

Outreach for Particle Physics in Belgium

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European Particle Physics Outreach Group



Vrije Universiteit Brussel

Structure for Outreach

Today no national structure exists for Particle Physics outreach. This induces several problems:

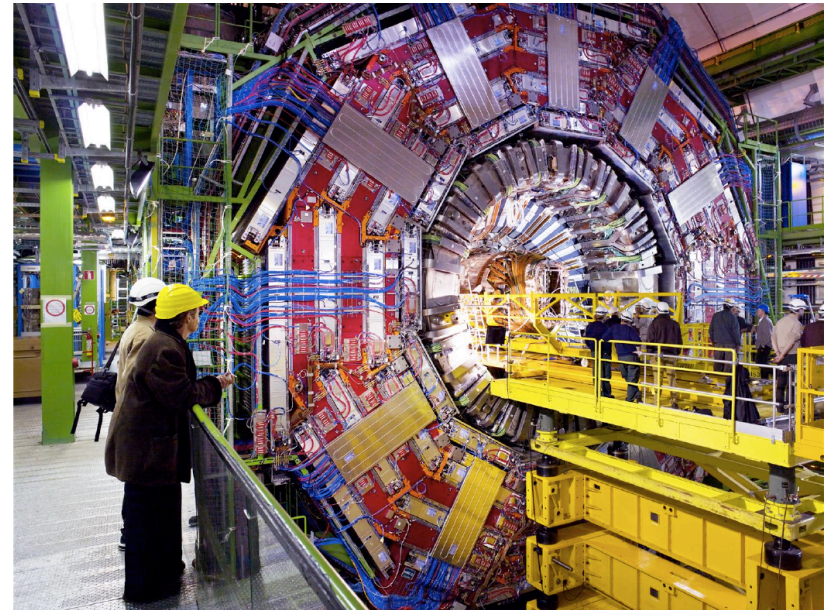
- Mostly local and individual efforts (not necessary small)
- Researchers/professors are usually overloaded therefore little time for outreach activities
- No explicit budgets are available
- No formal encouragement for outreach activities as an explicit part of research projects

One central body to discuss HEP Outreach in Europe is CERN's European Particle Physics Outreach Group ([EPPOG](#)), with a Belgian representation. Main topic is how to promote the Large Hadron Collider to the public.

Press conference LHC start

We invited the press on the occasion of the LHC start-up in 2008.

This resulted in a long list of key news items in the audio-visual and written media. For Belgium this is exceptional and therefore a great success. In general our Belgian society is aware of the Large Hadron Collider and is eager to be informed about its results.



UCL
Université
catholique
de Louvain



 Universiteit
Antwerpen



Vrije
Universiteit
Brussel

How to reach out?

Today a wide variety of media exist, examples:

- The internet is probably the most consulted medium (eg. [KoSMiS](#), ...)
- Scientific magazines are important (eg. [EOS](#), ...)
- University organized sets of topical seminars for the general public
- Scientific classes for youngsters (eg. annual Masterclasses in Particle Physics at most Belgian universities)
- Exhibitions can attract diverse groups (eg. [Einstein](#), [Technopolis](#), ...)
- School teachers (provide the possibility of teaching modern scientific issues & to update their knowledge – [Flemish](#) VeLeWe / [Walloon](#) ABPPC)
- Setup small scale projects in schools (eg. cosmic ray setups)
- Many scientists give seminars at schools (individual initiative)
- Public Solvay conferences with Nobel prize winners ([link](#))
- Organize school trips to CERN guided by our scientists

Missing a central national structure for HEP Outreach

Some of many examples...

What will not be covered in these examples:

- The numerous list of all articles we wrote for the general public
- The even longer list of presentations we gave for the general public...
- Our participation to national/regional/university-wide organized activities to communicate science to the general society...
- The list of guided tours we gave in our laboratories or elsewhere...
- There are even e-Logs that communicate our research...
- ... and many other individual initiatives

VIP visits at CERN



VIP visits at CERN



Vice-minister president of the Flemish government, Fientje Moerman, visited CERN on 12 June 2005

VIP visits at CERN



Marc Verwilghen, Belgian minister of economy, energy, foreign trade and science policy, came to CERN on 8 April 2005

