



# CERN – accelerating science and innovation



International Relations  
*Relations internationales*

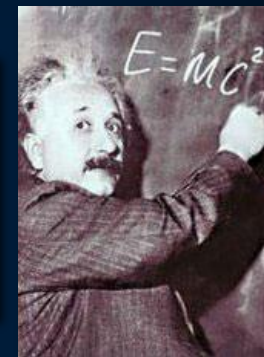




# The Mission of CERN

## ❑ **Push back** the frontiers of knowledge

E.g. the secrets of the Big Bang ...what was the matter like within the first moments of the Universe's existence?

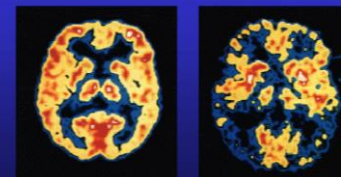


## ❑ **Develop** new technologies for accelerators, detectors & IT

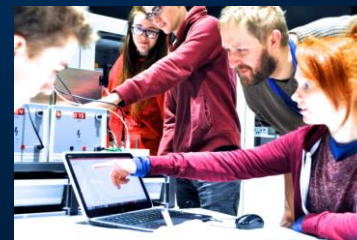
Information technology - the Web and the GRID  
Medicine - diagnosis and therapy



Brain Metabolism in Alzheimer's Disease: PET Scan



## ❑ **Train** scientists and engineers of tomorrow



## ❑ **Unite** people from different countries and cultures



# CERN: founded in 1954: 12 European States

“Science for Peace”

