) Promoted by the major national agencies, CNRS, INFN, MPI, PPARC, its aim is to promote and optimize scientific collaborations in Astroparticle physics, which includes gravitational wave research, within Europe, and then assist in the process of proposing for funding to the various calls of the European Community. Until now ApPEC has proposed and got funded a "Network" and a "Joint Research Activity" In both cases the proposals include all aspects of astroparticle. In the approval process the EU selected about half of the subjects, and gravitational wave activities got funded in both cases. "Network" funding is small money for meetings to improve collaboration and exchange. "Joint Research Activity" funding is for R&D, in the GW case dedicated to "thermal noise". Danzmann noted a certain lack of proportion between the amount of meetings/paper work and the funding per operative research unit. A third application, still to go through, concerns a 5 yr "Design Study" for a "third generation" European GW observatory, which may include advanced interferometric and acoustic detectors. Looking toward the future, recommendations are that Virgo and GEO should run 2 to 3 years at close to design sensitivity, that a plan should be developed to match Advanced LIGO sensitivity in a European interferometer, that participation with LIGO should continue, and that R+D on Resonant Mass Detectors should also continue.

STATISTICS COMMITTEE: (CERDONIO, REPORTING FOR FINN)

A first draft of the report of the Statistics Committee has already been circulated. Finn has now produced a new version.

Action: Soon, Finn should circulate this new draft to the various projects for their comments, then finalization. The goal ought to be to produce a final version before the end of 2004.

INTERNATIONAL NETWORK OF DETECTORS

There were brief reports on the many existing arrangements. IGEC was quite successful, but needs to be reviewed for the newer broadband data streams coming from bars. There was brief discussion of the ongoing collaborations between GEO and LIGO and between TAMA and LIGO, and the new MOU between AURIGA and LIGO and the pending MOU between Virgo and LIGO. ROG's collaborations with the AEI, with the Rome Virgo group, and with TAMA were also discussed.

Discussion then turned to a possible move toward multi-lateral cooperation. One goal might be to move toward a multi-lateral arrangement that would avoid the sometimes-conflicting provisions of multiple bilateral arrangements. Perhaps the terms of some of those bilateral agreements show a natural approach to a multi-lateral world. Various members expressed different opinions about what is practicable and what is desirable. Giazotto felt that bilateral agreements were all that were possible now. Danzmann expressed the goal to have all data sets as integrated as are the LIGO and GEO data now. Barish noted that checks and balances are required, hence independent detection and analysis teams are good. Several members suggested the possibility of "red" and "blue" teams being created across project boundaries. Cerdonio urged that a new multi-lateral arrangement be in place before the upgrade to Advanced LIGO begins. This will have the benefit of ensuring the coordination that will enable observations to continue by other detectors while LIGO is off the air.

Several actions were called for: 1) All MOUs should be public, and their texts easy to find. The GWIC web site can be a repository. 2) When any interference between several bilateral arrangements occurs, GWIC can help to resolve the issue. 3) A committee should be set up to propose how to refocus the current set of bilateral arrangements to promote global exchange. The committee should also discuss the coordination of running times. Named to the committee were Masa-Katsu Fujimoto, Benoit Mours, Giovanni Prodi, Peter Saulson (Chair), and Bernard Schutz.

AGREEMENTS WITH NON-GW EXPERIMENTS

Action: The GWIC web site will also serve as a repository of agreements between gravity wave projects and other observation efforts.

THEORETICAL NEEDS

Despite the many needs in Europe and Us to promote theoretical work associated with GW detection, it was felt that the GWIC was not yet prepared to start the draft of a white paper on the subject. For the time being, Will has drafted the following simple statement of support of associated theoretical work

> The GWIC wishes to express its concern about the progress of theoretical work needed to underlie successful gravitational-wave detection. The committee believes that funding agency support both in the EU and the US is not sufficient to support the gravitational theory, numerical work, source modeling, and data analysis research needed, or to promote useful interactions between these groups and the experimental groups.

Action: Cerdonio will see if EU and US needs are urgent enough so that a definite proposal for drafting a White Paper may emerge, together with names of whoever is willing to work on it

NEED FOR ANOTHER VIRGO REPRESENTATIVE

After some discussion, it was agreed that, following the forthcoming change in leadership, Virgo would name the second representative that it is entitled to.

NEXT GWIC MEETING

A natural time frame for the next meeting is adjacent to the next Amaldi meeting. Finn will poll members before the end of the year, and coordinate setting the date with the Amaldi organizers.

Actions:

The following actions were called-out in these minutes:

- GWIC will make a prompt statement endorsing CEGO, including a promise of GWIC membership upon approval of project status (the draft letter is reproduced in the minutes and will be sent after the minutes are approved).

- Finn will circulate a new draft of the statistics committee report to the various projects for their comments, then finalization. The goal ought to be to produce a final version before the end of 2004.

- The GWIC web site will serve as a repository of agreements between gravity wave projects and between gravitational wave projects and other observation efforts.