VIP visits at CERN



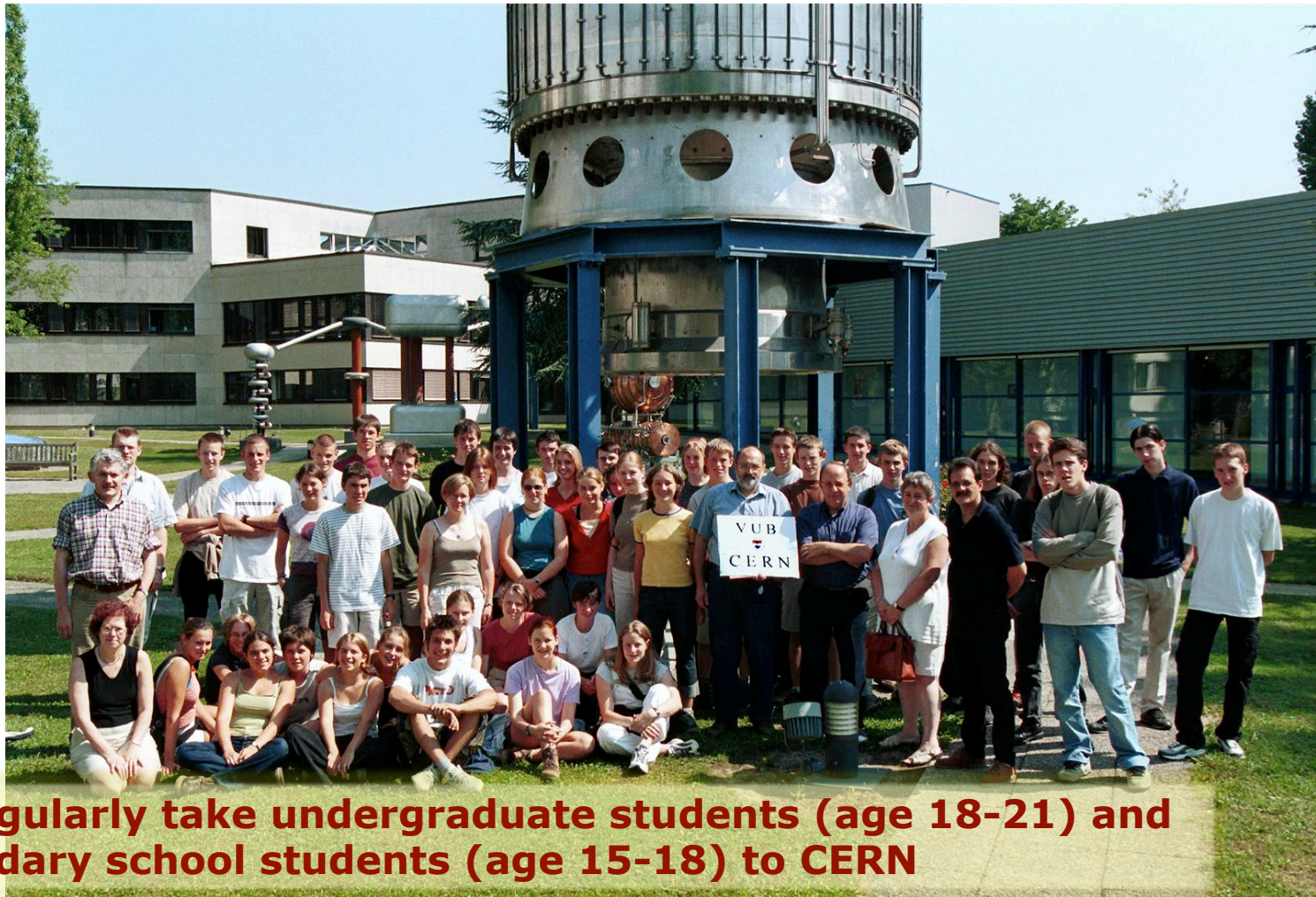
Pierre de Maret, Recteur, Université Libre de Bruxelles, visited CERN on the 13th of January 2005

VIP visits at CERN



Universiteit Antwerpen Rector A. Verschoren and Vrije Universiteit Brussel Rector P. De Knop, visited CERN on 10th of March 2009

Other visits at CERN



We regularly take undergraduate students (age 18-21) and secondary school students (age 15-18) to CERN

EPPOG Masterclasses

Since several years most Belgian HEP groups participate in the EPPOG Masterclasses (Introduction to Particle Physics & Study of LEP Z events)



About 40-70 youngsters and a few teachers per university. We initiated the famous Quiz during these European Masterclasses.

