



**Attachment DAT to the
Memorandum of Understanding LIGO-M070165-00
between the Andrews University (AUGWG)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO)
For The Period
August 15, 2008 - August 14, 2009**

This Attachment DAT to the Memorandum of Understanding LIGO-M070165-00 defines the role of the Andrews University (AUGWG) as a Member of the LIGO Scientific Collaboration (LSC). In particular, it addresses data analysis activities in support of the initial LIGO interferometers. The period of performance for the activities in this Attachment is from August 15, 2008 - August 14, 2009.

1. Collaboration

Together, the LIGO Laboratory and the LIGO Scientific Collaboration (LSC) are responsible for implementing and exploiting the initial LIGO detector through its science data runs. The LSC has organized the data analysis effort into search groups which coordinate analysis, review, and publication on behalf of the collaboration. LSC groups are encouraged to participate in one or more of these groups.

MOU Attachment DAT defines the contributions of each participating group to the data analysis development groups.

2. Participation

During the period August 15, 2008 - August 14, 2009, the members of AUGWG will participate in the analysis of initial LIGO data in the following areas:

a. Binary Inspirals

Not Applicable

b. Bursts

- S5 Year 2 GRB Investigation: Summerscales will apply X-Pipeline to data associated with GRBs occurring during the second year of S5. Maximum Entropy waveform recovery will be used to follow up on X-Pipeline triggers.
- Maximum Entropy Waveform Recovery: Summerscales will continue to assist the Penn State Group (PSURG) in the development of the Maximum Entropy network analysis method. Summerscales will assist in testing new versions of the algorithm by applying them to data associated with X-Pipeline triggers.

c. Stochastic

Not Applicable

d. Continuous

Not Applicable

e. Other Contributions

Not Applicable

3. Resource Sharing

The LIGO Laboratory will contribute resources including allocation of appropriate scientific and engineering personnel, research facilities, and funding in support of the effort in Item No. 2, as indicated below.

a. Research accommodations for AUGWG group members while on LIGO research assignment at any LIGO Laboratory site.

Not Applicable

b. Access to LIGO data through established LSC channels in support of this work.

Not Applicable

4. Coordination and Reporting

AUGWG will perform research within the structures established by the LIGO Laboratory and the LSC where appropriate.

In particular, with reference to activities described above:

2a will be carried out within the LSC Inspiral Search Group.

2b will be carried out within the LSC Burst Search Group.

2c will be carried out within the LSC Stochastic Search Group.

2d will be carried out within the LSC Continuous Waves search Group.

This includes keeping the Group leaders informed of activities and plans, reporting to the group at meetings and telecons, and through technical documents submitted to the LIGO Document Control Center.

In addition, an annual report will be submitted with the update to this Attachment, giving a summary status on research by topic as indicated in Item No. 2, 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.

This Attachment will be updated at least annually with a plan of activities for the succeeding one-year period. These documents will be due one month before the close of the period of performance under this Attachment.

5. Computer Code

All computer code delivered to the LSC under this Attachment must be developed in consultation with the LSC Data Analysis Software Working Group (DASWG) and archived, documented and reviewed as determined by that group.

Signature Pending Approval

Jay Marx
LIGO Laboratory Director



Tiffany Z. Summerscales
Principal Investigator(s)
AUGWG



David Reitze
LSC Spokesperson



**Attachment OPS to the
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For The Period
August 15, 2008 - August 14, 2009**

This Attachment OPS to the Memorandum of Understanding LIGO-M070165-00 defines the role of the Andrews University (AUGWG) as a Member of the LIGO Scientific Collaboration (LSC) in the areas of detector commissioning, detector characterization, and operations support in the initial LIGO interferometers. The period of performance for the activities in this Attachment is from August 15, 2008 - August 14, 2009.

1. Collaboration

Together, the LIGO Laboratory and the LIGO Scientific Collaboration (LSC) are responsible for implementing and exploiting the initial LIGO detector through its science data runs. LSC groups are encouraged to contribute to the commissioning, characterization, and operation of the LIGO detectors, as members of working groups established by the LIGO Laboratory and the LSC.

