

Bem vindos!  
Bem vindas!

Portuguese-Speaking  
High-School Teachers  
Of the World



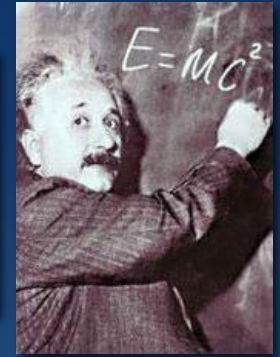
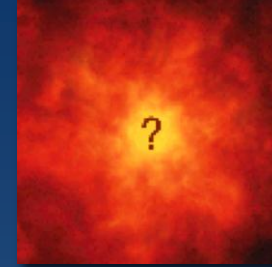
*Accelerating Science and Innovation*



# The Missions of CERN

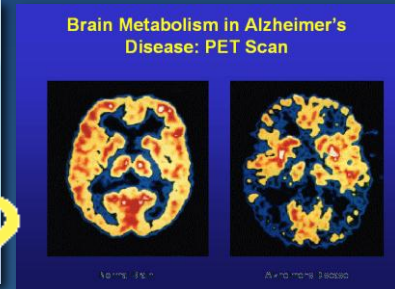
- **Push back** the frontiers of knowledge

E.g. the secrets of the Big Bang ... matter/antimatter imbalance within the first moments of the Universe?



- **Develop** new technologies, accelerators and detectors

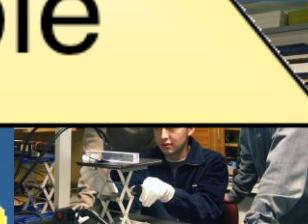
Information technology  
Medicine - diagnosis



