CERN Teacher Programmes

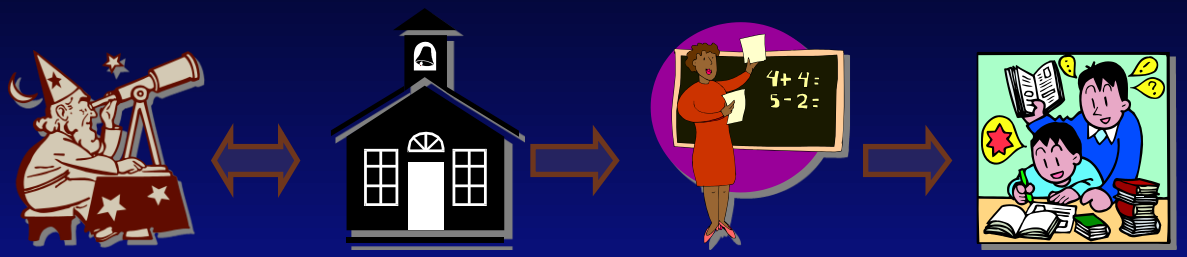
Inspiring the next generation of scientists

Mick Storr

Head CERN Teacher Programmes
and
Visits Service

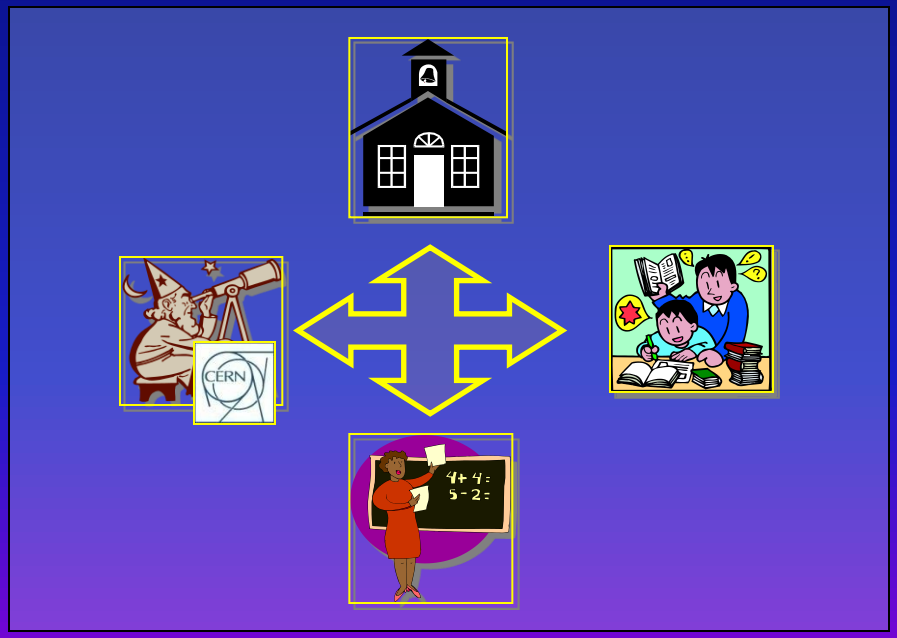
Objective of Teacher Programmes
To bring modern research closer to schools

