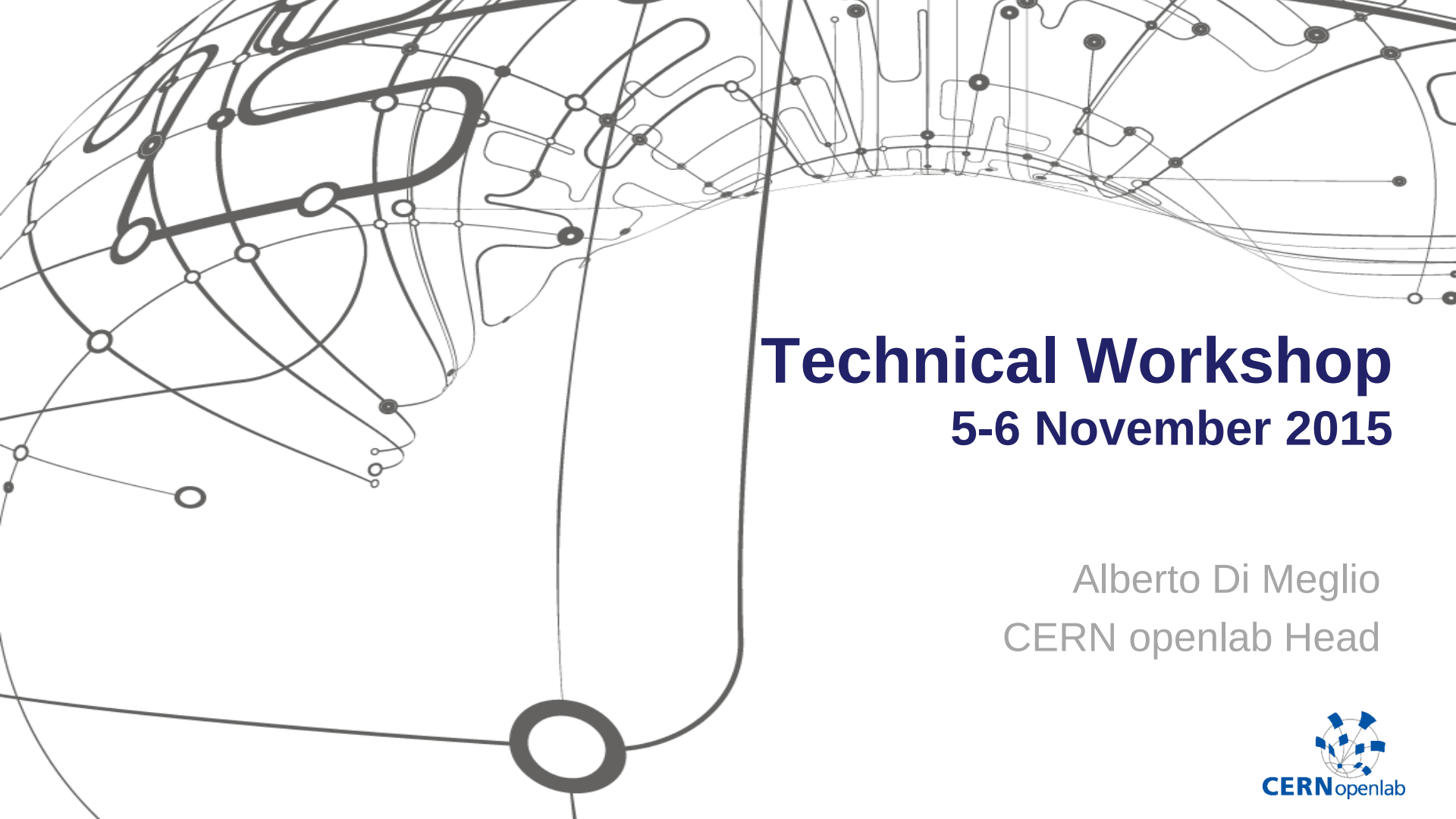


Technical Workshop

5-6 November 2015

Alberto Di Meglio

CERN openlab Head

CERN openlab

Engagement of multi-disciplinary
CERN EXPERTS collaborating on joint projects

Association with the
WORLD'S LEADING INNOVATORS in the IT industry

DISSEMINATION OF RESULTS
as success stories to a wide range of audiences

CERN openlab Phase V – Y1

Recruitment channel for HIGHLY SKILLED
AND TRAINED young IT specialists

On-site VISITS

2015 has been a very good year for CERN openlab!

