Improving Access to Resources for Teachers and Students

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The International Particle Physics Outreach Group (IPPOG)

IPPOG is a network of scientists, science educators and communication specialists working across the globe in informal science education and outreach for particle physics. Particle physics is the science of matter, energy, space and time. IPPOG brings new discoveries in this exciting field to young people and conveys to the public that the beauty of nature is indeed becoming understandable from the interactions of its most fundamental parts - the elementary particles.

Current members come from the 22 member states of CERN, Australia, Ireland, Slovenia, South Africa, the USA, and from DESY, CERN and five of the major experiments at the Large Hadron Collider (LHC).

Hans Peter Beek (University of Bern) and Steve Goldfarb (University of Melbourne), IPPOG Chairs

Draw Me a Physicist

To raise school children's awareness of and enthusiasm for the world of physics and life as a physicist.

Classroom Outreach Program

The International Particle Physics Outreach Group (IPPOG)

Latest Resources

A Big Bang in The... To introduce main research subjects at LHC to secondary school pupils in their last year of studies

Das Verflixte Higgs... Article published originally in the German journal Astronomie & Raumfahrt 51 (2014)

 Quiz for IMC17 This multiple-choice quiz is designed for high school students and will be used in the...
International Masterclasses
13th International Masterclasses 2017

Each year more than 13,000 high school students in 52 countries come to one of about 200 nearby universities or research centres for one day in order to unravel the mysteries of particle physics. Lectures from active scientists give insight in topics and methods of basic research at the fundamentals of matter and forces, enabling the students to perform measurements on real data from particle physics experiments themselves. At the end of each day, like in an international research collaboration, the participants join in a video conference for discussion and combination of their results. See here for media coverage.

International Masterclasses 2017 will take place from 1.3. - 11.4.2017.

Discover the world of Quarks and Leptons with real data

- get out of school for one day and come to a nearby university or research centre
- get insight into topics and methods of basic research at the fundamentals of matter and forces
- perform measurements on real data from particle physics experiments at CERN
- participate in an international video conference for discussion of results

http://physicsmasterclasses.org
http://ippog.org/resources
The IPPOG Resource DB

Goals
• Easy sharing of educational material and activities
• Useful categorisation (searchable and navigatable)

Main Audiences
• Teachers & Students (primarily high school)
• Researchers doing Outreach

Implementation
• Drupal Web Pages on IPPOG site

Status
• First Iteration about five years ago
• Not heavily used
• Needs improvement to interface, procurement of content

We want it to be useful for you!
Proposed Improvements (1)

Topic Organisation

- Matter, Particles, and the Universe (Known Physics)
  - Particles and their interactions, Cosmology, Higgs boson, Antimatter, Quark-Gluon plasma, Neutrinos
- Exploring the Unknown
  - Supersymmetry, Dark matter, Dark energy, Extra dimensions
- Technologies and Experiments
  - Accelerators, Detectors
- Particle Physics and Society
  - Why fundamental research, International collaboration, Applications & Spin-offs, People behind the science
Proposed Improvements (2)

Item Types

- Photos / Posters / Charts
- Videos
- Animations / Simulations
- Presentations (ppt, pdf)
- Games
- Classroom materials / Tutorials / Lesson plans / Text books
- Books
- Projects / Competitions
- Exhibition items
- Souvenirs
Proposed Improvements (3)

Audience

• Primary school level
• Lower secondary school level
• Upper secondary school level
• Broad public
• Educators
Proposed Working Group Tasks

Examine and Evaluate the Database Interface
- Is this something useful for you?
- How could it be made more useful for you?
- Do you agree with the proposed categories?
- When and how often would you use it?

Examine and Evaluate the Content
- Is there useful content?
- What do you want more of?
- How can the existing content be improved?

Curate the Content
- Rate content according to a scale (for example):
  - 0 = archive it
  - 5 = keep it no matter what
- Tag:
  - categories (topic, subtopic, item, audiences)
  - level of difficulty (standalone / needs guidance)
  - language
Do a good job and…

http://cern.ch/atlas-virtual-visit