OLD

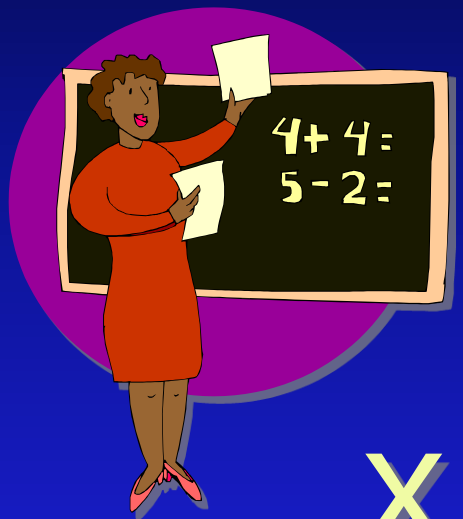


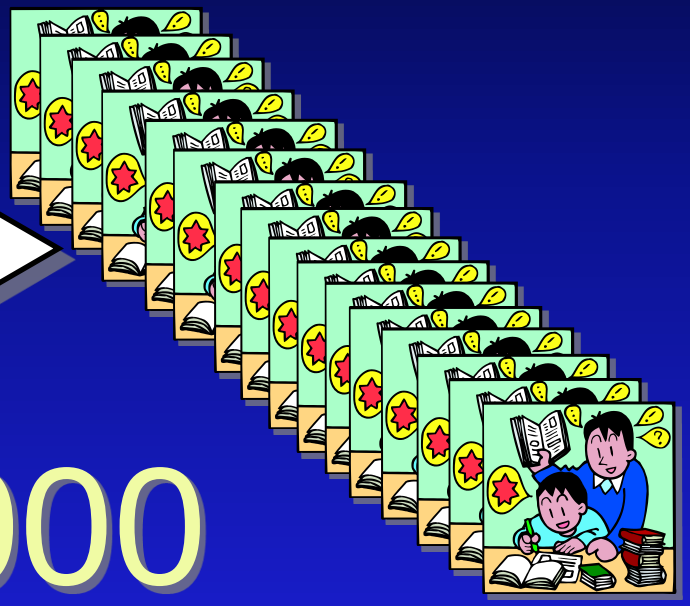
Research University School Teacher Students

NEW



Looking for multiplicative factors





x 1000

School Teacher

School Students

Objectives of CERN Teacher Prorgrammes

- Pass the message
  - Teachers are our partners and colleagues
- Recognise
  - Teachers hold the future in their hands
- Empower teachers
  - To update, expand and pass on their knowledge
- Facilitate
  - Learning
  - Networking
- Inspire and encourage
- Open and honest
- NOT TO tell teachers how to teach
- Learn from teachers

