

**MEMORANDUM OF UNDERSTANDING BETWEEN
THE LIGO SCIENTIFIC COLLABORATION AND CATAWBA SCIENCE
CENTER**

The Laser Interferometer Gravitational-Wave Observatory (LIGO) is a facility dedicated to the detection of cosmic gravitational waves and the measurement of these waves for scientific research. It consists of two widely separated installations within the United States, operated in unison as a single observatory. LIGO is available for use by the world scientific community, and is a vital member in a developing global network of gravitational wave observatories.

The LIGO Scientific Collaboration ("LSC") developed and produced a dynamic, engaging traveling display relating to gravitational waves and the scientific research being conducted at the LIGO observatories (the "Exhibit") with funding from National Science Foundation through the University of Mississippi.

The LSC and Catawba Science Center ("CSC") wish to collaborate on the display of a traveling exhibit with the goal of broadening the community of people interested in science and encouraging interest in science among young people in a mutually beneficial manner, according to the following understanding.

1. Term.

- 1.a). The term of collaboration and performance of the activities contemplated in this Memorandum of Understanding ("MOU") is from October 1, 2010 to March 31, 2011. This period may be modified by mutual agreement in writing.

2. Venue.

- 2.a). CSC will host the Exhibit at a suitable mutually approved indoor public location (the "Venue") from October 20, 2010 to February 25, 2011. In order to maintain consistency with the exhibit design, LSC will have the right to approve the Venue and Venue signage as pertains to the Exhibit. CSC will keep LSC informed on a regular basis regarding plans and status for the preparation of the venue to enable LSC to provide timely feedback and approvals.
- 2.b). CSC will be solely responsible for providing the Venue. The Venue must conform to the following minimum characteristics:

1. Minimum square footage of approximately 240 sq. ft., 22'-0" (w) × 11'-0" (d).
2. Unobstructed minimum height clearance of 9'-0" across the display area.
3. Access entry with minimum linear dimensions of 7'-0" (h) × 5'-0" (w).
4. Be equipped with a minimum of four standard working 120 V electric outlets on the peripheral walls. CSC will be solely responsible for providing electric power for set up, test, tear-down and public display of the Exhibit.
5. Include clean storage space for storing the Exhibit packing material and casing during the display.

3. Security and Insurance.

- 3.a). CSC will offer security measures against foreseeable damage, vandalism and theft by providing access-restrictions to the Venue (such as locked rooms, security cameras) during closing hours, but otherwise be in a trafficked area for maximizing public access during opening hours. CSC will be responsible for any damages, theft, or vandalism incurred while the Exhibit is on its premises.
- 3.b). CSC must have in force or obtain a commercial general liability insurance policy with a per-occurrence limit of no less than \$1,000,000 combined single limit for bodily injury and property damage and a \$2,000,000 aggregate where applicable. This should be a valid policy from a Mississippi and North Carolina licensed Property and Casualty Broker, naming the following entity as additional insured:

The University of Mississippi
1 Jeanette Phillips Dr.
PO Box 1848
University, MS 38677-1848
USA

The liability policy must be in force for the entire duration of the Exhibit inbound transportation to CSC, and display, set-up and tear-down at CSC.

Only original certificates of insurance will be accepted and they must be signed by an authorized individual. The insurance obligation shall in no way relieve CSC of her indemnity obligation to the University of Mississippi.

4. Exhibit Set-up, Testing and Tear-down.

- 4.a). CSC will provide to LSC access to the Venue for setting up, testing, and taking down the Exhibit up to two days before and after the display dates listed in Art. 2.a.
- 4.b). CSC will provide a working crew of minimum three people during set-up, test and tear-down of the exhibit (the "crew"). The crew will work under the supervision of a member of the LSC but will not be otherwise affiliated by any means with the University of Mississippi nor the LSC. CSC will be solely responsible for any labor compensation, wages or any other costs related to work performed by the crew. The University of Mississippi and LSC will not be held responsible nor liable for any bodily injury of crew members. LSC will bear the cost of travel and stay of the LSC working supervisor during set-up, test, and tear-down of the Exhibit.
- 4.c). CSC will provide a minimum of two medium duty 8'-00" ladders and a set of common working tools for set-up and tear-down (such as electric drill, screwdrivers, wrenches, hammers, etc.)

