

The LHCb Collaboration

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LHCb UK student meeting, 12 November 2013

We had in mind that the talk would be on "The LHCb Collaboration" and address the following kind of questions:

- How is LHCb organised?
- Who is "the management" and what are their roles?
- What is the role of the TB, CB, SB, EB, PPG and OPG?
- How do analyses gain LHCb approval?
- How do the EB procedures work?
- How do you apply for conference talks?
- How is LHCb UK organised?

How is LHCb organised?

- [LHCb Organisation web page](#)
- The LHCb constitution describes the governance of LHCb
http://lhcb.web.cern.ch/lhcb/lhcb_page/collaboration/organization/constitution/Constitution-June2011.pdf
- It describes the roles of
 - The Collaboration Board (CB)
 - The LHCb Management
 - The Technical Board (TB)
 - The Physics Planning Group (PPG)
 - The Operations Planning Group (OPG)
 - Physics Analysis Organisation
 - LHCb Membership including the Membership Committee
- Constitution does not mention the Upgrade Steering Panel, though I will

Collaboration Board Chair: [Bernhard Spaan](#)



Membership Committee Chair: [Elie Aslanides](#)



The Collaboration Board & Membership Committee

- The CB has the ultimate authority in the LHCb organisation. It is the body through which all major decisions of the LHCb Collaboration shall be approved. In the CB, the interests of all collaborating Institutes are represented.
 - The CB approves all major decisions involving Collaboration structure and policies.
 - The CB decides on the application and termination of Institute membership.
 - The CB elects the Spokesperson, the Physics Coordinator and the CB Chairperson.
 - The CB ratifies other appointments (Project Leaders, WG conveners)
 - The CB ratifies the proposal for the LHCb budget
- Each Institute is represented by a single voting member in the CB. Each voting member shall communicate the opinions and commitments of his/her Institute towards the Collaboration.
- A Membership Committee is set up by the LHCb Collaboration Board, in agreement with the Management. Its tasks include in particular the review of new applications before submission to the CB and the commitments to participate in Tasks of Common Interest. The list of Tasks of Common Interest is prepared by the Management and endorsed by the CB.

Spokesperson : [Pierluigi Campana](#)



Deputy Spokesperson : [Roger Forty](#)



Deputy Spokesperson : [Burkhard Schmidt](#)



The LHCb Management

- The LHCb Management is the executive body of the Collaboration. It has overall responsibility for managing the detector operation and upgrades as well as the physics analysis.
 - The LHCb Management represents the Collaboration towards outside bodies.
 - The LHCb Management is composed of the Spokesperson, the Deputy Spokespersons, the Technical Coordinator and the Resources Coordinator.
 - The LHCb Management, advised by the Technical Board, the Operations Planning Group and the Physics Planning Group, is in charge of all day-to-day decisions.
 - The LHCb Management shall organise the resources (financial and manpower) and prepare the LHCb budget to present to the CB and to the Resources Review Board.

The Spokesperson

- The Spokesperson is the head of the LHCb Management and officially represents the Collaboration towards outside bodies.
- The Spokesperson is the official contact person between LHCb, the CERN Management and the LHCC.
- As the head of the LHCb Management the Spokesperson has the ultimate responsibility of the LHCb Experiment and the ultimate authority for production and dissemination of physics results.

Aside – CERN committees

<http://committees.web.cern.ch/committees/>

- CERN Council
 - overall governance of CERN
- Scientific Policy Committee (SPC)
 - scientific policy advice to Council
- Research Board
 - decisions on approval of experiments at CERN
- LHCC
 - Large Hadron Collider experiments committee
 - “Intensive interaction between the Committee and the Collaborations is required in order to converge on the detector designs, and to review the construction, installation and commissioning of the experiments.”
- Resources Review Boards
 - comprises the representatives of each Experiment's Funding Agencies and the managements of CERN and of each Experiment's Collaboration.

Technical Coordinator: [Rolf Lindner](#)



Deputy Technical Coordinator & GLIMOS:
[Eric Thomas](#)



Resources Coordinator: [Carmelo D'Ambrosio](#)



The Technical & Resources Co-ordinators

- The Technical Coordinator is responsible for coordinating all technical activities including construction, installation, financial and schedule planning.
- The Technical Coordinator chairs the Technical Board and is an ex officio member of the CB and the Operations Planning Group.
- The Technical Coordinator may nominate, at his/her discretion in consultation with the Spokesperson, a Resources Coordinator; his/her nomination will be ratified by the CB.
- The Resources Coordinator is responsible for coordinating the financial planning of the collaboration.

The Technical Board

- The Technical Board is the principal technical forum for the Collaboration. It serves as an advisory body to the Management, on all aspects of detector design, optimization, safety and cost. It is responsible for the maintenance and/or improvements of the detector for efficient data taking, along with overseeing shut-down activities.
- Members of the Technical Board are the Spokesperson, the Deputy Spokespersons, the Resources Coordinator, the Operations Coordinator, the Subsystem Project Leaders, the Physics Coordinator and the GLIMOS. Membership can be extended at the discretion of the Technical Coordinator.
- Technical decisions shall be taken in the subsystem groups wherever possible. Major technical decisions are prepared and proposed by the Projects for discussion in the Technical Board and shall be submitted to the CB for endorsement.