We have successfully **started the implementation** of many use cases from the original Challenges Whitepaper through 16 distinct projects

Membership has grown to **14 members**

The **Research** membership tier has been implemented with 2 research laboratories and 1 university
3 more universities in final stages of discussion

Improved the collaboration with the
LHC experiments
although we know there is still more work to do

We have started new lines of activities with a new focus on **innovation and entrepreneurship**

Started collaborations with other CERN initiatives like IdeaSquare, the KT office and the CMASG

CERN openlab

Partners	HUAWEI, intel, ORACLE, SIEMENS
Contributors	rackspace the open cloud company, SEAGATE, CISCO, IDT, BROCADE
Associates	Yandex, ComTrade
Research	EMBL-EBI, GSI, Newcastle University

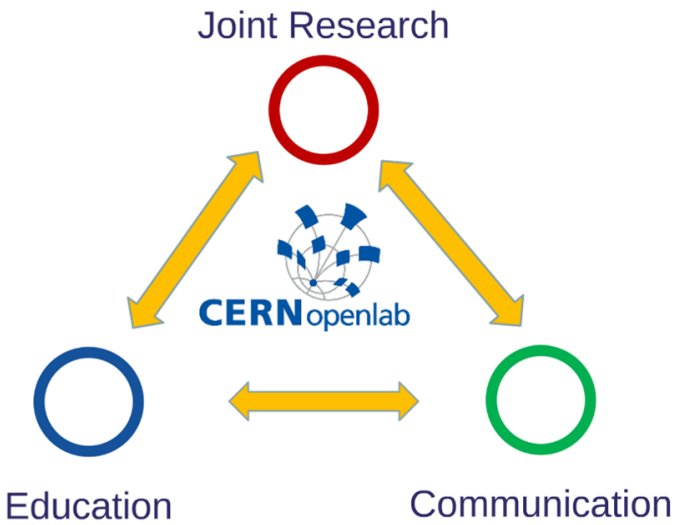




CERN openlab in a nutshell

A science – industry partnership to drive R&D and innovation with over a decade of success

- **Evaluate** state-of-the-art technologies in a challenging environment and improve them
- **Test** in a research environment today what will be used in many business sectors tomorrow
- **Train** next generation of engineers/employees
- **Disseminate** results and outreach to new audiences



The community

CERN openlab

intel · ORACLE · SIEMENS · HUAWEI · rackspace · SEAGATE · IDT · CISCO · BROCADE · Yandex · ComTrade · GSI · EMBL-EBI · Newcastle University

EIROforum · CERN · esa · European Molecular Biology Laboratory · NEUTRONS FOR SCIENCE · ESRF · ESO · European XFEL · EUROfusion

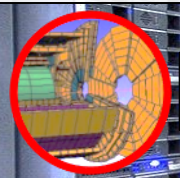
CERN openlab

WLCG Worldwide LHC Computing Grid · IT · EN · CMS · ALICE · LHCb · ATLAS

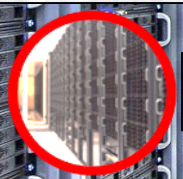



Information Technology Research Areas

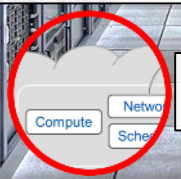
Data acquisition and filtering



Computing platforms, data analysis, simulation

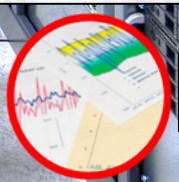


Data storage and long-term data preservation



Compute provisioning (cloud)

Networks



Data analytics

Medical applications


-hosted WORKSHOPS on advanced topics
JOINT EVENTS with industry members
On-site LECTURES for summer students
Technical SEMINARS from CERN staff or invited guests
Contributions to the CERN SCHOOL OF COMPUTING
Training, Education
KEYNOTE PRESENTATIONS at leading global events

The Educational Programme

Most of the dedicated personnel in CERN openlab are young, talented Fellows receiving hands-on experience on new technologies

