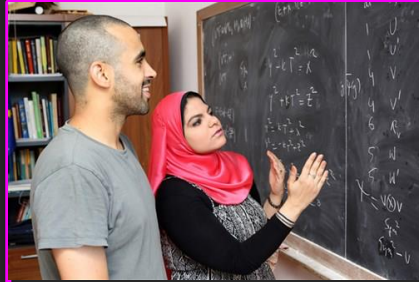


ORGANISED BY ATLAS OUTREACH

WORKSHOP

PROMOTING PARTICLE
PHYSICS WORLDWIDE

Promoting Particle Physics Worldwide



Training and research
with masters / PhD
students and lecturers



Outreach and training in particle
physics to **university students**



Outreach of particle physics to **school students**



- **Public understanding** and appreciation of science
- **Governmental appreciation** of the importance of fundamental physics and its role in economic and sustainable development

Promoting Particle Physics Worldwide

Discussion today:

- Why promote particle physics worldwide?
- How to make an effective project
- What sort of activities do people and organisations do
- What are the difficulties, especially in developing countries, and how do we overcome them
- How can you get involved?

Why Promote Particle Physics?

1) Scientific Brainpower

Science needs the best scientists!

Demographic factors correlated with choosing physics

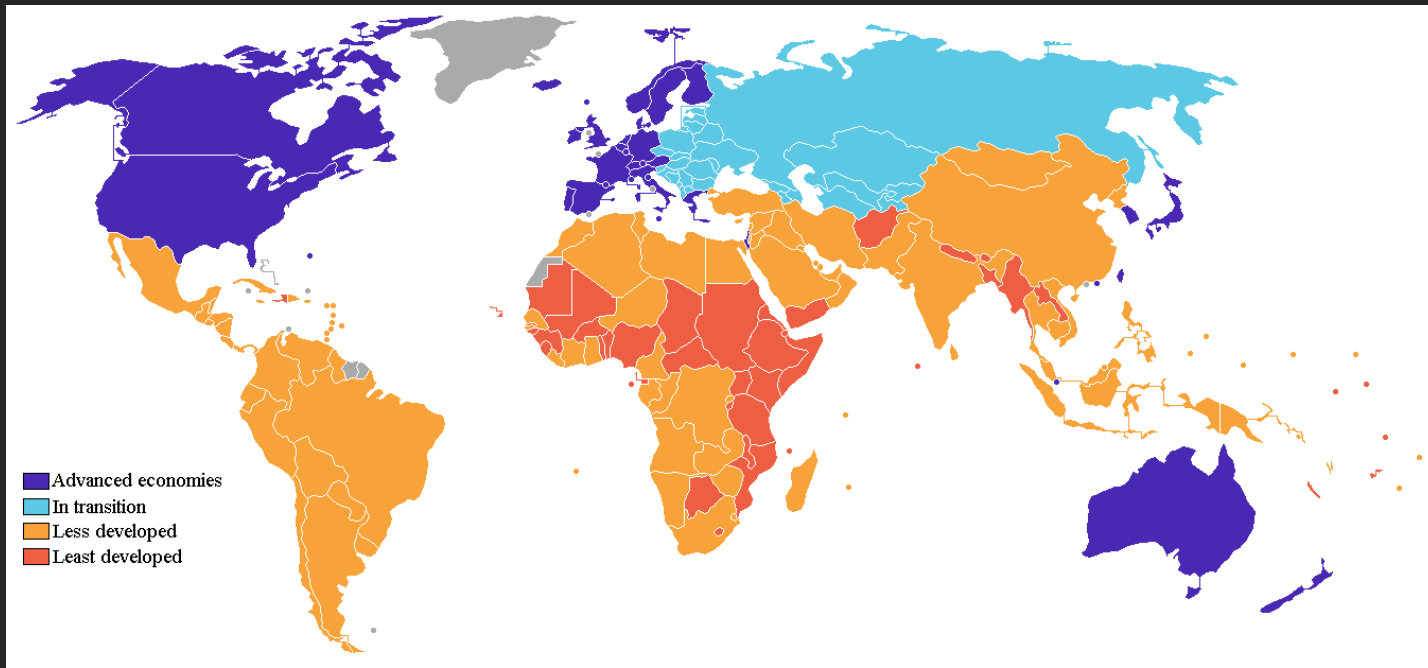
- Gender
- Socioeconomic status
- Ethnic background

We must learn the barriers preventing young people from different backgrounds choosing STEM, in particular physics has the largest gap

Why Promote Particle Physics?