2. Participation

During the period August 15, 2008 - August 14, 2009, the members of AUGWG will participate in the initial LIGO detector research program in the following areas:

a. Detector Commissioning

Not Applicable

b. Detector Characterization

- Data Quality Flag Website: Summerscales will continue to maintain and make improvements to a website for collecting and searching through human-observed events that could affect data quality. The website is currently located at <http://www.andrews.edu/~tzs/flagency/>
- Astrowatch Participation: Roberts will continue to participate in the Astrowatch effort at the Hanford site until the end of August 2008

c. Detector Operations

Not Applicable

d. Other Contributions

Not Applicable

3. Resource Sharing

The LIGO Laboratory will contribute resources including allocation of appropriate scientific and engineering personnel, research facilities, and funding in support of the effort in Item No. 2, as indicated below.

- a. Research accommodations for AUGWG group members while on LIGO research assignment at any LIGO Laboratory site.

Not Applicable

- b. Access to LIGO data through established LSC channels in support of this work.

Not Applicable

4. Coordination and Reporting

AUGWG will perform research within the structures established by the LIGO Laboratory and the LSC where appropriate.

In particular, with reference to activities described above:

2a will be carried out in coordination with the LIGO Laboratory Commissioning Leader.

2b will be carried out within the Detector Characterization Working Group of the LSC.

2c will be carried out in coordination with the LHO or LLO Site Head.

This includes keeping the Group leaders informed of activities and plans, reporting to the group at meetings and telecons, and through technical documents submitted to the LIGO Document Control Center.

In addition, an annual report will be submitted with the update to this Attachment, giving a summary status on research by topic as indicated in Item No. 2, 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.

This Attachment will be updated at least annually with a plan of activities for the succeeding one-year period. These documents will be due one month before the close of the period of performance under this Attachment.

5. Computer Code

All computer code delivered to the LSC under this Attachment must be developed in consultation with the LSC Data Analysis Software Working Group (DASWG) and archived, documented and reviewed as determined by that group.

Signature Pending Approval

Jay Marx
LIGO Laboratory Director



Tiffany Z. Summerscales
Principal Investigator(s)
AUGWG



David Reitze
LSC Spokesperson



**Attachment OUT to the
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between the Andrews University (AUGWG)
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For The Period
August 15, 2008 - August 14, 2009**

This Attachment OUT to the Memorandum of Understanding LIGO-M070165-00 defines the role of the Andrews University (AUGWG) as a Member of the LIGO Scientific Collaboration (LSC) in support of Education and Outreach to the broader community. The period of performance for the activities in this Attachment is from August 15, 2008 - August 14, 2009.

1. Education and Outreach

As a frontier physics effort, LIGO offers a unique opportunity to inspire interest in science among students and to educate the broader community. The LIGO Laboratory supports a broad program of education and outreach to take advantage of these opportunities.

Activities to attract and educate visitors take place at both Observatories, as well as the development of educational materials for use there and elsewhere.

The LIGO Laboratory is building a Science Education Center at the Livingston Observatory, and is participating with local partners to make it a vehicle for science education throughout the region. LSC groups are invited to participate in these activities, and to suggest others, with the goal of leveraging activities to make a greater impact.

This MOU Attachments defines the role and responsibilities of groups in this development group.

2. Participation

During the period August 15, 2008 - August 14, 2009, the members of AUGWG will participate in LDG in the following areas:

a. Educational Materials Developed

Not Applicable

b. Other Contributions

- Summerscales will continue to serve on the Education and Public Outreach (EPO) committee.
- Summerscales will continue to work with local junior high science teachers to bring science enrichment activities, including ones involving LIGO, to the classroom.

3. Resource Sharing

The LIGO Laboratory will contribute resources including allocation of appropriate scientific and engineering personnel, research facilities, and funding in support of the effort in Item No. 2, as indicated below.

- a. Research accommodations for AUGWG group members while on LIGO research assignment at any LIGO Laboratory site.