Upgrade Steering Panel

Coordinator : [Andreas Schopper](#)



Tracker & Tracking :
[Massimiliano Ferro-Luzzi](#) and [Stephanie Hansmann-Menzemer](#)



Particle Identification : [Guy Wilkinson](#)



Data Processing : [Renaud Le Gac](#)



The Upgrade Steering Panel

<https://twiki.cern.ch/twiki/bin/view/LHCb/LHCbUpgrade>

- Following submission of the Upgrade LOI an Upgrade Steering Panel has been put in place, with the aim to bring closer together those working on different aspects within the various fields of activity and to facilitate the making of decisions on technological choices and system layout.
- The overriding principle behind the proposed organization of the upgrade activity is that it should be driven by the current collaboration (along with any additional effort that is attracted), so there should be no duplication of the existing collaboration structure concerning working groups, etc.
- Steering Panel [has] broader overview than the individual subdetector projects, [and is] chaired by the Upgrade Coordinator with members covering three areas of activity
 - Tracking, Particle Identification, Data processing
- There is also an Upgrade Resources Board (URB)
 - Representatives of each participating country – links to funding agencies

Operation Planning Group

OPG
Chair

Patrick
Koppenburg



To be replaced in 2014 by Chris Jones

The Operations Planning Group

- The Operations Planning Group is an advisory body to the LHCb Management and ensures high quality data taking for physics analysis.
- The Operations Planning Group is the forum for the coordination of the Trigger, Computing, Physics Software and Online activities with the aim of providing the data necessary to the physics analyses, according to the priorities set by the Physics Planning Group.
- The Operations Planning Group will ensure that the running scenario is properly matched to the plans of the LHC machine and will formulate the LHCb requests for the LHC machine operation.
- Members of the Operations Planning Group are: the Spokesperson, his deputies, the Technical Coordinator, the Run Coordinator, the Radiation Safety Officer, the Project Leaders, or deputies, of the Online, Computing, Trigger and Physics Software projects. Membership can be extended at the discretion of the Operations Coordinator.

Physics Planning Group		
Physics Coordinator	Tim Gershon	

To be replaced in 2014 by Patrick Koppenburg

The Physics Planning Group

- The Physics Planning Group is an advisory body to the Management and provides recommendations to ensure the best quality of the physics output.
- The Physics Planning Group ensures that the physics goals are being met, defines the strategy and priorities of data taking and data processing, bringing them to the attention of the Operation Planning Group, including the use of the computer resources for physics analysis.
- The Physics Planning Group brings together those responsible for the physics analysis, physics software, trigger and computing aspects of the experiment.
- Members of the Physics Planning Group are: the Spokesperson and Deputy Spokespersons, the Project Leaders, or Deputies, of the Trigger, Physics Software and Computing projects and the Chairperson of the Editorial Board. Membership can be extended at the discretion of the Physics Coordinator.
- [Will return to Physics Organisation later]

Editorial Board

Chair : [Rolf Oldeman](#)

Deputy : [Val. Gibson](#)

Members :

Steven Blusk, Val. Gibson, Carla Gobel, Eugeni Grauges, Giacomo Grauges,
Frederic Machefert, Joerg Marks, Diego Tonelli, Niels Tuning, Nigel Watson,

Ex-officio : Spokesperson, Deputies Spokesperson, Physics Coordinator



The Editorial Board

http://lhcb.web.cern.ch/lhcb/lhcb_page/collaboration/organization/editorial_board/default.html

- The Editorial Board ensures that the basic publication principles of the collaboration are followed.
- The Editorial Board Chairperson will organise the decision on the target journal of a publication and the collaboration-wide review process of an LHCb publication or conference result.
- The Editorial Board organises the distribution of the draft to the collaboration and ensures that all comments from the collaboration have been appropriately addressed before final approval of the publication.
- The Editorial Board will ensure that the proper Author List is used.
- The review process for LHCb publications and conference proceedings is described in the “LHCb Publication Procedure” prepared by the Editorial Board in consultation with the Management and approved by the CB.

Speakers' Bureau

Chair : [Marta Calvi](#)

Members :

Vanya Belyaev, Fred Blanc, Olivier Leroy, Jonas Rademacker, Ulrich Uwer,
Thomas Ruf, Ex-officio : Spokesperson, Deputies Spokesperson



The Speakers' Bureau

<http://lhcb.web.cern.ch/lhcb/speakersbureau/excel/default.html>

- The role of the Speakers Bureau is to assist the Management in seeking optimal exposure of LHCb through a prominent presence in the programmes of relevant conferences, workshops, and schools. The Speakers Bureau shall ensure that presentations are shared in a fair way among the LHCb collaborators and organises rehearsal talks to maintain a high level of quality.
- How do you apply for conference talks?
 - <http://lhcb.web.cern.ch/lhcb/speakersbureau/html/Available%20talks.html>
 - Available talks are advertised by email to the lhcb-general mailing list. If you are interested in one (or several) of the advertised talks, please send a short application to sb.talks@cern.ch, with cc: to your institute group leader, by the deadline indicated in the email announcing the talk.