## Today: 22 Member States

~ 2500 staff

~ 1800 other paid personnel

~ 13000 scientific users

Budget (2018) ~ 1150 MCHF

**Member States:** Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Spain, Sweden, Switzerland and United Kingdom

**Associate Members in the Pre-Stage to Membership:** Cyprus, Serbia, Slovenia

**Associate Member States:** India, Lithuania, Pakistan, Turkey, Ukraine

**Applications for Membership or Associate Membership:**

Brazil, Croatia

**Observers to Council:** Japan, Russia, United States of America;  
European Union, JINR and UNESCO



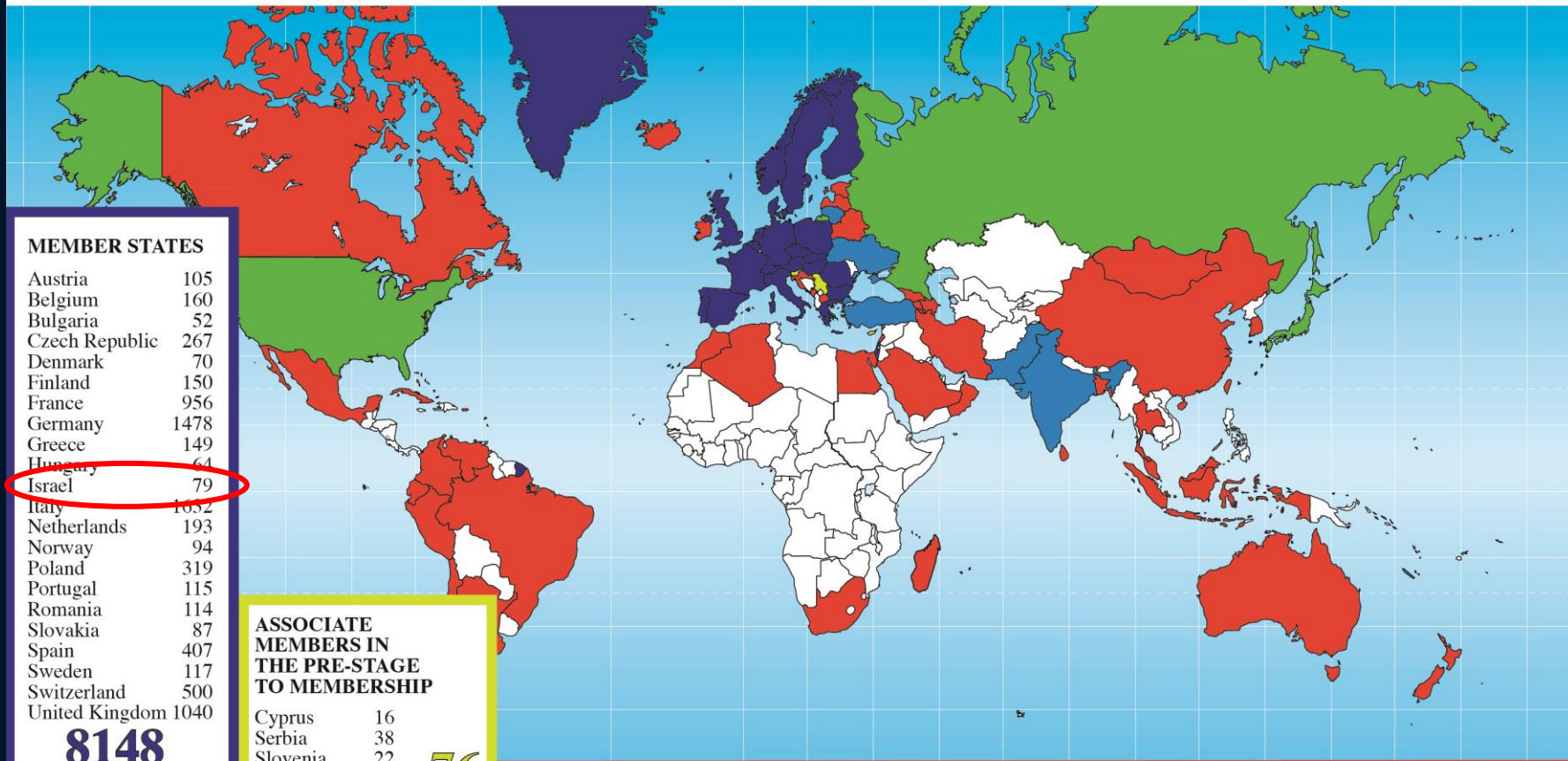


# Israel and CERN



# Science is getting more and more global

## Distribution of All CERN Users by Location of Institute on 5 July 2018



ASSOCIATE MEMBERS	
India	232
Lithuania	28
Pakistan	43
Turkey	127
Ukraine	35

**465**

OBSERVERS	
Japan	261
Russia	1095
USA	2187

**3543**

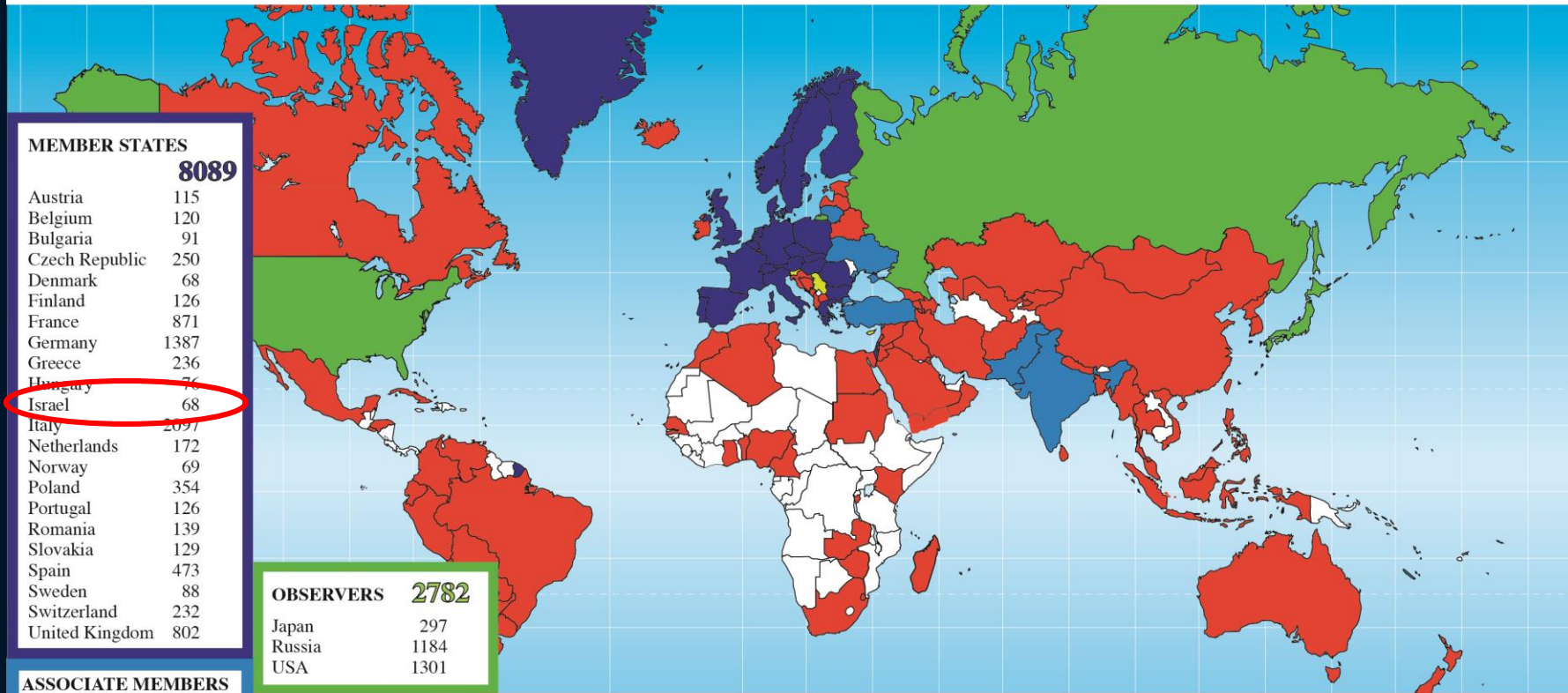
OTHERS			
Algeria	1	Chile	24
Argentina	19	China	297
Armenia	15	Colombia	27
Australia	38	Croatia	32
Azerbaijan	4	Cuba	3
Bangladesh	3	Ecuador	4
Belarus	26	Egypt	17
Brazil	131	Estonia	24
Canada	200	Georgia	31
		Hong Kong	22
		Iceland	3
		Indonesia	6
		Iran	26
		Ireland	10
		Korea	168
		Latvia	1
		Lebanon	16
		Madagascar	3
		Malaysia	7
		Malta	7
		Mexico	66
		Mongolia	2
		Montenegro	7
		Morocco	15
		New Zealand	7
		Oman	11
		Peru	3
		Puerto Rico	1
		Saudi Arabia	1