**CERN**

uniting people

- **Train** scientists for tomorrow

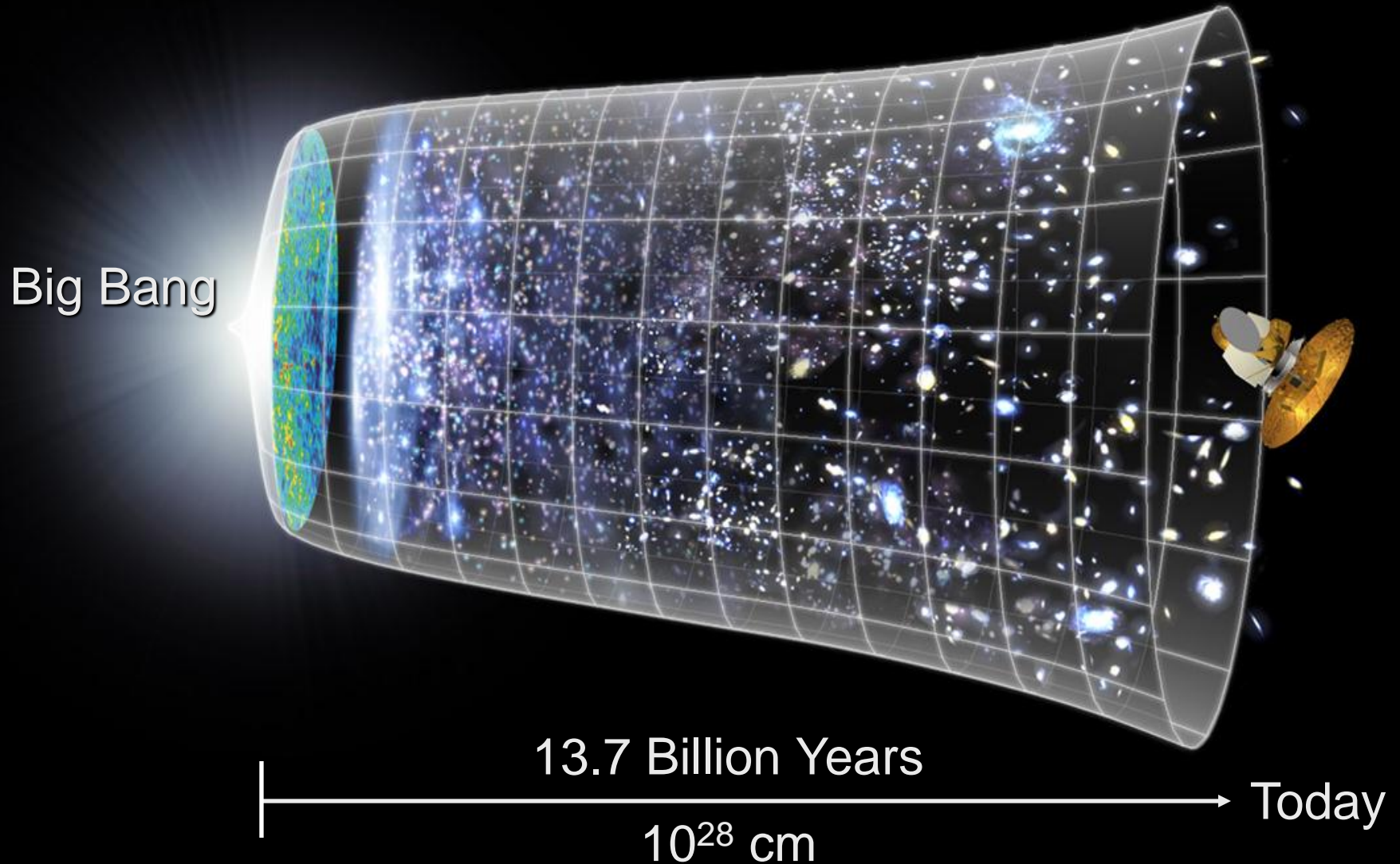


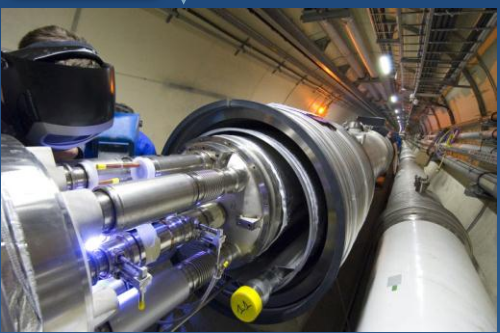
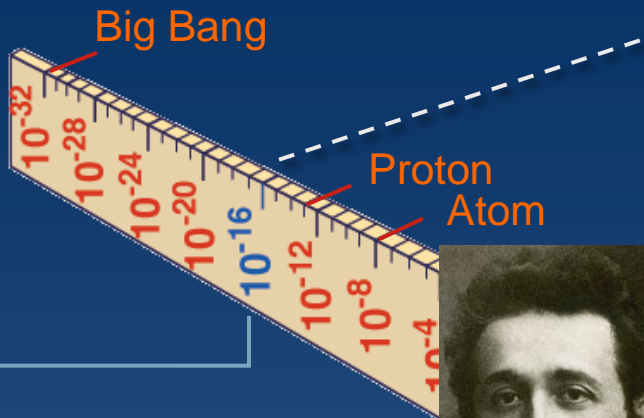
**Research**