LHCb UK

http://www.lhcb.ac.uk/LHCb-UK/UK_Organisation.html



LHCB UK ORGANISATION

UK Spokesperson
UK Physics co-ordinator
UK RICH Project Leader
UK UK VELO Project Leader
UK Computing co-ordinator
UK Financial Officer
UK Student Meeting Organisers

Prof. Chris Parkes (Univ. Manchester)
Dr. Matthew Needham (Univ. Edinburgh)
Prof. Neville Harnew (Univ. Oxford)
Prof. Themis Bowcock (Univ. Liverpool)
Dr. Raja Nandakumar (STFC RAL)
Dr. Fergus Wilson (STFC RAL)
Dr Laurence Carson, Mr Stephen Ogilvy
Mr Thomas Bird, Mr Sam Cunliffe

LHCB UK STEERING BOARD

One member per participating institute

LHCb Physics Organisation

<https://twiki.cern.ch/twiki/bin/viewauth/LHCbPhysics/LHCbPhysics>

Spokesperson +
Deputies

Physics coordinator +
Deputy

CB chair

Trigger

Computing

OPG chair

EB chair

QCD, Electroweak
& Exotica

Rare Decays

B Decays to
Charmonium

Charmless B Decays

B hadrons and
Quarkonia

Charm Physics

B Decays to
Open Charm

Semileptonic B Decays

Tracking, Alignment
& Vertexing

Flavour Tagging

Particle
Identification

Calorimeter
Objects

Simulation

Working Groups

<https://twiki.cern.ch/twiki/bin/view/LHCbPhysics/LHCbPhysicsOrganisation>

- The constitution states that
 - "All analysis efforts within LHCb are open and operate within Physics Working Groups, which report to the Physics Coordinator."
 - "Working Group Conveners are the formal contact persons for communication between the LHCb Management and the people working on a given task or working group. They have the responsibility and authority to direct work within their groups."
- We have both "Physics Analysis Working Groups" and "Physics Tools Working Groups"
 - Detailed responsibilities of the conveners can be found on the Twiki link above

Physics Analysis Working Groups	
<u>QCD, Electroweak and Exotica</u>	Victor Coco & Katharina Müller
<u>B hadrons and Quarkonia</u>	Giulia Manca & Vanya Belyaev
<u>Charm physics</u>	Mat Charles & Marco Gersabeck
<u>Rare decays</u>	Mitesh Patel & Gaia Lanfranchi
<u>B decays to Charmonia</u>	Greig Cowan & Diego Martinez Santos
<u>B decays to Open Charm</u>	Vava Gligorov & Anton Poluektov
<u>Charmless B decays</u>	Stéphane Monteil & Angelo Carbone
<u>Semileptonic B decays</u>	Marina Artuso & Jeroen van Tilburg
Physics Tools Working Groups	
<u>Tracking, Alignment and Vertexing</u>	Maurizio Martinelli
<u>Flavour tagging</u>	Stefania Vecchi
<u>Particle identification</u>	Chris Jones
<u>Calorimeter objects</u>	Olivier Deschamps

New conveners for 2014-15
to be ratified at the
December CB meeting

Some other important groups for physics
also “Upgrade Physics and Trigger”

OPG related groups	Discussion groups
<u>Physics Software</u>	<u>Statistics</u>
<u>Data quality</u>	<u>Amplitude Analysis</u>
<u>Stripping</u>	
<u>Luminosity</u>	

How do analyses gain LHCb approval?

<https://twiki.cern.ch/twiki/bin/view/LHCbPhysics/LHCbAnalysisBiography>
LHCb Publication Procedure

- Present your work regularly in a WG meeting
- Document your work in an ANA note
- Circulate the ANA to the WG and ask for a review committee to be assigned
 - conveners will do so once they are satisfied with the analysis and documentation
- Discuss with the review committee
- Once review committee is satisfied, prepare paper draft
- Ask for “approval to go to paper”
 - Formal request comes from reviewers (not proponents), approval is scheduled by the Physics Co-ordinator

How do the EB procedures work?

- After approval, check paper draft is in accordance with [LHCb Editorial Guidelines](#)
 - EB reviewers is assigned to help with this
- Then get approval for first circulation
 - 2 week period, expect ~10 sets of comments
- Respond to all comments and update draft
- “EB reading”
 - Line-by-line reading of the paper with 2 “EB readers”
- Update draft again, then get approval for second circulation
- Final comments (usually EB members only)
- Draft will be discussed at the EB meeting, update again, schedule approval to submit presentation (usually at a Tuesday meeting), then submit!