ATLAS EXPERIMENT	CERN	**ATLAS AGREEMENT 569/2016**

ATLAS AGREEMENT No. 569 / 2016

30960 CHF from T541500 to T273300 **30960 CHF from T577100 to T273300**	**May 30, 2016**

Support for ATLAS Muon Software

BETWEEN

The **ATLAS Collaboration**
Represented by the Resources Coordinator on the one hand,

AND

University of Massachusetts, Amherst MA, USA (hereinafter **Massachusetts**)
Represented by its ATLAS Team Leader,

On the other hand

CONSIDERING THAT:

- Massachusetts is a member of the ATLAS Collaboration;
- US has signed the Memorandum of Understanding for Collaboration in the Construction of the ATLAS Detector (ATLAS RRB-D 98-44 rev.);
- US has signed the Memorandum of Understanding for Maintenance and Operation of the ATLAS Detector (CERN-RRB-2002-035);
- Massachusetts participates in the ATLAS Muon Spectroscopy sub-system and has a special expertise in muon reconstruction and combined performance software;
- ATLAS Institutes are encouraged to offer expertise to exploit the full scientific potential of ATLAS;

IT IS AGREED AS FOLLOWS:

ARTICLE 1 SCOPE OF THE AGREEMENT

1.1 The purpose of the Agreement is to record the specified tasks and financial arrangements related to a work package for providing expert effort in support of the ATLAS muon reconstruction and combined performance software.

ARTICLE 2 OBLIGATIONS OF THE PARTIES

2.1 The Massachusetts ATLAS team will support personnel at CERN to execute the agreed work package "Support for ATLAS Muon Software" (**Annex 1**). The personnel will at all times, while on CERN premises, adhere to the CERN and ATLAS safety rules and regulations which form an integral part of this document. After the work package is completed, the personnel will leave the CERN premises unless they are re-assigned to other tasks.

2.2 ATLAS shall provide adequate facilities for the Massachusetts ATLAS team member(s) to work at CERN for the above-mentioned work package.

ARTICLE 3 FUNDING

3.1 The effort provided by Massachusetts for the execution of the work package described in **Annex 1** is recognized as 1 FTE during 12 months.

3.2 ATLAS compensates Massachusetts financially by transferring a total of 61920 kCHF to the University of Massachusetts Team Account at CERN T273300, shared equally between the ATLAS-USA account T541500 and the ATLAS Muon Spectrometer account T577100.

3.2 Travel, office support and other infrastructure related costs are not included in the present agreement and will be handled by Massachusetts.

ARTICLE 4 DURATION OF THE AGREEMENT

4.1 This Agreement shall be in force from 1 October 2016 to 30 September 2017.

ARTICLE 5 COORDINATION AND ADDRESSES FOR CORRESPONDENCE

5.1 All documents concerning this agreement shall bear the reference:

"ATLAS Agreement No. 569/16"

5.2 The performance of this agreement shall be coordinated by the following persons:

for ATLAS: Fido Dittus,
CERN – EP Department
CH-1211 GENEVA 23, Switzerland

for Massachusetts: Stephane Willocq
University of Massachusetts
Amherst, MA, USA

ARTICLE 6 ARBITRATION

6.1 Any differences arising during the execution of this agreement will be submitted to the RRB via the Spokesperson of ATLAS, who will propose solutions in the best interest of the Collaborations.

Signed in Geneva, 31 May 2016

Stephane Willocq
ATLAS Massachusetts Team Leader

Fido Dittus
ATLAS Resources Coordinator

Srini Rajagopalan
US ATLAS National Contact Physicist

Christoph Amelung
ATLAS Muon Project Leader

ANNEX 1

Work package: "Support for ATLAS Muon Software"

Max Bellomo holds the position of MCP (the muon combined performance group) co-convener until the end of September 2017. He used to be muon reconstruction software expert and muon software co-convener before.

While being supported by ATLAS under this agreement he should continue to work as MCP convener for about 40-45% of his time. Another 40-45% of his time he should spend on resolving issues in the muon reconstruction software that are identified by studies in MCP and other groups.

For instance, there is a known inefficiency in CSC chambers near the large/small sector boundaries in data that is not present in MC. Another example are rare peculiar events where muons are poorly reconstructed, resulting e.g. in incompatible values of the ID/muon/combined momentum. Such events are more frequent in data than in MC. More issues like these will arise as more data are collected, allowing more detailed studies of the muon spectrometer performance. The issues assigned to Max to work on should be agreed upon between him, the muon software coordinators, and the muon project leader.

For a small fraction of his time, around 15%, Max may work on other topics besides MCP and muon software, e.g. on physics analysis.

Stephane Willocq
ATLAS Massachusetts Team Leader

Fido Dittus
ATLAS Resources Coordinator

Srini Rajagopalan
US ATLAS National Contact Physicist

Christoph Amelung
ATLAS Muon Project Leader