THANK

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

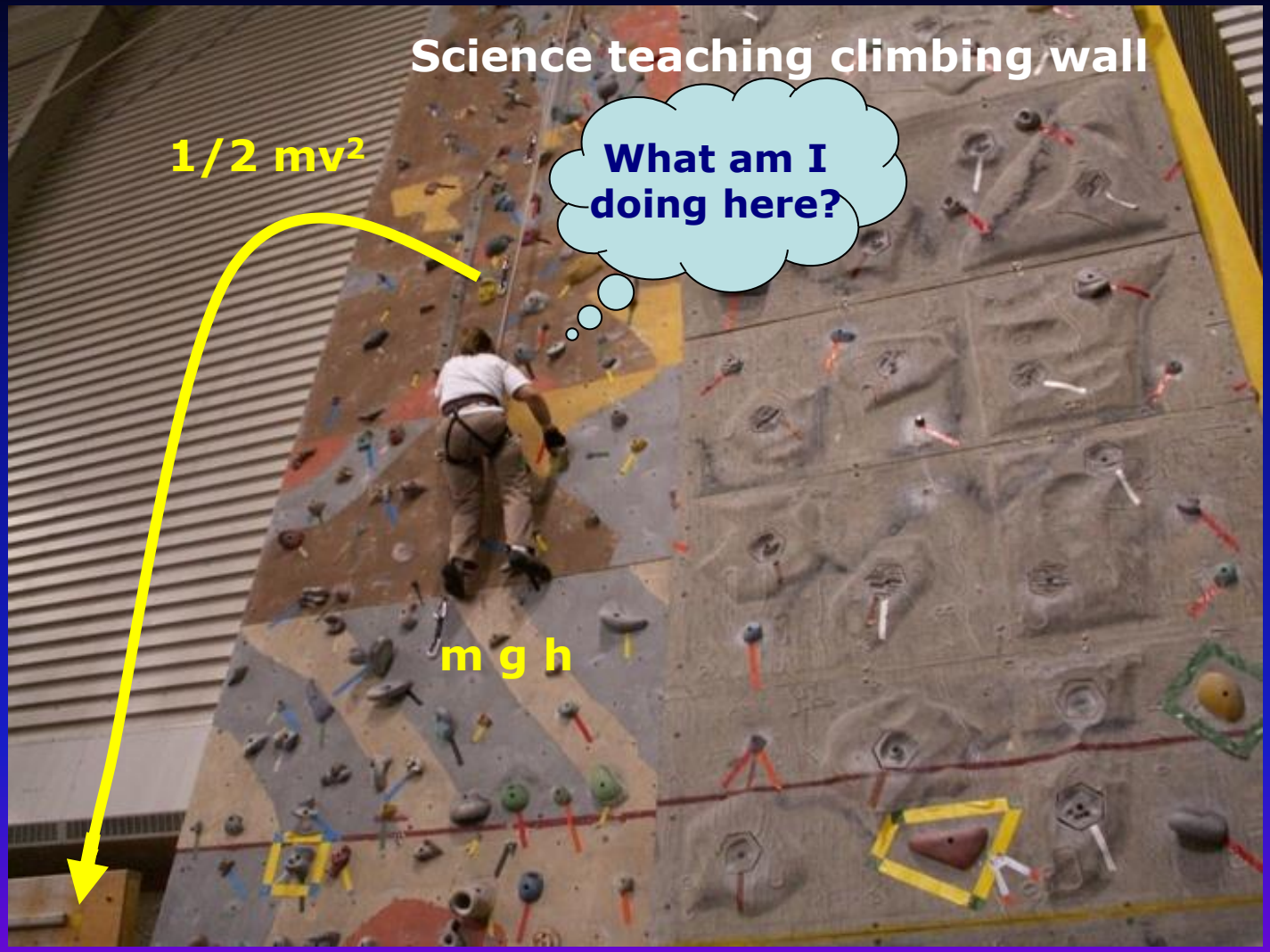
Motivate students to study science/engineering at universities

