

**Attachment Number A to the
Memorandum of Understanding (LIGO-M950043-00-M)
between the
Syracuse University Experimental Relativity Group (SUERG)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO) Laboratory
August 15, 1999**

This Attachment to the Memorandum of Understanding LIGO-M950043-00-M covers the role of SUERG as a Charter Member of the LIGO Scientific Collaboration (LSC) and a member of the LIGO I Development Group (LIDG). The period of performance for the activities in this Attachment is from August 15, 1999 to February 15, 2000. This period may be modified by agreement to a revision of this Attachment.

1. LIGO Scientific Collaboration - The LIGO Scientific Collaboration is organized as a separate organization from the LIGO Laboratory. It includes scientists from the LIGO Laboratory, and those from collaborating institutions, and has its own leadership and governance. The Collaboration will ensure equal scientific opportunity for individual participants and institutions. It will organize the research, publications, and all other scientific activities. The Collaboration will report to the Laboratory Directorate for final approval of its research program, technical work, observational physics publications, and talks announcing new observations and physics results. This will be done through regular reports to the Directorate and its PAC.
2. Charter Membership - An initial period for formation of the Charter group of institutions in the LIGO Scientific Collaboration commenced on March 1, 1997 and ended following the first full meeting of the Collaboration at which the Collaboration Council assumed its role.

Following the charter period proposals will be evaluated through the Collaboration Council. With Collaboration approval, an MOU with the LIGO Laboratory, including Attachments defining specific work, will be required for any participating institutions.

3. This document is an agreement between the Syracuse University Experimental Relativity Group (SUERG) and the LIGO Laboratory concerning the activities of SUERG as a Collaborating Institution in the LIGO Scientific Collaboration (LSC) and in the LIGO I Development Group (LIDG), and as noted in item No. 8 below.
4. LIGO I Development Group - The LIGO I Development Group is the scientific collaboration for implementing and exploiting the initial LIGO detector and physics through the initial science data run. Only groups who establish a specific Attachment approved by the LIGO Laboratory, which defines a sufficient contribution and participation in LIGO I development,

implementation or data analysis will be part of this initial LIGO data run and science. Participation in future data runs and science that follow LIGO I will be possible for other groups, with guidelines to be determined by the LIGO Scientific Collaboration. It is anticipated that LIGO I data will only be made available through formal collaboration within the LIGO I Development Group during the first two years following its collection.

The general guideline for institutional membership in the LIGO I Development Group is that the contribution per collaborator of any new group to the design, construction, and implementation of the initial LIGO detector and to the first data run be comparable to that of the LIGO Laboratory scientists.

5. Report of Progress - SUERG will provide a status report on its activities in support of LIGO every six months. The report will consist of: a) a summary status on research by topic as indicated item No.8 below including progress against the milestones if any, significant accomplishments such as new insights/discoveries or publications, issues of concern if any, and an indication of invested time, b) updated List of Collaborators, and c) a plan of activities for the succeeding six-monthly period. The report will be due one month before the close of the period of performance under the Attachment in question. Report distribution should be to the Collaboration Council and to the LIGO Laboratory Director.
6. Term of Membership - The Membership will be renewed every six months upon evidence of satisfactory performance of agreed upon duties.

The coordinates of SUERG members are included in the Attachment Z to the Memorandum of Understanding LIGO-M950043-00-M.

7. Intellectual Property Rights - The rights to intellectual property developed under this Attachment will be subject to the National Science Foundation Grant Policy as indicated in Section 730, Intellectual Property.
8. During the period August 15, 1999 to February 15, 2000, SUERG collaborators will continue with preparations for their ongoing role in the operation of the interferometer at the LIGO Livingston (LLO) site, including regular on-site work and emergency visits as necessary. Specific activities to be undertaken are:
 - a) Peter Saulson will participate in the installation activities at the LIGO Hanford and LLO sites, in preparation for his role as the LLO Interferometer Installation Leader during CY 2000. This will involve participation in conference calls and travel to the two sites.
 - b) Steven Penn will participate in the design of the LDAS diagnostic software system.
9. During the period August 15, 1999 to February 15, 2000, the LIGO Laboratory will provide office space and associated infrastructure support for P. Saulson and S. Penn while on duty at the LIGO sites and as indicated in item No. 8 above.
10. The research effort pursuant to this Attachment A will be coordinated by P. Saulson and Mark

Coles on behalf of SUERG and LIGO Laboratory respectively.

11. Resource Sharing: P. Saulson's participation as the LLO Interferometer Installation Leader during CY 2000 per item No. 8 (paragraph a) above, is at the explicit request of the LIGO Laboratory. Accordingly, all associated and reasonable costs, including the office space and associated infrastructure support in item No. 9 above, will be borne by the LIGO Laboratory. Appropriate contractual and funding arrangements will be made pursuant to the LIGO Visitor's Program. A copy of the authorizing Caltech subcontract will be included in this document upon execution.

Approved:

Barry Barish

Barry Barish
LIGO Laboratory Director

Peter R. Saulson

Peter R. Saulson
SUERG Principal Investigator

July 14, 1999

Date

2 August 1999

Date