- **Unite** people from different countries and cultures



# Evolution of the Universe



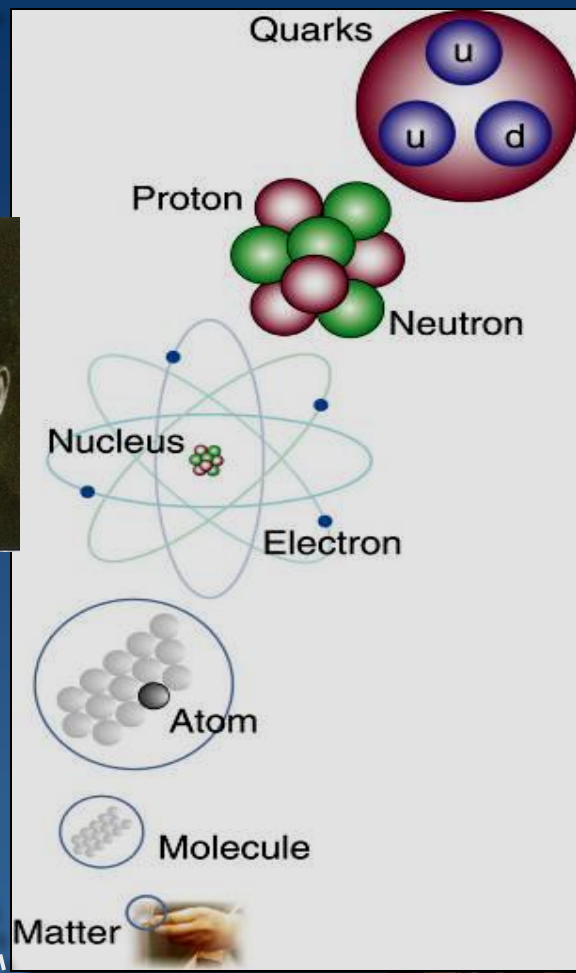


LHC

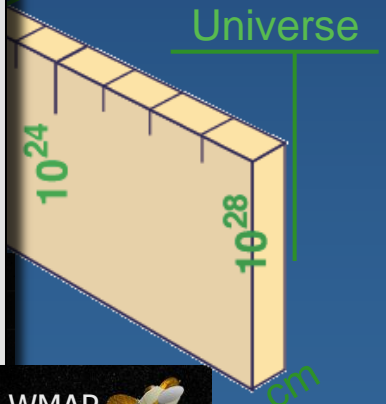
Super-Microscope



Study physics laws of first moments after Big Bang  
 increasing Symbiosis between Particle Physics,  
 Astrophysics and Cosmology