Prepare the future generation of scientists/engineers

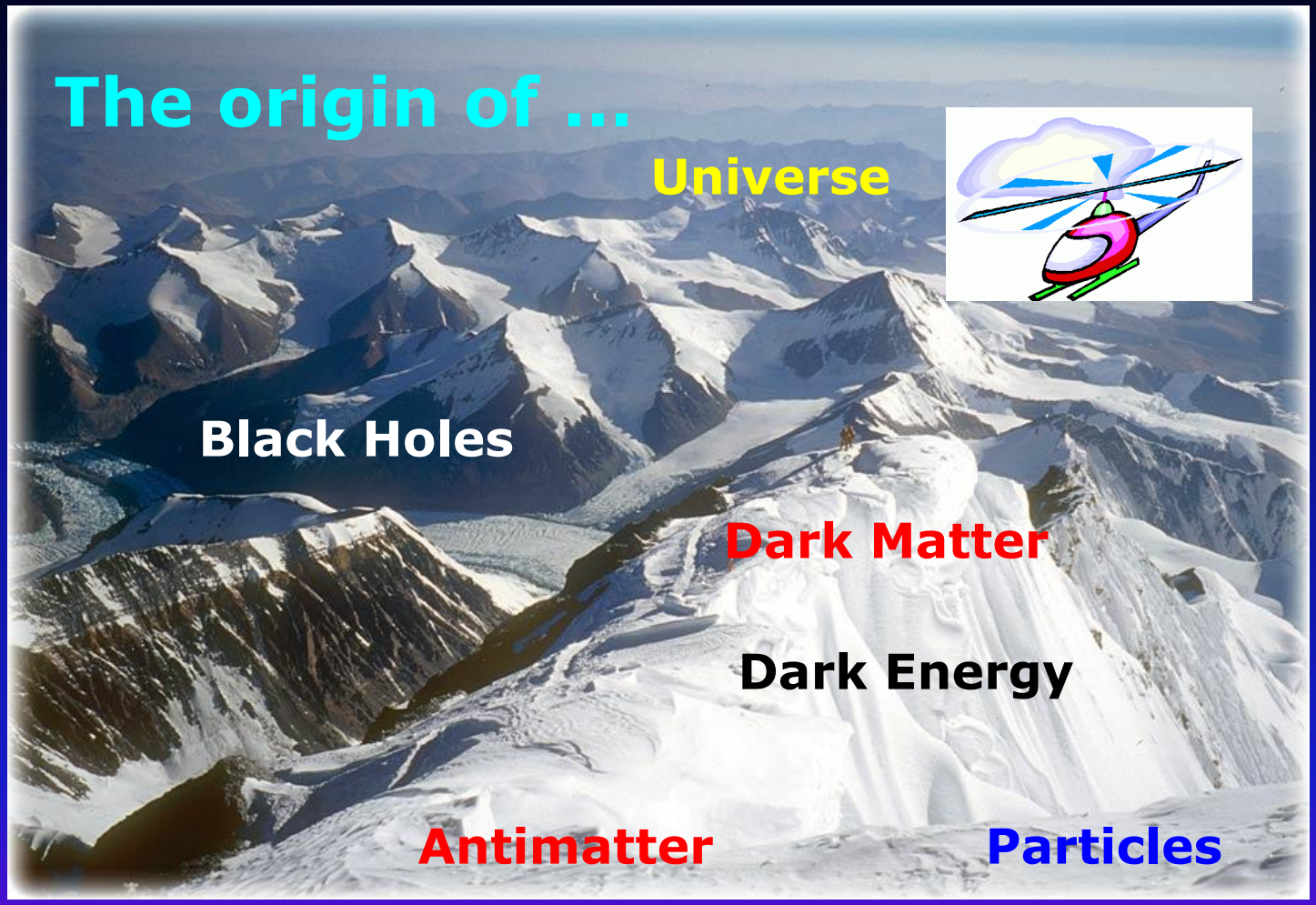
SCIENCE IS ALIVE !

How researchers view science

How school students view science



Take students on a sight-seeing tour …



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.