		Singapore	4
		South Africa	76
		Sri Lanka	8
		T.F.Y.R.OM	1
		Taiwan	66
		Thailand	22
		Venezuela	1

**1456**



# Science is getting more and more global

## Distribution of All CERN Users by Nationality on 5 July 2018



ASSOCIATE MEMBERS		776
India	385	
Lithuania	42	
Pakistan	69	
Turkey	166	
Ukraine	114	

ASSOCIATE MEMBERS IN THE PRE-STAGE TO MEMBERSHIP		110
Cyprus	22	
Serbia	56	
Slovenia	32	

OTHERS 1977													
Afghanistan	1	Bosnia & Herzegovina	2	El Salvador	1	Kazakhstan	7	Montenegro	13	Saint Kitts and Nevis	1	Thailand	27
Albania	2	Brazil	134	Estonia	21	Kenya	2	Morocco	24	T.F.Y.R.O.M.	2	Trinidad & Tobago	1
Algeria	14	Burundi	1	Georgia	48	Korea Rep.	184	Myanmar	2	San Marino	1	Trinidad & Tobago	1
Argentina	26	Cameroon	1	Ghana	1	Kyrgyzstan	1	Nepal	10	Saudi Arabia	2	Tunisia	5
Armenia	21	Canada	174	Hong Kong	1	Latvia	2	New Zealand	5	Senegal	1	Uruguay	1
Australia	35	Chile	21	Honduras	1	Lebanon	27	Nigeria	2	Singapore	4	Uzbekistan	3
Azerbaijan	9	China	542	Iceland	4	Luxembourg	3	North Korea	1	South Africa	51	Venezuela	11
Bangladesh	11	Colombia	47	Indonesia	10	Madagascar	4	Oman	10	Sri Lanka	10	Viet Nam	13
Belarus	51	Croatia	40	Iran	53	Malaysia	16	Palestine	8	Sudan	2	Yemen	1
Belgium	1	Cuba	16	Iraq	1	Malta	8	Paraguay	2	Swaziland	1	Zambia	1
Benin	1	Ecuador	7	Ireland	17	Mexico	90	Peru	8	Syria	1	Zimbabwe	2
Bolivia	4	Egypt	26	Jordan	2	Mongolia	2	Philippines	4	Taiwan	55		



