



CERN Teacher Programmes

Inspiring the next generation of scientists

Mick Storr

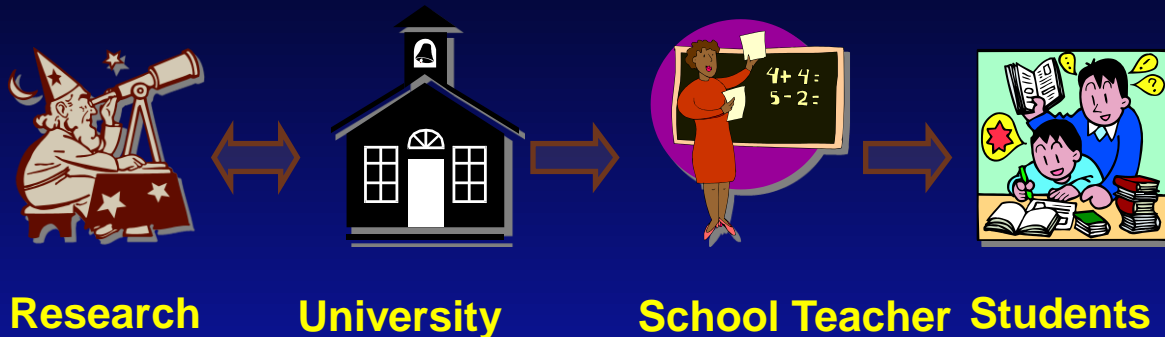
CERN and
University of Birmingham



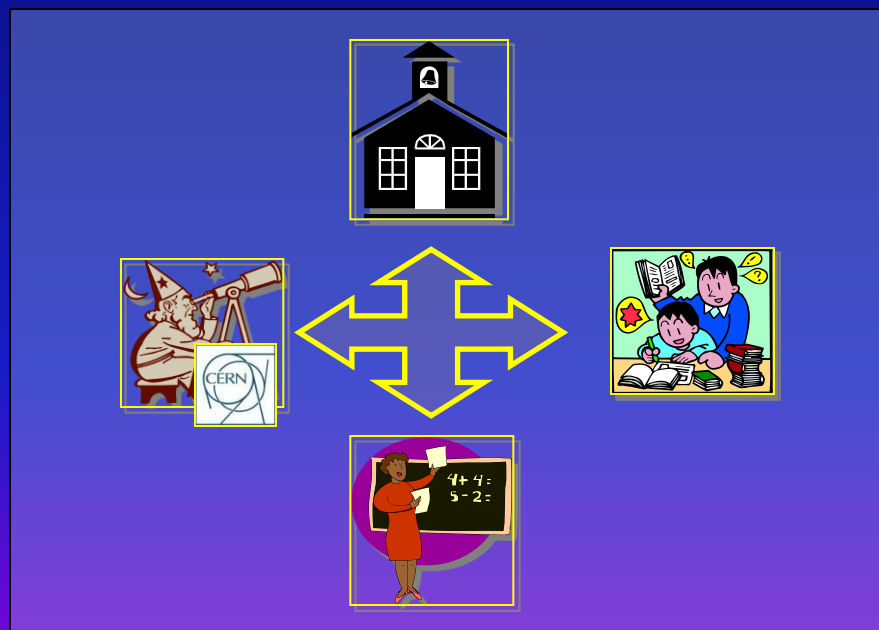
Objective of Teacher Programmes

To bring modern research closer to schools

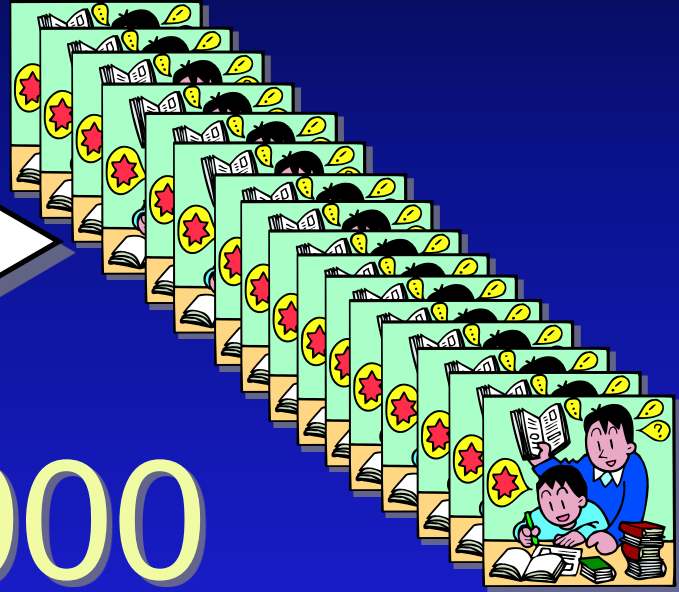
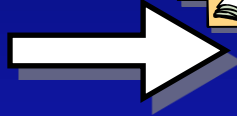
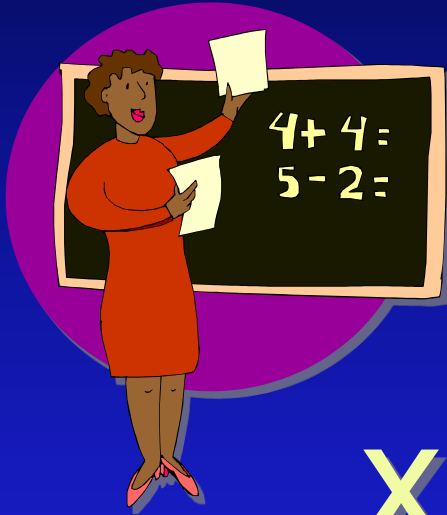
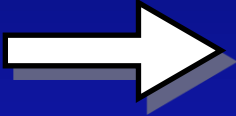
OLD