A comprehensive offer of general and specific workshops, training events and initiatives

Experts from industry and laboratories give lectures at events inside and outside CERN

Seminars, workshops, training

Monte Carlo Simulation Code Modernization	Friday, 23 October, 2015 - 10:00 to 12:00	CERN openlab Technical workshop	Thursday, 5 November, 2015 - 13:30 to Friday, 6 November, 2015 - 16:00	High-throughput computing at the LHCb experiment	Friday 16 October 2015 – 10:00 – 11:00
High Troughput Computing Project for LHCb TDAQ (N. Neufeld)	Friday, 16 October, 2015 - 10:00 to 12:00				
Corporate Big Data and Analytics, an Innovation Journey	Monday, 29 June, 2015 - 11:00 to 12:00	CERN openlab: Programming and Environments for Parallelism	Tuesday, 3 November, 2015 - 09:00 to Friday, 6 November, 2015 - 17:30	Monte Carlo simulation code modernization	Friday, 23 October 2015 – 10:00 to12:00
Helix Nebula and the Use of Commercial Cloud Services	Wednesday, 24 June, 2015 (All day) to Friday, 26 June, 2015 (All day)	CERN openlab: Computer architecture and hardware-software interaction	Monday, 26 October, 2015 - 09:00 to Tuesday, 27 October, 2015 - 17:30	CERN openlab Summer Students Lightning Talks	20 and 27 August 2015
CERN Meet Up with OCP High Performance Computing Project	Thursday, 11 June, 2015 - 09:00 to 15:30	CERN openlab-Intel Software Tools Workshop 2015	Thursday, 9 July, 2015 - 09:00 to Friday, 10 July, 2015 - 17:00		
Unlock performance secrets of next-gen Intel hardware	Tuesday, 12 May, 2015 - 15:30 to 16:30				
The Science of Prediction with Neutral Networks	Wednesday, 29 April, 2015 - 10:30 to 12:00	Identification of Complex Dynamical Systems with Neural Networks	Monday, 27 April, 2015 - 09:00 to Wednesday, 29 April, 2015 - 12:30		

Summer Student Programme

In 2015

- 1540+ applicants
- 40 selected students
- 14 lectures
- Visits to external labs and companies
- Lightning talks session
- 40 Technical reports

Win an internship at CERN openlab by entering the Intel Modern Code Developer Challenge 2015

Thursday, 17 September, 2015

Are you a student looking for the chance to show off your coding skills? Would you like to win a trip to CERN, or even a nine-week internship with CERN openlab? If so, then the Intel Modern Code Developer Challenge 2015 is for you.

Through this competition, Intel is giving budding developers the chance to use modern programming methods to improve code that helps move science forward. Your challenge is to improve the performance of brain-simulation code that has been developed by researchers working at Newcastle University in the UK, and which is currently being worked on through a CERN openlab project. The code is used to simulate the growth of cells in the cerebral cortex, the part of the brain largely responsible for higher brain functions and often referred to as 'grey matter'.

Intel works closely with CERN through CERN openlab, which is a unique public-private partnership between the research laboratory and leading ICT companies. The primary mission of this partnership is to accelerate development of the cutting-edge technologies to be used by the worldwide LHC community. CERN openlab also places a strong emphasis on training and education; it runs a popular summer student programme, as well as a range of workshops, seminars, and lectures.

"Training the next generation of developers — the people who can produce the scientific code that makes world-leading research possible — is of paramount importance," says Alberto Di Meglio, head of CERN openlab. "We're pleased to be partnering with Intel on this important cause and are excited to see the innovative solutions the students come up with for the competition."

Please note that participation in the challenge is limited to residents of 19 countries. For more details on the competition, including eligibility terms and the full list of prizes, please visit the Intel Modern Code Developer Challenge 2015 website. There, you can also find a range of educational resources to help you further advance your coding skills. Entries to the competition will be accepted until 11:59pm GMT on 29 October, 2015.