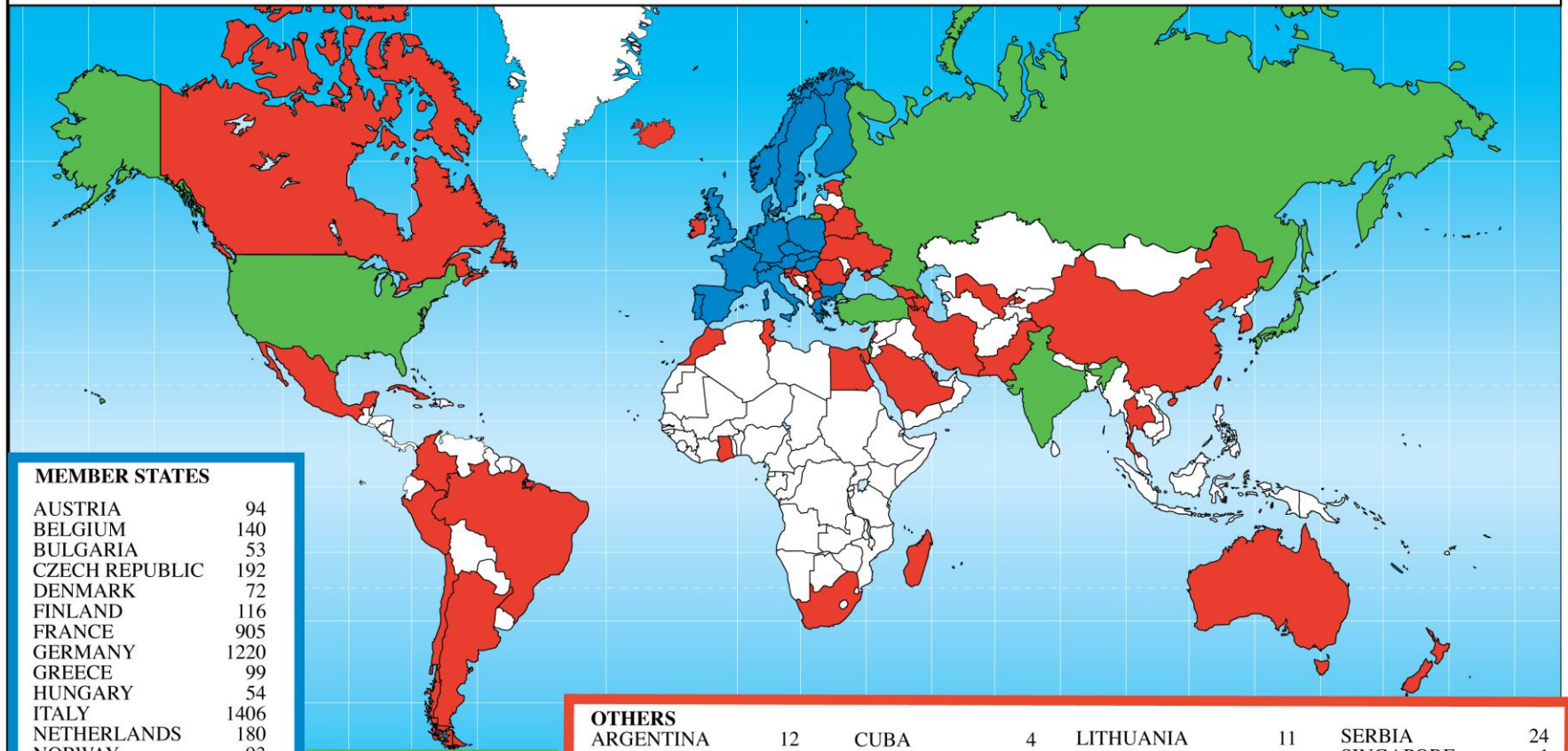


Radius of Galaxies  
 Universe



# Science is ever more global

## Distribution of All CERN Users by Nation of Institute on 27 June 2011



### MEMBER STATES

AUSTRIA	94
BELGIUM	140
BULGARIA	53
CZECH REPUBLIC	192
DENMARK	72
FINLAND	116
FRANCE	905
GERMANY	1220
GREECE	99
HUNGARY	54
ITALY	1406
NETHERLANDS	180
NORWAY	93
POLAND	205
PORTUGAL	141
SLOVAKIA	63
SPAIN	339
SWEDEN	79
SWITZERLAND	359
UNITED KINGDOM	732

### OBSERVER STATES

INDIA	109
ISRAEL	60
JAPAN	190
RUSSIA	822
TURKEY	79
USA	1786

### OTHERS

ARGENTINA	12	CUBA	4	LITHUANIA	11	SERBIA	24
ARMENIA	12	CYPRUS	6	MADAGASCAR	1	SINGAPORE	1
AUSTRALIA	22	EGYPT	6	MALTA	1	SLOVENIA	31
AZERBAIJAN	1	ESTONIA	18	MEXICO	39	SOUTH AFRICA	15
BELARUS	19	GEORGIA	10	MONTENEGRO	1	THAILAND	1
BRAZIL	79	GHANA	1	MOROCCO	7	F.Y.R.O.M.	3
CANADA	160	HONG KONG	1	NEW ZEALAND	9	TUNISIA	1
CHILE	3	ICELAND	3	PAKISTAN	19	UKRAINE	19
CHINA	87	IRAN	15	PERU	2	UZBEKISTAN	1
CHINA (TAIPEI)	53	IRELAND	13	QATAR	1		
COLOMBIA	13	KOREA	85	ROMANIA	66		
CROATIA	15	LEBANON	1	SAUDI ARABIA	2		