NEW



Looking for multiplicative factors



x 1000

School Teacher

School Students



Objectives of CERN Teacher Programmes

- 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 !

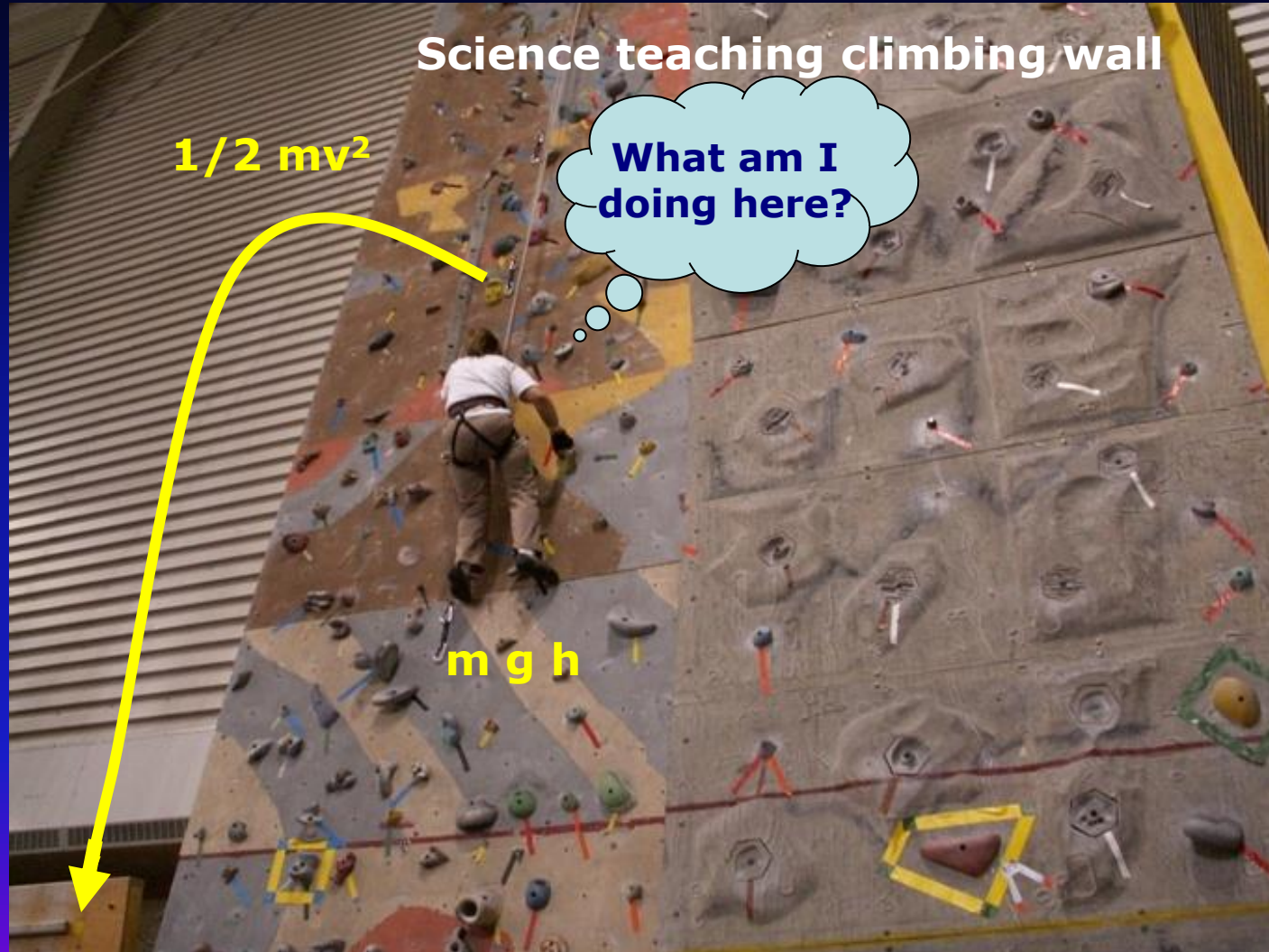


How researchers view science



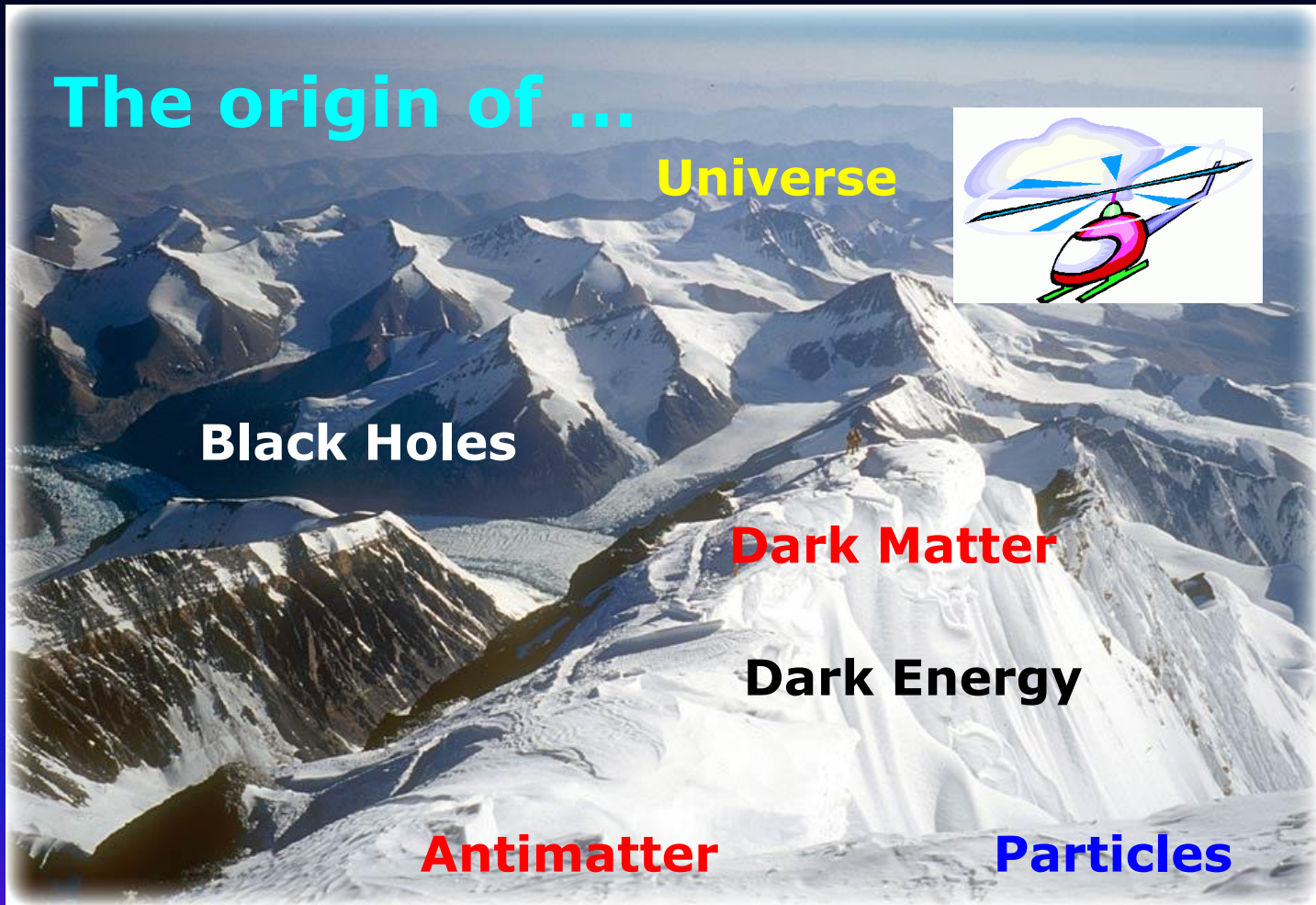


How school students view science