# 2010: a New Era in Fundamental Science



# Discovery 2012, Nobel Prize in Physics 2013



The Nobel Prize in Physics 2013 was awarded jointly to François Englert and Peter W. Higgs *"for the theoretical discovery of a mechanism that contributes to our understanding of the origin of mass of subatomic particles, and which recently was confirmed through the discovery of the predicted fundamental particle, by the ATLAS and CMS experiments at CERN's Large Hadron Collider"*.



# CERN Education Activities

## Scientists at CERN

Academic Training Programme



## Young Researchers

CERN School of High Energy Physics  
CERN School of Computing  
CERN Accelerator School



## Undergraduates

Summer Students  
Programme



## CERN Teacher Schools

International and National  
Programmes

## Public visitors

130 thousand per year



# Working at CERN: How?



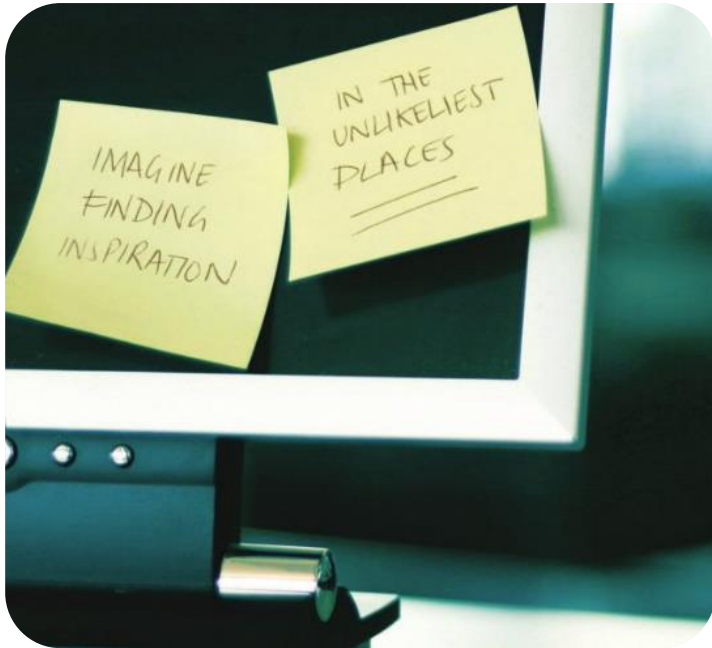
***careers.cern***

# Technical Students programme



~ 200 positions/year

