



MUSE Outreach Activities

Alberto Lusiani, Douglas Glenzinski



MUSE meeting, 24 April 2018

Updates since February MUSE mid-term presentation

Outreach

- ▶ outreach activities since then
 - ▶ UK masterclasses in UCL with participation of MUSE on February 18 and March 28
 - ▶ one UK masterclass in Liverpool in February
- ▶ preliminary arrangements on SLAC summer students training
 - ▶ Mu2e collaborators will organize hands-on training sessions
 - ▶ Muon g-2 collaborators will organize a tour in the experiment hall (if there is an option, also a tour in laboratories)
 - ▶ we will not replicate the series of seminars we organized for 2016 and 2017
- ▶ **report on UK masterclasses due by April 2018**
 - ▶ Barry King is writing it

Dissemination

- ▶ continues naturally
- ▶ products are reported on the MUSE web site

Tasks and Deliverables

Tasks

Task 5.1: MUSE Workshop day (ALL) At the same time as the MUSE annual general meeting, we will organize a one-day workshop. The target of the seminars and lectures given by the MUSE researchers will be university students in physics, engineering and computing science and, possibly, technical high school students at the last year. MUSE laboratories will be open for demonstrations.

Task 5.2: MUSE Open day (INFN, HZDR) The MUSE partners already take part in the “European Researchers Night” and “Night of Science”. To coincide with this event, all the MUSE laboratories at INFN and HZDR will be open to the general public to show and discuss the results of our research. We will prepare posters and brief interactive simulations on the computer.

Task 5.3: Annual Physics Meeting at LNF (INFN) The target of this three-day event is high school teachers and the goal is to give information on the recent advancements in the field of sub-nuclear and nuclear physics and detector developments. A special effort will be made to prepare experiments which involve the new detector components developed by the MUSE project.

Task 5.4: Coordination of UK outreach activities (UCL, LIV) Liverpool and UCL MUSE collaborators organize “masterclasses” for high-school students, with tour of the laboratory facilities and hands-on measurement using prototypes of the g-2 straw trackers, exhibits for the annual Royal Society Show and Big Bang Fair, dedicated work-experience placements for high-school students on detec-

tor development and high-level software.

Task 5.5: Summer School at Fermi National Accelerator Laboratory (ALL) The MUSE researchers seconded at FNAL will organize a three-day training on the MUSE research activities for all the students of the FNAL European Master Degree, organized by INFN and the University of Pisa. We will make an effort to give the students the opportunity to meet CAEN and PRISMA researchers and discuss the prospects of working on research and development in European private companies.

Task 5.6: Outreach web site (ALL) We will develop a public section of the web site with a detailed description of the MUSE project and with all the information for the general public. This work package foresees one secondment for each year, to coordinate the activities connected to the Summer School at FNAL.

Deliverables

D5.1 : MUSE @ HZDR open day [month 9] MUSE laboratories opened to the general public

D5.2: Annual Physics Meetings [month 22] Experiments prepared for the LNF three-day event for high school teachers

D5.3: Masterclasses [month 28] Masterclasses for high-school students, with tour of the laboratory facilities and hands-on measurement using prototypes of the g-2 straw trackers

D5.4: FNAL Summer School [month 44] Three-day training on the MUSE research activities for all the students of the FNAL European Master Degree

Some details on the UCL masterclasses

- ▶ events involving all research activities in UCL
- ▶ February 18, March 28

<http://www.hep.ucl.ac.uk/masterclass/>

In 2018 we will hold two Particle Physics masterclasses:

- ▶ one on Monday 12th February as part of the International Day of Women and Girls in Science;
- ▶ a general masterclass on Wednesday 28th March.

We invite year 12 students and their teachers to come and find out about the exciting world of Experimental Particle Physics from one of the most active Particle Physics research groups in the country.

Provisional programme of the 2018

09:00 - 09:30	Registration/Welcome/Refreshments
09:30 - 09:45	Introduction
09:45 - 10:15	Lecture and Q&A session
10:15 - 11:30	Hands-on exercises with particle physics data
11:30 - 12:00	Lecture and Q&A session
12:00 - 13:00	Hands-on exercises (continued)
13:00 - 14:00	Lunch break (lunch not provided)
14:00 - 15:00	Hands-on exercises (continued)
15:00 - 16:00	Video conference with CERN and masterclass students in other countries
16:00 - 16:15	Summary, Q&A

Dissemination

2018 talks

CALOR 2018 - The Mu2e Calorimeter

NPSE 2017 - Progress of the Italian Summer Students Program at the
Fermi National Accelerator Laboratory

S. Donati (INFN Pisa)

March 22 - March 23

Grand Hotel Mediterraneo, Florence, Italy

24th Cracow Epiphany Conference - Muon g-2, Current experimental status and future prospects

A. Lusiani (INFN Pisa)

January 9 - January 12

IFJ PAN, Cracow, Poland

Dissemination

2018 papers

The Mu2e undoped CsI crystal calorimeter

Author(s): N. Atanov et al.

Publication date: 22 February 2018

Journal: JINST 13 (2018) C02037

Link: <https://arxiv.org/abs/1801.02237>

The laser control of the muon g-2 experiment at Fermilab

Author(s): A. Anastasi et al.

Publication date: 21 February 2018

Journal: JINST 13 (2018) T02009

Link: <http://lss.fnal.gov/archive/2017/pub/fermilab-pub-17-502-e.pdf>

Pre-production and quality assurance of the Mu2e calorimeter Silicon Photomultipliers

Author(s): M. Cordelli et al.

Publication date: 30 January 2018

Journal:

Link: <https://arxiv.org/abs/1712.04749>

Design and status of the Mu2e crystal calorimeter

Author(s): N. Atanov et al.

Publication date: 08 January 2018

Journal: IEEE TNS XX (2018) XXXX

Link: <https://arxiv.org/abs/1802.06346>