Not Applicable

- b. Access to LIGO data through established LSC channels in support of this work.

Not Applicable

4. Coordination and Reporting

AUGWG will perform research within the structures established by the LIGO Laboratory and the LSC where appropriate. In particular, activities described in Item 2 will be carried out with the LIGO Observatories Educational and Outreach Leaders.

This includes keeping the Group leaders informed of activities and plans, reporting to the group at meetings and telecons, and through technical documents submitted to the LIGO Document Control Center.

In addition, an annual report will be submitted with the update to this Attachment, giving a summary status on research by topic as indicated in Item No. 2, 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.

This Attachment will be updated at least annually with a plan of activities for the succeeding one-year period. These documents will be due one month before the close of the period of performance under this Attachment.

5. Computer Code

All computer code delivered to the LSC under this Attachment must be developed in consultation with the LSC Data Analysis Software Working Group (DASWG) and archived, documented and reviewed as determined by that group.

Signature Pending Approval

Jay Marx
LIGO Laboratory Director



Tiffany Z. Summerscales
Principal Investigator(s)
AUGWG



David Reitze
LSC Spokesperson



**Attachment Z to the
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For The Period
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This Attachment Z to the Memorandum of Understanding LIGO-M070165-00 lists the members of Andrews University (AUGWG) participating in LIGO Scientific Collaboration (LSC) development group activities in support of the initial LIGO interferometers. The period of performance for these activities is from August 15, 2008 - August 14, 2009.

Faculty:

The Faculty category includes all "faculty rank" LSC members. This includes professorial appointments, research faculty appointments, teaching faculty appointments, lecturer and reader appointments, and similar appointments, and visiting appointments in all these categories.

Name: Summerscales, Tiffany

Phone:

Voice: 1 269 471 3523

Fax: 1 269 471 3509

Email:

@LIGO.Org: tiffany.summerscales@LIGO.Org

Forwarding: tzs@andrews.edu

Postal Address:

Andrews University

Department of Physics

10380 Haughey Hall Rd.

City: Berrien Springs

State: MI

Postal Code: 49104-0380

Country: USA

Technical Staff:

The Technical Staff category includes all non-PI LSC members with scientist, engineer, computer systems administrator or programmer, technician, and similar appointments, and visiting appointments in all these categories.

Postdoctoral Scholars:

Graduate Students:

Name: Roberts, Philip
Phone:
Voice: 1 269 277 0027
Fax:
Email:
@LIGO.Org: philip.roberts@LIGO.Org
Forwarding: rphilip@andrews.edu

Postal Address:
 Physics Department
 Haughy Hall
 Andrews University
City: Berrien Springs
State: MI
Postal Code: 49104
Country: USA

Undergraduate Students:

Administrative Staff:

The Administrative Staff category allows the listing of administrative aides and other staff members who perform essential support services in or for LSC member groups, but are not involved in the LIGO Scientific Collaborations engineering or scientific work. *Personnel who are involved in the LSC's scientific or engineering work, including computer system administration and programming, should be listed under other categories.* Personnel listed as Administrative Staff may be designated as a point of contact or proxy, but do not appear as authors on LSC publications, do not count toward a group's council delegate allocation, may not serve as council delegates, and do not increase a group's shift obligation.

FTE Commitment:

#	Name	Category	Member	Research	LIGO
1	Roberts, Philip	graduate	100%	40%	100%
2	Summerscales, Tiffany	faculty	100%	30%	100%
				Total FTE:	2.00

Roles:

Principal Investigators: Summerscales, Tiffany

Membership Point-Of-Contact: Summerscales, Tiffany

Group PIO/Press Coordinator: Summerscales, Tiffany

Proxies:

Author Eligible	Council Delegates
Summerscales, Tiffany	Summerscales, Tiffany
Roberts, Philip	

Approvals:

Signature Pending Approval

Jay Marx
LIGO Laboratory Director



Tiffany Z. Summerscales
Principal Investigator(s)
AUGWG

Signature Pending Approval

David Reitze
LSC Spokesperson