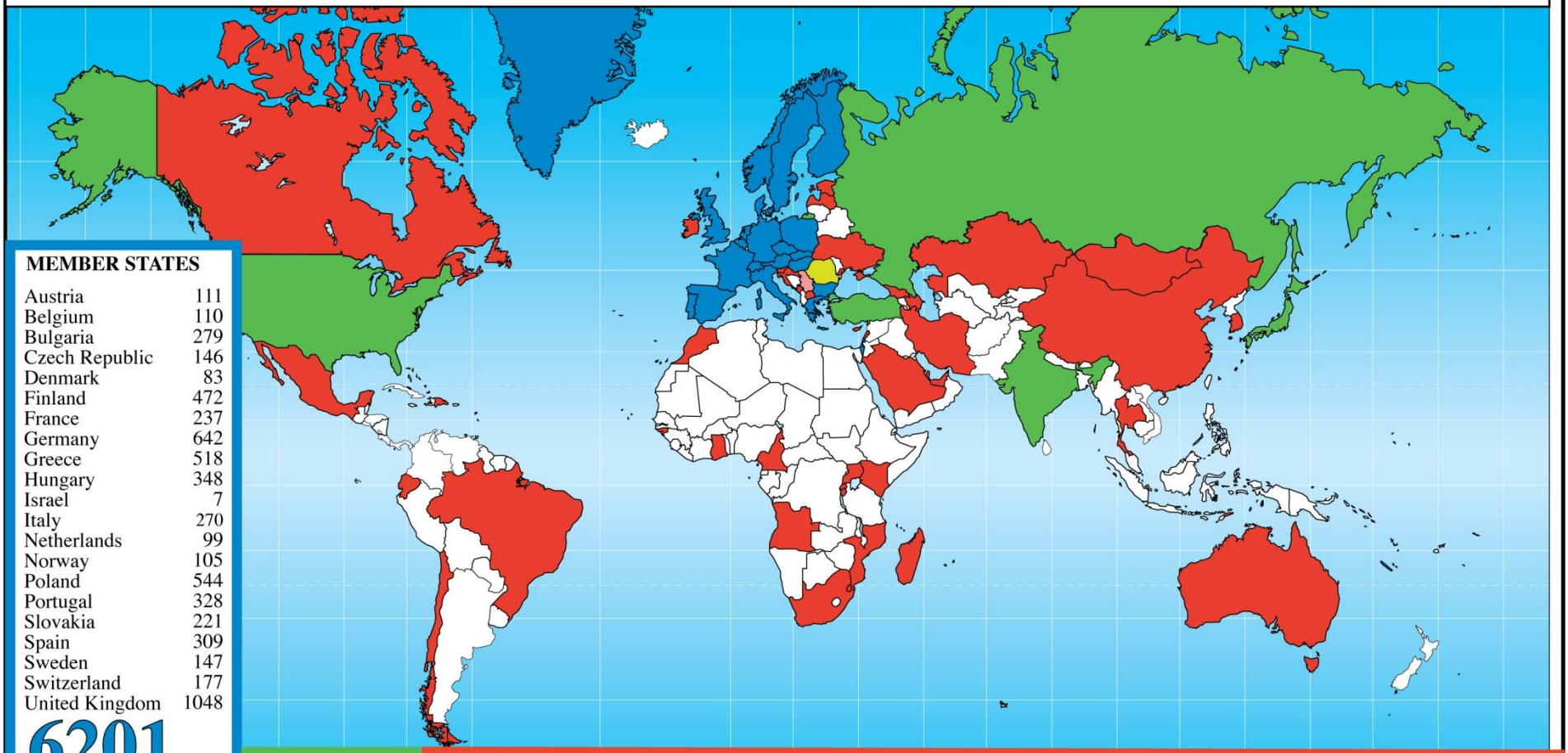
All lectures are web archived and made publicly available

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/engineering, physics, particle physics, CERN
- Organise follow up activities
  - Visits, exhibitions, video conferences, projects
- Promote teacher programmes
- Help us to expand beyond the borders of CERN

Excellent examples among the many teachers who have attended our programmes

Teacher Programme Participants 1998 - 2013 (Total: 7087)



MEMBER STATES

Austria	111
Belgium	110
Bulgaria	279
Czech Republic	146
Denmark	83
Finland	472
France	237
Germany	642
Greece	518
Hungary	348
Israel	7
Italy	270
Netherlands	99
Norway	105
Poland	544
Portugal	328
Slovakia	221
Spain	309
Sweden	147
Switzerland	177
United Kingdom	1048

6201

CANDIDATE FOR ACCESSION

Romania	12

ASSOCIATE MEMBER IN THE PRE-STAGE TO MEMBERSHIP

Serbia	14

OBSERVER STATES

India	2
Japan	5
Russia	193
Turkey	3
USA	65

268

OTHERS

Angola	4	China	1	Ireland	5	Morocco	2	Swaziland	1
Australia	5	Croatia	1	Kazakhstan	3	Mozambique	17	Thailand	7
Azerbaijan	1	Cyprus	8	Kenya	4	Qatar	1	T.F.Y.R.O.M.	11
Brazil	114	Dominican Rep.	21	Latvia	1	Rwanda	17	Timor-Leste	7
Burundi	1	Ecuador	2	Lebanon	1	Sao Tome	4	Uganda	3
Cameroon	3	Estonia	46	Madagascar	2	Saudi Arabia	1	Ukraine	77
Canada	3	Georgia	74	Malta	36	Singapore	2	U.A.E.	1
Cape Verde	3	Ghana	6	Mexico	6	Slovenia	21		
Chile	3	Guinea Bissau	1	Mongolia	1	South Africa	6		
		Iran	1	Montenegro	13	South Korea	44		

592

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