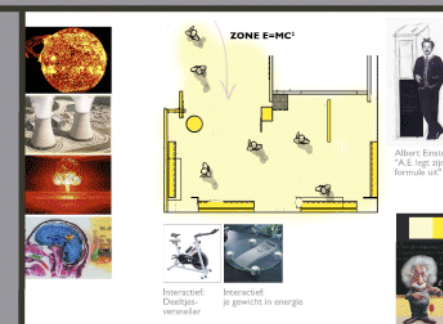
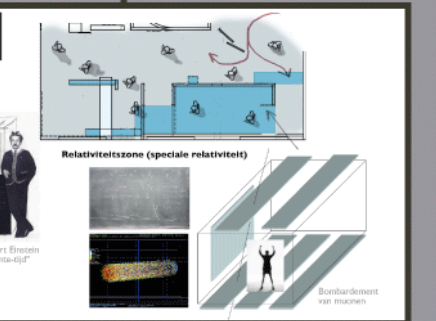
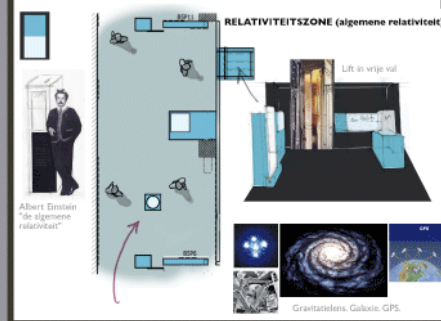
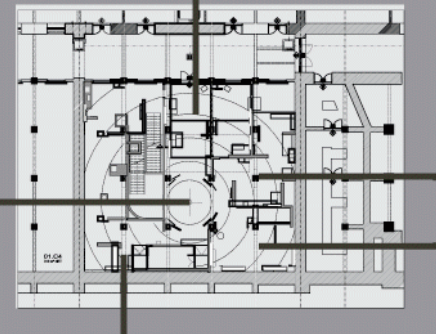
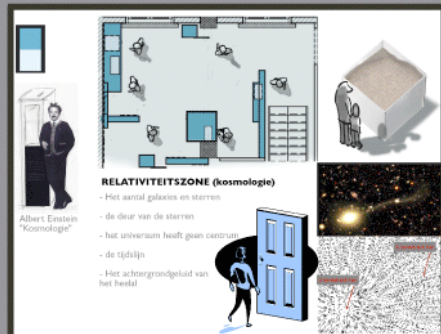
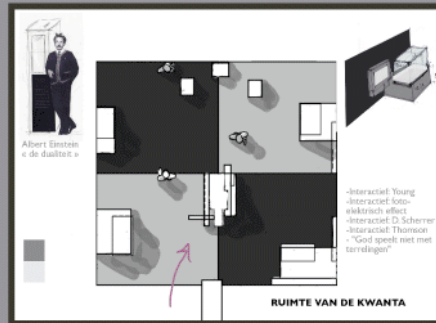
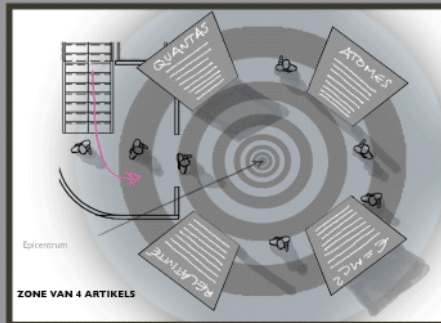
KoSMiS/OCRE



Cosmic ray hodoscope setup present at several schools and guided by our scientists ([website](#))

Einstein exhibition

Einstein as a person
and as a scientist



Dec'05-May'06

Solvay public lectures



INTERNATIONAL SOLVAY INSTITUTE
Brussels

XXIII^{ste} Solvay Raad voor Fysica
Publieksdag
Zondag 4 december 2005, om 14 uur
De grenzen van de moderne fysica