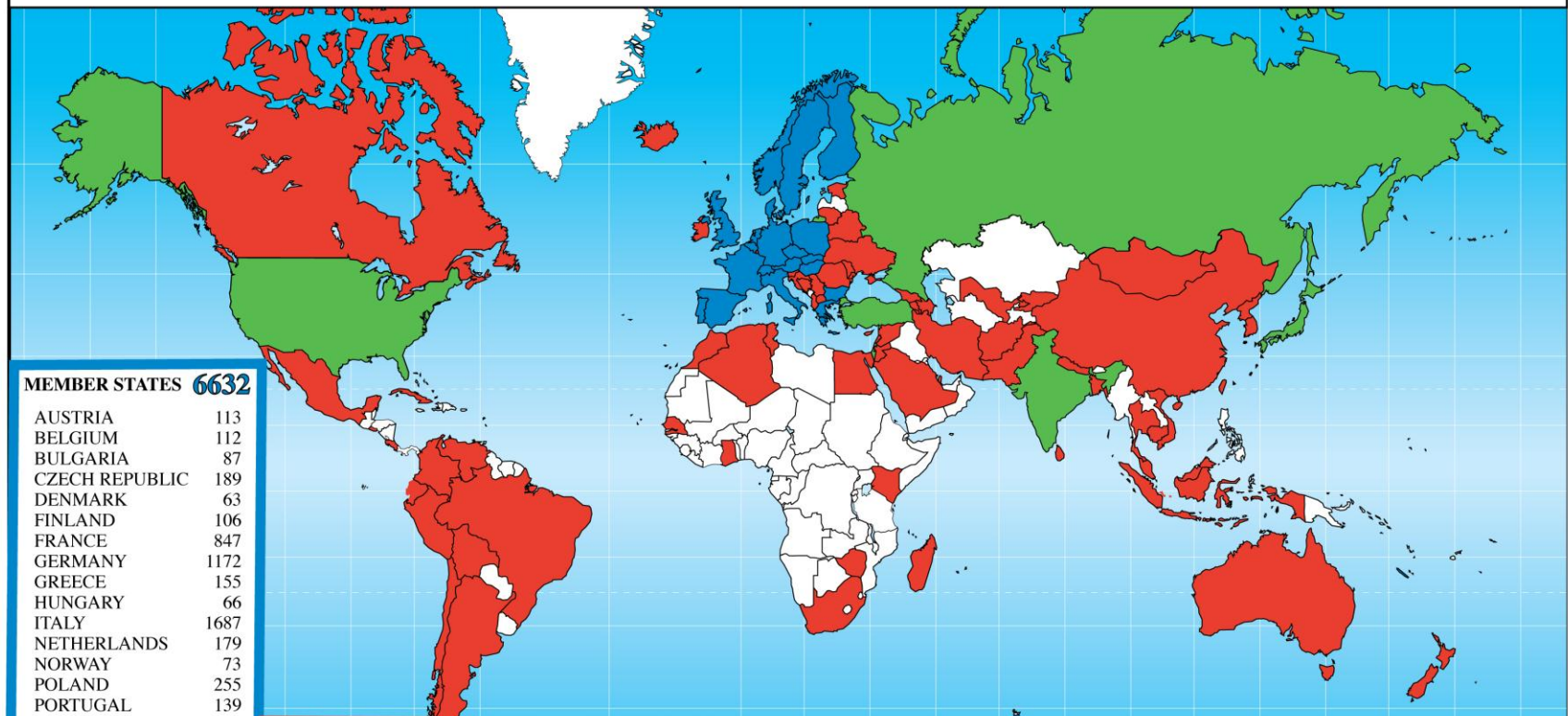
**6542**

**3046**

**894**

# Science is ever more global

## Distribution of All CERN Users by Nationality on 27 June 2011



### MEMBER STATES 6632

AUSTRIA	113
BELGIUM	112
BULGARIA	87
CZECH REPUBLIC	189
DENMARK	63
FINLAND	106
FRANCE	847
GERMANY	1172
GREECE	155
HUNGARY	66
ITALY	1687
NETHERLANDS	179
NORWAY	73
POLAND	255
PORTUGAL	139
SLOVAKIA	94
SPAIN	358
SWEDEN	79
SWITZERLAND	216
UNITED KINGDOM	642