Send by email PDF version

2000+ registrants
27000+ web sessions
~40 code submissions

How education can liberate a whole community — MTNF Scholar

on June 11, 2015 / in Education, News 12:14 am / Comments

Facebook Twitter Google+ LinkedIn Reddit Print

By Dayo Adesulu

Mufutau Akuruyejo is a 500 level Computer Engineering student of the University of Lagos, Akoka. The second of two children, Mufutau has always wanted to learn everything he could about ICT, which occasioned his studying computer Engineering in the University of Lagos.

His brilliance helped him win an MTNF scholarship and has maintained the required minimum CGPA of 3.50 which allows him to continue receiving the scholarship worth N200,000. He spoke on his journey to clinching the coveted slot to study a nine-week ICT training programme in CERN Openlab, Switzerland. Excerpts.

How did this journey begin?

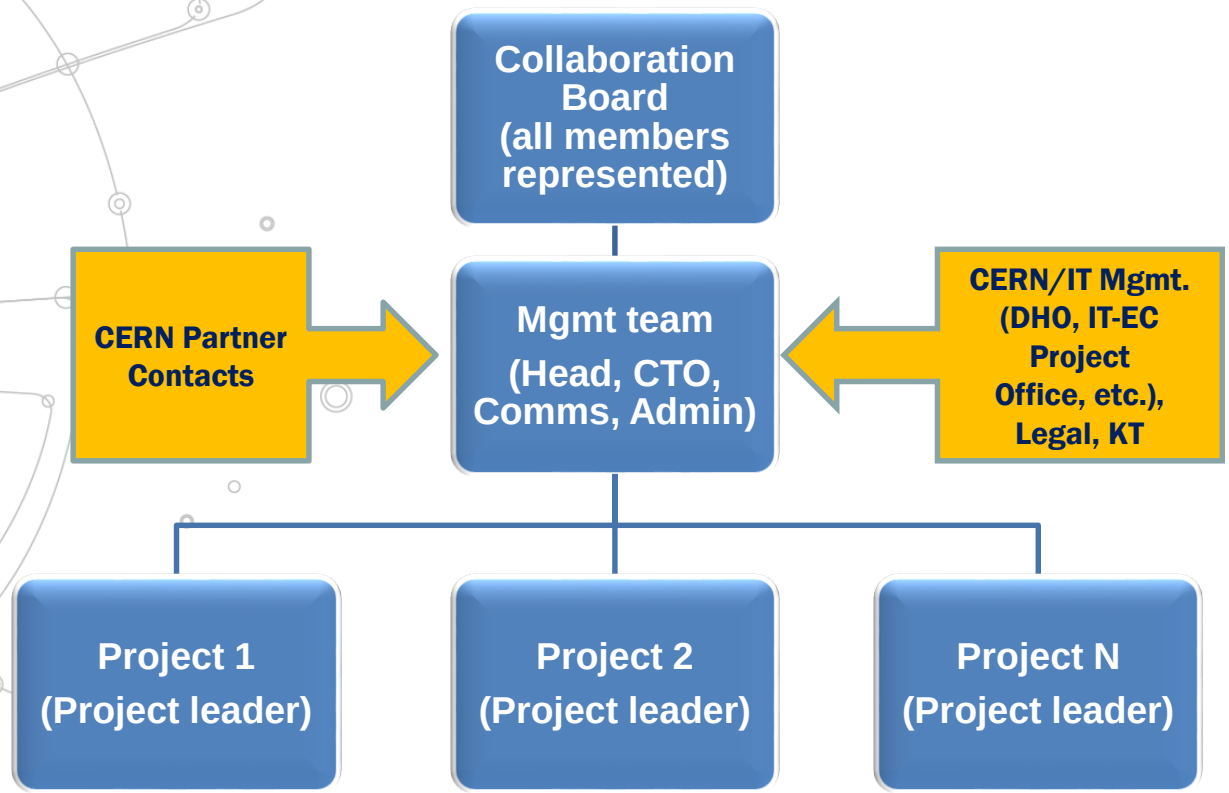
Mufutau Akuruyejo

When I was in my second year in school in 2012, I saw an advert in the MTN Foundation website where they requested for application from interested students for their scholarship scheme. I showed interest, took the exams and passed. Since then, I have maintained the required CGPA and have enjoyed the scholarship worth N200,000.