"Strings, Black Holes and the End of Space and Time"
Robbert Dijkgraaf (University of Amsterdam)

"The Fabric of the Cosmos: Space, Time and the Texture of Reality"
Brian Greene (University of Columbia, New York)



Vraag- en Antwoorde
Onder leiding van David Gross (Nobelprijs Fysica 2004, Santa Barbara) en met de deelname van Helmut Denker (HLS),
Robbert Dijkgraaf (Amsterdam), Brian Greene (Columbia), Gerard 't Hooft (Nobelprijs Fysica 1989, Utrecht),
Désirée Hanzon (Hanzon) en Catherine Veronique (Collège de France)

Inschrijving (verplicht), informatie en programma op www.europa.eu.int/solvay2005

Vraag- en Antwoorde
Kantoor de Grote Gids
Webstraat 179
1018 Brussel

Contact
info@hanson.ac.be

Mit de steun van:
VUB, FNRS, IAP, IAP, IAP, IAP, IAP

frequency of 1 or 2 per year
(thousands of participants)

"Strings, Black Holes and the End of Space and Time"
Robbert Dijkgraaf (University of Amsterdam)

"The Fabric of the Cosmos: Space, Time and the Texture of Reality"
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EPS HEPP prize 2009



Celebration of the 2009 EPS HEPP prize awarded to the Gargamelle collaboration, among whom a Belgian team

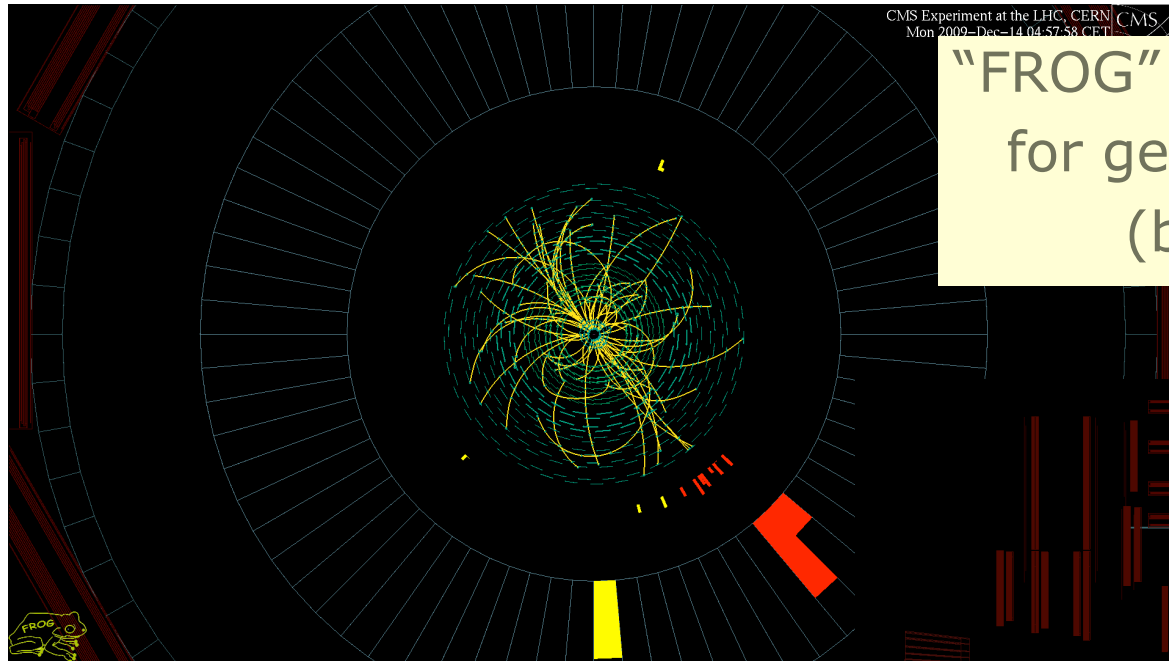
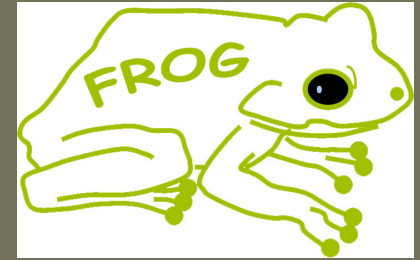
CERN summerschool in Belgium



