CERN Teacher Programmes
Inspiring the next generation of scientists

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and
Visits Service
Objective of Teacher Programmes
To bring modern research closer to schools

OLD

Research  University  School Teacher  Students

NEW
Looking for multiplicative factors

School Teacher

x 1000

School Students

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CERN Teacher Programmes
What are we trying to achieve with the help of physics teachers?

1: RAISE AND MAINTAIN THE INTEREST OF STUDENTS IN MODERN SCIENCE
   
   Motivate them to continue scientific education at school
   Help them to better understand the physical world
   
   **Improve scientific literacy**

2: INSTIL A FEELING OF MYSTERY AND DISCOVERY POTENTIAL

   Motivate students to take up science at universities

   **Prepare the future generation of scientists**

   **SCIENCE IS ALIVE!**
How researchers view science
How school students view science

Science teaching climbing wall

$\frac{1}{2} mv^2$

$m \cdot g \cdot h$

What am I doing here?
Take students on a sight-seeing tour ... The origin of ... Universe
Black Holes
Dark Matter
Dark Energy
Antimatter Particles
Link modern physics to school curriculum
Residential Teacher Programmes

Basic content

• Lectures
  – Introductions to CERN, Particle Physics, Cosmology, the LHC Experiments, Particle Accelerators, Medical Applications of Particle Physics, and the GRID

• Visits to experimental facilities

• Hands-on activities

• Working group activities

• Opportunities to meet working research physicists in a variety of informal settings.

All lectures are web archived and made publicly available
Outcome

- Newly inspired, motivated and confident teachers
- Inspire and motivate students
- Communicate with their colleagues
- Communicate with the general public
- Act as ambassadors for science, physics, particle physics, CERN

Excellent examples among the many teachers who have attended our programmes
CERN Teacher Programme Participants 1998 - 2011

**MEMBER STATES**
- Austria: 58
- Belgium: 25
- Bulgaria: 199
- Czech Republic: 128
- Denmark: 72
- Finland: 401
- France: 162
- Germany: 418
- Greece: 298
- Hungary: 265
- Italy: 152
- Netherlands: 64
- Norway: 80
- Poland: 514
- Portugal: 255
- Slovakia: 190
- Spain: 236
- Sweden: 100
- Switzerland: 52
- United Kingdom: 866

**OBSERVER STATES**
- India: 2
- Japan: 3
- Russia: 132
- Turkey: 3
- USA: 56

**OTHERS**
- Angola: 4
- Australia: 3
- Azerbaijan: 1
- Brazil: 53
- Cameroon: 1
- Canada: 1
- Cape Verde: 2
- Chile: 3
- China: 1
- Croatia: 1
- Cyprus: 4
- Estonia: 1
- Georgia: 16
- Ghana: 4
- Guinea Bissau: 1
- Ireland: 3
- Kazakhstan: 3
- Kenya: 2
- Latvia: 1
- Lebanon: 1
- Madagascar: 1
- Malta: 36
- Mexico: 5
- Mongolia: 4
- Montenegro: 13
- Morocco: 2
- Mozambique: 13
- Qatar: 1
- Rwanda: 15
- Sao Tome: 2
- Saudi Arabia: 1
- Serbia: 10
- Singapore: 2
- Slovenia: 21
- South Africa: 6
- South Korea: 22
- Swaziland: 1

**CANDIDATE FOR ACCESSION**
- Romania: 10

**ASSOCIATE MEMBER IN THE PRE-STAGE TO MEMBERSHIP**
- Israel: 2

**TOTAL PARTICIPANTS (1998-2011)**: 4532

**TOTAL CANDIDATES** (1998-2011): 196

**TOTAL ASSOCIATE MEMBERS** (1998-2011): 353
Arthur C. Clarke
Author of 2001 : A Space Odyssey

• “When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong.”

• “The only way of discovering the limits of the possible is to venture a little way past them into the impossible.”

• “Any sufficiently advanced technology is indistinguishable from magic.”

Our goal, with the help of teachers, is to bring a little of the magic of CERN into the classroom