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

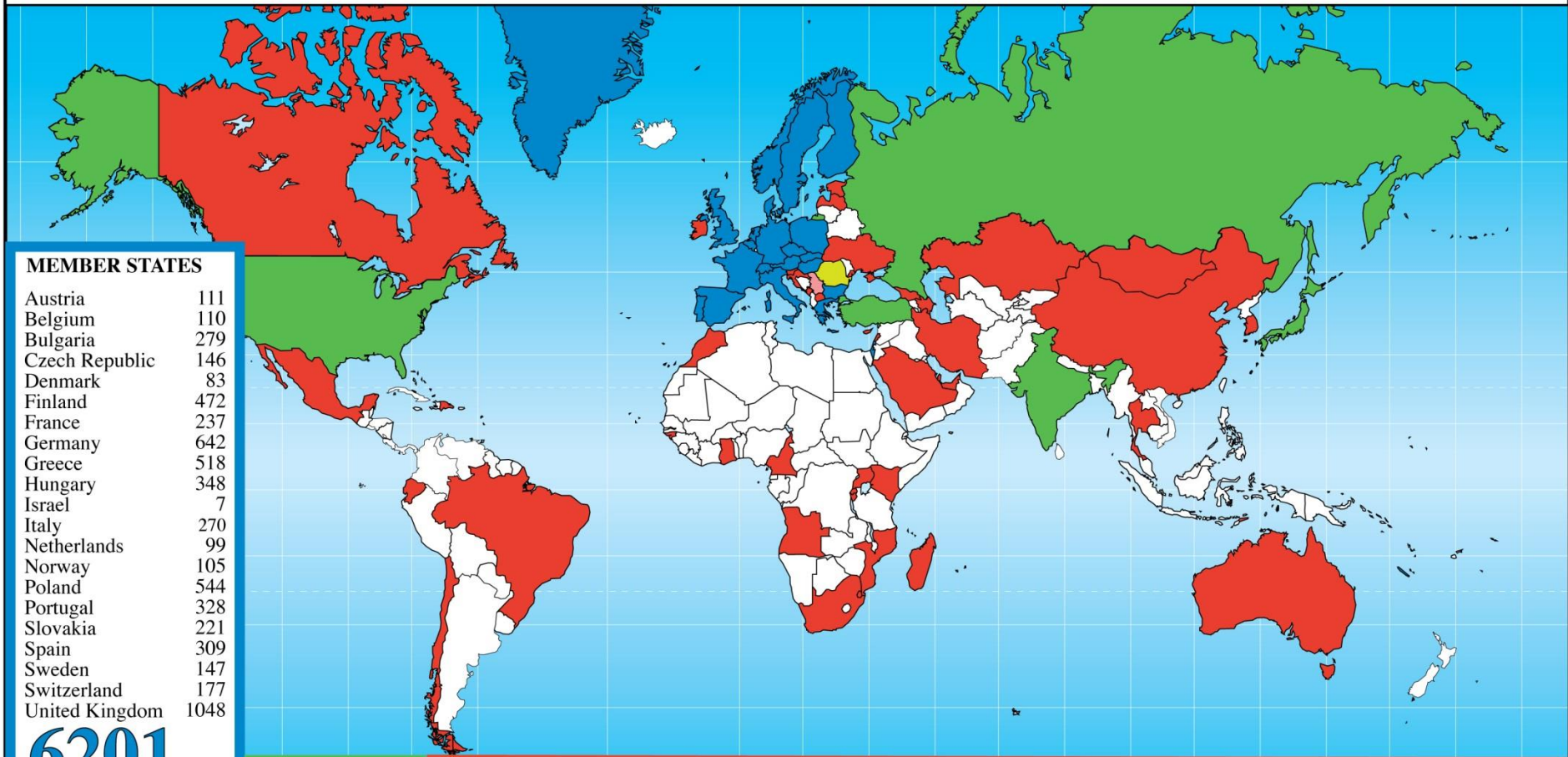


Outcome

- 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
Australia	5
Azerbaijan	1
Brazil	114
Burundi	1
Cameroon	3
Canada	3
Cape Verde	3
Chile	3

China	1
Croatia	1
Cyprus	8
Dominican Rep.	21
Ecuador	2
Estonia	46
Georgia	74
Ghana	6
Guinea Bissau	1
Iran	1

Ireland	5
Kazakhstan	3
Kenya	4
Latvia	1
Lebanon	1
Madagascar	2
Malta	36
Mexico	6
Mongolia	1
Montenegro	13

Morocco	2
Mozambique	17
Qatar	1
Rwanda	17
Sao Tome	4
Saudi Arabia	1
Singapore	2
Slovenia	21
South Africa	6
South Korea	44

Swaziland	1
Thailand	7
T.F.Y.R.O.M.	11
Timor-Leste	7
Uganda	3
Ukraine	77
U.A.E.	1

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**