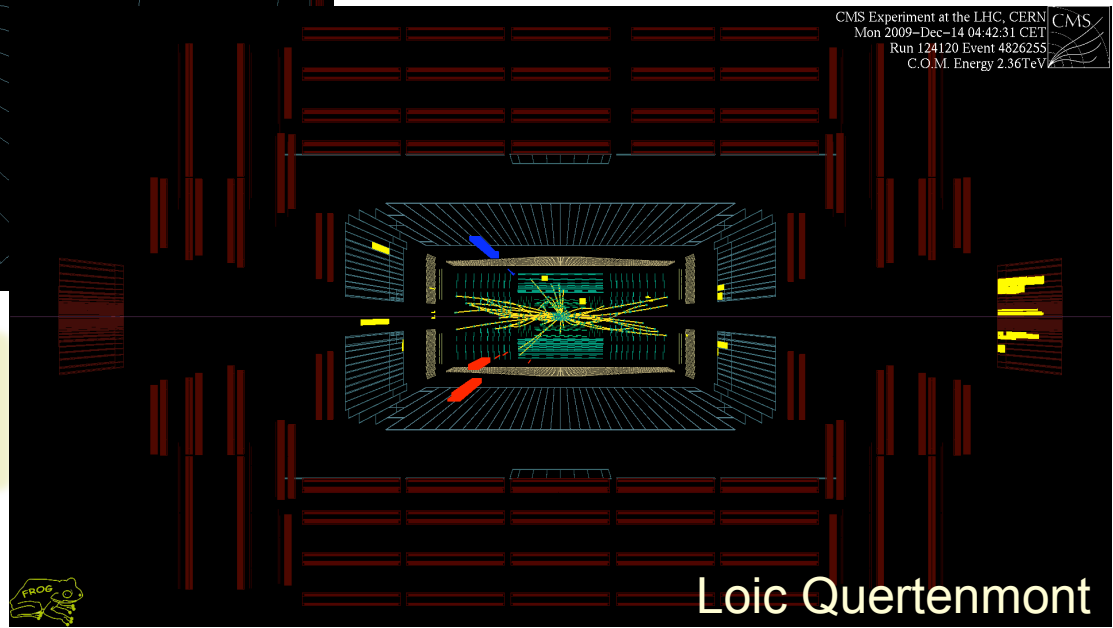
**Herbeumont-sur-Semois,
8 June – 21 June 2008**



Event display in CMS



“FROG” is a fast event display tool for general physics experiments (but focussed on CMS)



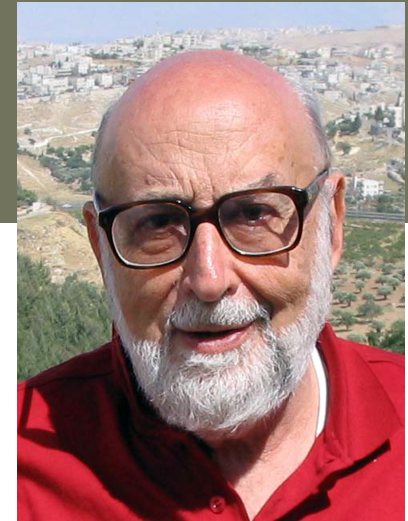
Excellent tool for research and outreach

proton collision at 2.36 TeV

Loic Quertenmont

Some more issues...

- An important item to be communicated to the youngsters in the society is the general career path in the domain of Particle Physics
→ *"How do I become a particle physicist?"*
- The International Physics Olympiad was planned in Belgium in 2011, due to a lack of funding this was cancelled recently...
- In the Brout-Englert-Higgs spontaneous symmetry breaking mechanism, the first two persons are Belgian



F. Englert (ULB)



R. Brout (ULB)

Conclusions

- Outreach and the general education of the society is crucial to drive our (and other) scientific field(s)
- We have achieved to run several successful projects of which some have a (inter)national reach (*prove is the increase of physics students at Belgian universities*)
- A national structure of both people and funding is missing today for this purpose
- Central (European?) efforts would be welcome as they would reduce the work and financial load on individual countries (eg. with links to astrophysics and other research fields)