5. Transportation.

- 5.a). CSC will bear all related costs for load at origin and inbound transportation of the Exhibit by an insured carrier from CTFIS, Inc., P.O. BOX 4668 Alexandria, VA 22303, to the Venue. CSC will be solely responsible for negotiations with, and timely payment to the carrier. The carrier must have in force or obtain a commercial general liability insurance policy as described in Art. 3.b). The insurance obligation shall in no way relieve CSC of her indemnity obligation to the University of Mississippi.

6. Educational Outreach.

LSC and CSC will cooperate on educational outreach related to the Exhibit in the following way:

- 6.a). Upon request by CSC, a LSC scientist (name TBD) will deliver a public lecture (the "Lecture") on gravitational waves and LIGO research (title TBD) at a mutually approved time and location. LSC will bear the

cost of travel and stay of the LSC scientist. CSC will be solely responsible for the procurement of a suitable venue and for any reasonable equipment which is necessary for the delivery of the Lecture.

- 6.b). To the extent allowed by available time and resources, CSC and LSC will work together to organize additional outreach activities (TBD).

7. Publicity and Marketing.

- 7.a). LSC and CSC will work together to schedule the Exhibit opening, to build public visibility and attendance at the Exhibit, and ensure consistency with other planned LSC events.
- 7.b). CSC will be responsible for locally advertising the Exhibit and additional outreach activities in consultation with LSC and in a manner consistent with its advertising strategy. LSC must approve all references to the Exhibit and ancillary activities included in such advertising. At its discretion, LSC reserves the right of independently market and advertise the Exhibit. LSC may provide additional local publicity for the Exhibit and the Lecture in coordination with CSC. LSC and CSC will permit each other to use their respective names and logos in connection with publicizing the Exhibit and additional outreach activities, provided that all such uses are approved in advance, and all related texts shall be approved by both partners.

8. Acknowledgment of Collaboration.

- 8.a). CSC will acknowledge its collaboration with LSC in a prominent manner at the Exhibit and ancillary activities, in all publicity relating specifically to these events, and in an appropriate location on the CSC website leading up to and including the dates of the Exhibit. LSC will also acknowledge its collaboration with CSC in a prominent manner in all publicity relating to the Exhibit, and in all reports relating to the Exhibit. To the extent allowed by available time and resources, CSC and LSC will work together to develop additional, appropriate ways of publicizing their collaboration.

9. Intellectual Property and Licenses.

- 9.a). LSC will retain all rights in and to the Exhibit. In addition to the uses described in Paragraph 6, the parties will permit each other on a non-exclusive basis to use a reasonable number of photographs, clips of video footage and other documentation of the Exhibit (subject to any applicable

third party rights) for their respective educational purposes and promotional purposes, including mutually approved use on each party's website (with appropriate crediting and where possible a link to the other party's website) and in relevant reports to funders, regulators and other entities.

10. Cancellation/Postponement.

10.a). In the unlikely event that the Exhibit display must be postponed or cancelled due to events beyond the reasonable control of either LSC or CSC, the Parties will work together to agree on a mutually acceptable schedule for performance of their respective obligations, taking into account the nature of the reasons for cancellation or postponement.

11. Entire MOU

11.a). This MOU represents the entire and integrated agreement between LSC and CSC and supersedes all prior negotiations, representations, or agreements, either written or oral. This MOU may be amended only by written instrument signed by both LSC and CSC. CSC confirms that the signor of this MOU is indeed an authorized representative of CSC. By signing this MOU CSC agrees that funds due per the MOU terms are CSC responsibility to pay.

12. Compliance with Laws.

12.a). In performing this MOU, CSC, LSC and the University of Mississippi will comply with all applicable laws, regulations, rules and other requirements of any governmental authority having jurisdiction. Any and all permits required in the occurrence of set-up, testing, display and tear-down of the exhibit will be CSC responsibility, exclusively, to obtain and maintain. It is understood that the University of Mississippi agrees to this MOU to the extent it is authorized to do so under Mississippi law.

13. Changes, Additions, Stipulations or Lining Out.

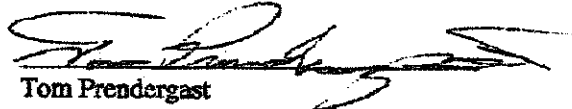
13.a). Additions, stipulations, or deletions including corrective lining out by either LSC or CSC will not be considered agreed to or binding on the other unless such modifications have been initialed or otherwise approved in writing by the other.

LIGO M1000³⁸⁴ vi

APPROVED:

 11/16/10

David Reitze
Spokesperson, LIGO Scientific
Collaboration



Tom Prendergast
Director of Exhibits, Catawba Science Center

 11/9/10

Marco Cavaglia
Chair, LSC Education and Public Outreach