1) Scientific Brainpower

- developing countries account for **80%** of the worlds population but **only 28%** of the worlds scientists come from these countries



Why Promote Particle Physics?



What if the next Curie or Einstein is a student in a country where scientific research and education is not a priority?

Why Promote Particle Physics?

2) Sustainable Development & Education

- the need to solve environmental and developmental **problems** requires scientists
- investment into educational, technological and cultural institutions play a key role in growing a **knowledge-based economy**
- scientific research at **universities drives quality of education** at all levels

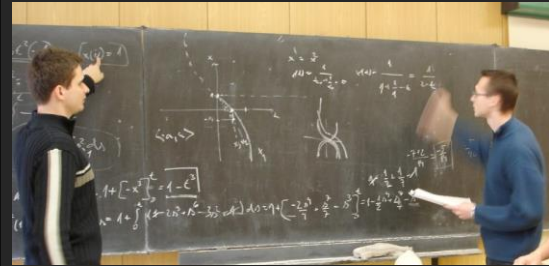
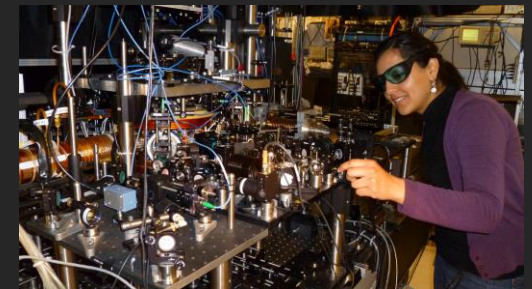
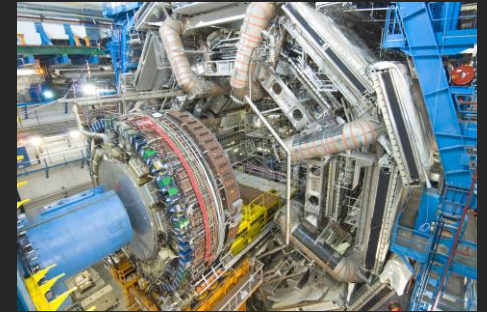
Advance of the knowledge based society

Fundamental Science

Applied Science

Technology, Engineering and Innovation

Sustainable Development



Advance of the knowledge based society

All countries need to draw upon international research findings

- High income countries can do this because of their vital domestic research community
 - links into the world of science
 - makes it possible for the country to harness global discoveries for social and economic development
- Countries with a weak national research community, have fewer opportunities to identify, adapt and make use of the new knowledge


Advance of the knowledge based society

- **Scientific research** is central to the development of a capacity to adapt and adopt technologies needed in any technology transfer
- This can ignite **ground breaking technologies and economic growth**



Resources

The International Particle Physics Outreach Group (IPPOG) ippog.web.cern.ch



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International Particle Physics Outreach Group

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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).

Marge Bardeen (FNAL) and Hans Peter Beck (University of Bern), IPPOG chairs

Presenting Science

To improve scientists' presentation and public speaking skills



Book, Coaching Materials for Explainers

Latest Resources



Science Journal -...

A new issue of Elémentaire ("Elementary"), an educational magazine about particle physics.

0 comments



International...

This talk was given at the 2nd WCPE (World Conference on Physics Education) in São Paulo, Brazil.

0 comments



Solving the Enigma...

Public presentation on particle physics at the LHC, including quality images that can be useful for...

0 comments

Abdus Salam International Centre for Theoretical Physics

Dual mandate for high level physics and mathematics research and to foster physics in developing countries www.ictp.it



The image shows a screenshot of the website for the Abdus Salam International Centre for Theoretical Physics (ICTP). The header features the ICTP logo on the left, followed by the text "The Abdus Salam International Centre for Theoretical Physics". To the right of the text are the logos for the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Atomic Energy Agency (IAEA). A stylized world map is positioned to the right of the logos. Below the map is a navigation bar with three items: "Research", "Scientific Calendar", and "Programmes", each with a dropdown arrow. Below the navigation bar is a banner image showing a group of diverse people in a meeting. A semi-transparent dark bar at the bottom of the banner contains the text "Nurturing international collaboration" and a series of five white dots, with the third dot from the left being orange.

ICTP The Abdus Salam International Centre for Theoretical Physics

United Nations Educational, Scientific and Cultural Organization

IAEA International Atomic Energy Agency

Research Scientific Calendar Programmes

Nurturing international collaboration