GWIC
Gravitational Wave International Committee

GWIC Roadmap Exercise – Chair Jay Marx, Caltech

Prof Jim Hough,

University of Glasgow,

Chair, GWIC

LSC/VIRGO Hannover October 2007

LIGO-G070740-00-Z

Charge to Committee

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- **To develop a roadmap for the field (ground and space based) with a 30- year horizon taking account of known national and regional planned projects [including those nominally in other fields (e.g pulsar timing, CMB etc)].**

- **To identify relevant science opportunities and the facilities needed to address them in order to optimize the global science in the field.**

Report - brief and to the point for scientists from outside of the field and national and international roadmap and priority setting groups.

Timescale: approximately 1 year

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Areas for discussion 1

- The long-term scientific value of the field
- Existing and planned facilities in the perspective of a global network
- Anticipated scientific opportunities utilizing gravitational waves
  - 10 year horizon
  - 20 year horizon
  - 30 year horizon
- Theory and numerical relativity—anticipated developments and impact on the science capabilities of the field

Areas for discussion 2

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- Impact of technologies
  - Projected new technologies that will improve capabilities
  - Technologies that need development to allow goals to be met
- Global goals for the field—10, 20, 30 year horizon
- Facilities and capabilities needed to reach these goals
- Roadmap to these goals (what should happen when, key decision points)
- Discussion of strategies, politics, etc.

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Membership

J. Marx (Chair)

K. Danzmann

S. Phinney

K. Kuroda

B. Mours

D. McClelland

S. Rowan

S. Vitale

S. Whitcomb

C. Will

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Subcommittees 1

1---Gravitational Wave Science—general tutorial level
Rowan (chair), Marx +

2--Scientific opportunities in GW science in next few decades
McClelland (chair), Phinney, Will, Mours +

3--Current state of the field
Mours (chair), Danzmann, Kuroda, Will +

4- The future of the field in response to anticipated scientific opportunities—on the ground
Whitcomb (chair), Marx, McClelland, Kuroda, Rowan +

5- The future of the field in response to anticipated scientific opportunities—in space
Danzmann (chair), Vitale, Phinney +

6-- Impact of GW science on other fields
Vitale (chair), Whitcomb, Phinney +

Subcommittees 2

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- **Will co-opt members from the community**
- **Will undertake wide consultation in their respective areas**

This meeting

- **ET design study (H. Lueck/ M. Punturo)**
- **Future LIGO (D. Shoemaker)**
- **Space based GW detectors (K. Danzmann)**
- **Discussion**