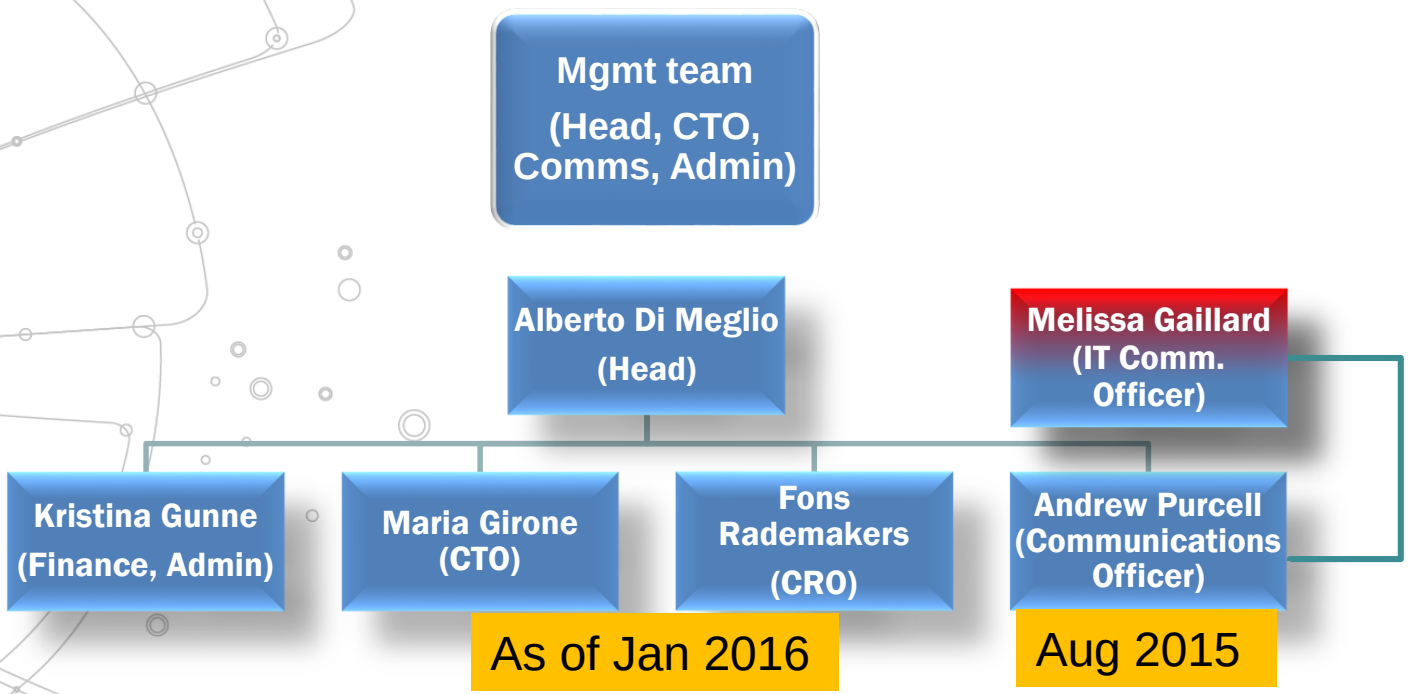
Early this year, there was another post on the Facebook page of the MTN Foundation announcing an upcoming nine-week advanced IT project and requesting interested applicants to apply. I applied and an acknowledgement mail was sent to me. They later requested for details of different things: project management skills, data base skill, analytic framework and Linux.

I made all they requested for available and forwarded to

How do we manage it?



Supporting a broadening scope



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On-site VISITS

Goals

- Day 1
  - Provide a general overview of the status of the ongoing projects
  - Give the opportunity to fellows, students, companies and CERN people to interact
- Day 2
  - Receive input from the community about future challenges, in particular from the LHC experiments, but also from other interested parties within and outside HEP
  - Get preliminary feedback from the companies on status and opportunities for further collaboration

Agenda

https://indico.cern.ch/event/452614/

Workshop outcome

- The outcome of the discussions will be summarized and used (after validation from you) to produce an updated version of Challenges whitepaper in Q1 2016
- Base to refine the technical strategy for the second half of Phase V in 2016/2017
- Starting point for more detailed discussions during H1 2016 on specific topics of mutual interest

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