### OBSERVER STATES 2537

INDIA	192
ISRAEL	61
JAPAN	223
RUSSIA	955
TURKEY	106
USA	1000

### OTHERS 1364

AFGHANISTAN	1	BRAZIL	83	EL SALVADOR	1	KOREA REP.	103	NEW ZEALAND	9	SRI LANKA	5
ALBANIA	3	CAMBODIA	1	ESTONIA	15	KYRGYZSTAN	1	PAKISTAN	39	SYRIA	2
ALGERIA	12	CANADA	143	GEORGIA	32	LEBANON	10	PALESTINE (O.T.)	1	THAILAND	3
ARGENTINA	13	CHILE	3	GHANA	1	LITHUANIA	17	PERU	4	F.Y.R.O.M.	2
ARMENIA	22	CHINA	232	GIBRALTAR	1	LUXEMBOURG	4	QATAR	1	TUNISIA	7
AUSTRALIA	20	CHINA (TAIPEI)	42	HONG KONG	1	MADAGASCAR	4	ROMANIA	106	UKRAINE	40
AZERBAIJAN	6	COLOMBIA	31	ICELAND	3	MALAYSIA	4	SAN MARINO	1	UZBEKISTAN	3
BANGLADESH	2	COSTA RICA	2	INDONESIA	2	MALTA	2	SAUDI ARABIA	3	VENEZUELA	11
BELARUS	36	CROATIA	22	IRAN	23	MEXICO	54	SENEGAL	1	VIET NAM	9
BOLIVIA	2	CUBA	5	IRELAND	25	MOLDOVA	1	SERBIA	38	ZIMBABWE	1
BOSNIA AND HERZEGOVINA	1	CYPRUS	14	JORDAN	1	MONGOLIA	1	SINGAPORE	1		
		ECUADOR	2	KENYA	1	MOROCCO	15	SLOVENIA	32		
		EGYPT	9	KOREA, D.P.R.	3	NEPAL	2	SOUTH AFRICA	11		

# CERN's Education Activities

**Scientists at CERN**  
Academic Training Programme



**Young Researchers**  
CERN School of High Energy Physics  
CERN School of Computing  
CERN Accelerator School



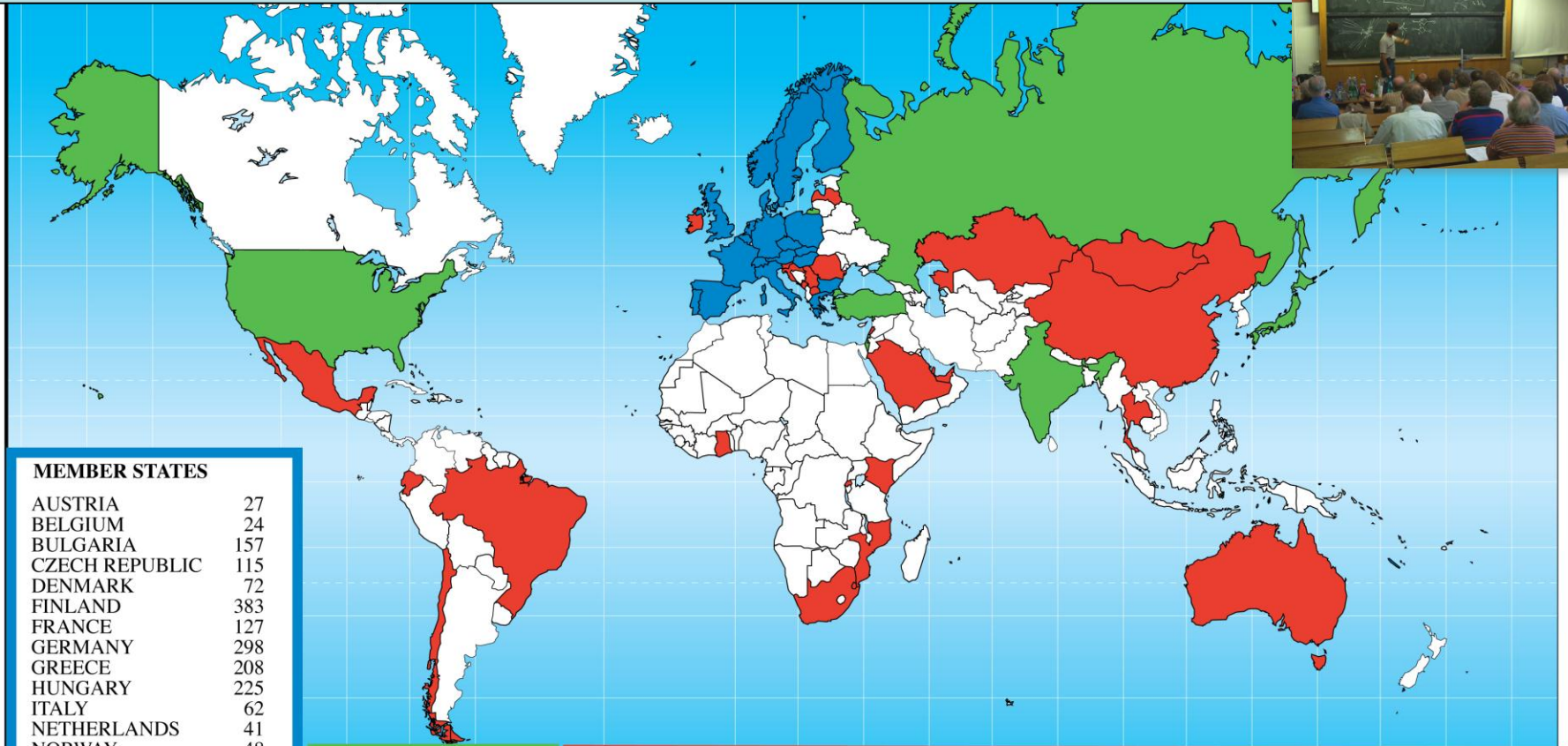
**Physics Students**  
Summer Students  
Programme



**CERN Teacher Schools**  
International and National  
Programmes



# CERN Teacher Programme Participants: 1998 – December 2010



## MEMBER STATES

AUSTRIA	27
BELGIUM	24
BULGARIA	157
CZECH REPUBLIC	115
DENMARK	72
FINLAND	383
FRANCE	127
GERMANY	298
GREECE	208
HUNGARY	225
ITALY	62
NETHERLANDS	41
NORWAY	48
POLAND	485
PORTUGAL	212
SLOVAKIA	189
SPAIN	168
SWEDEN	79
SWITZERLAND	34
UNITED KINGDOM	668

**3622**

## OBSERVER STATES

INDIA	2
ISRAEL	1
JAPAN	2
RUSSIA	84
TURKEY	2
USA	51

**142**

## OTHERS

AUSTRALIA	1	GHANA	2	MONTENEGRO	13	SLOVENIA	21
AZERBAIJAN	1	IRELAND	3	MOZAMBIQUE	9	SOUTH AFRICA	6
BRAZIL	32	KAZAKHSTAN	3	QATAR	1	SWAZILAND	1
CAPE VERDE	1	KENYA	1	ROMANIA	7	THAILAND	2
CHILE	3	LATVIA	1	RWANDA	7	F.Y.R.O.M.	11
CHINA	1	LEBANON	1	SAO TOME	1	U.A.E.	1
CROATIA	1	MALTA	36	SAUDI ARABIA	1		
ECUADOR	1	MEXICO	5	SERBIA	10		
		MONGOLIA	1	SINGAPORE	2		

**187**



# You are the basis for all we do

- Build up scientific literacy of society
- Enable evidence-based decision-making
- Inspire some students to undertake further studies in science & engineering
- Some may continue into research
  - Not only in physics
    - Not necessarily in particle physics
- Many/most will not stay in research
- All will contribute to advancing society

An aerial photograph of a rural landscape, likely in Brazil, showing a patchwork of agricultural fields in various shades of green and brown. A large, thin white circle is drawn over the center of the image, encompassing a small town or village. The text "Muito obrigado!" is written in a large, white, sans-serif font across the middle of the circle. In the background, a large body of water is visible on the right side, and a road or railway line runs along the bottom right edge.

Muito obrigado!