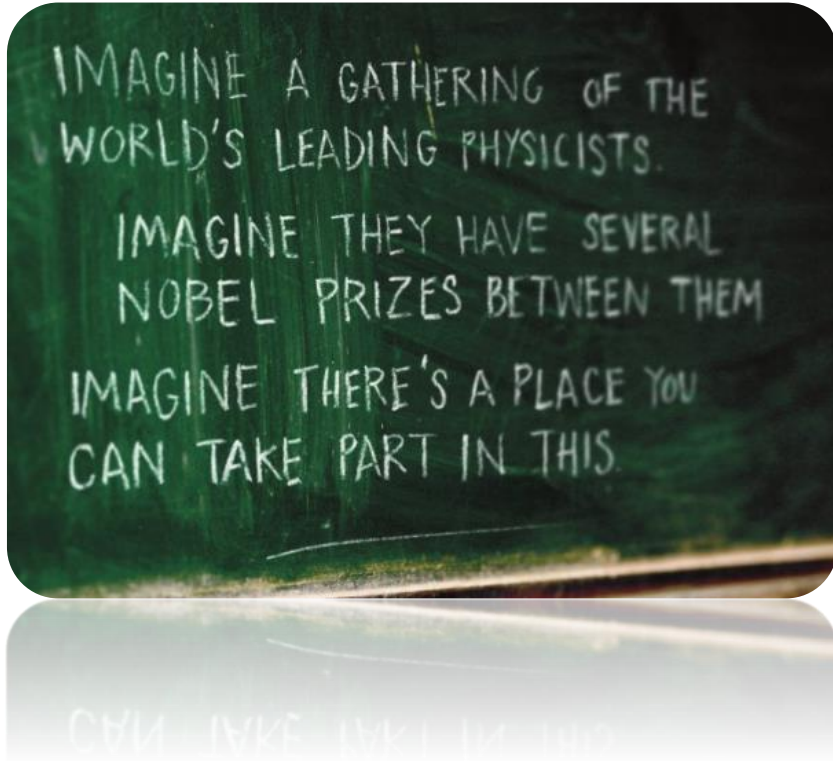
- FIELDS :** applied physics, engineering, computing
- LENGTH :** 4 to 12 months
- ELIGIBILITY :** 18 months of technical undergraduate studies
- FEATURES :** a technical project with a CERN supervisor  
a living allowance, incl. health insurance



*“It’s a great place to start a career,  
it’s a great place to learn new skills,  
make new friends...”*

**Committees in May and December**

# Doctoral Student programme



*“Gave me the opportunity to meet important people, especially in the research fields”*

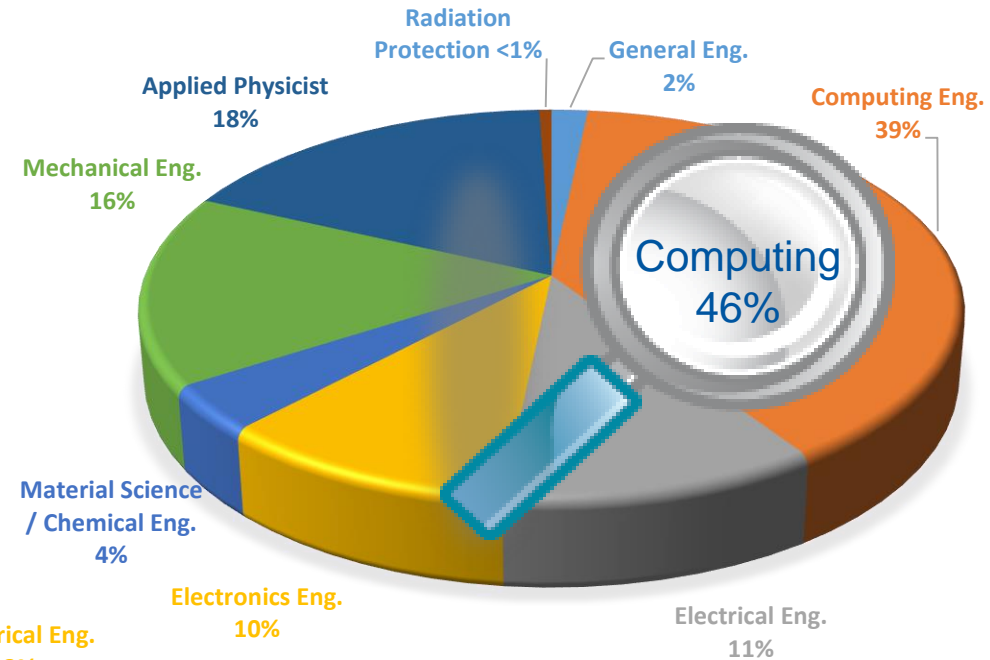
**~60 positions/year**

- FIELDS :** applied physics, engineering, computing
- LENGTH :** 6 mths -3 years
- ELIGIBILITY :** enrolled in a doctoral program in a Member State university
- FEATURES :** a technical project, leading to a PhD thesis co-supervised by the university thesis advisor and a CERN staff member  
a living allowance incl. Health insurance

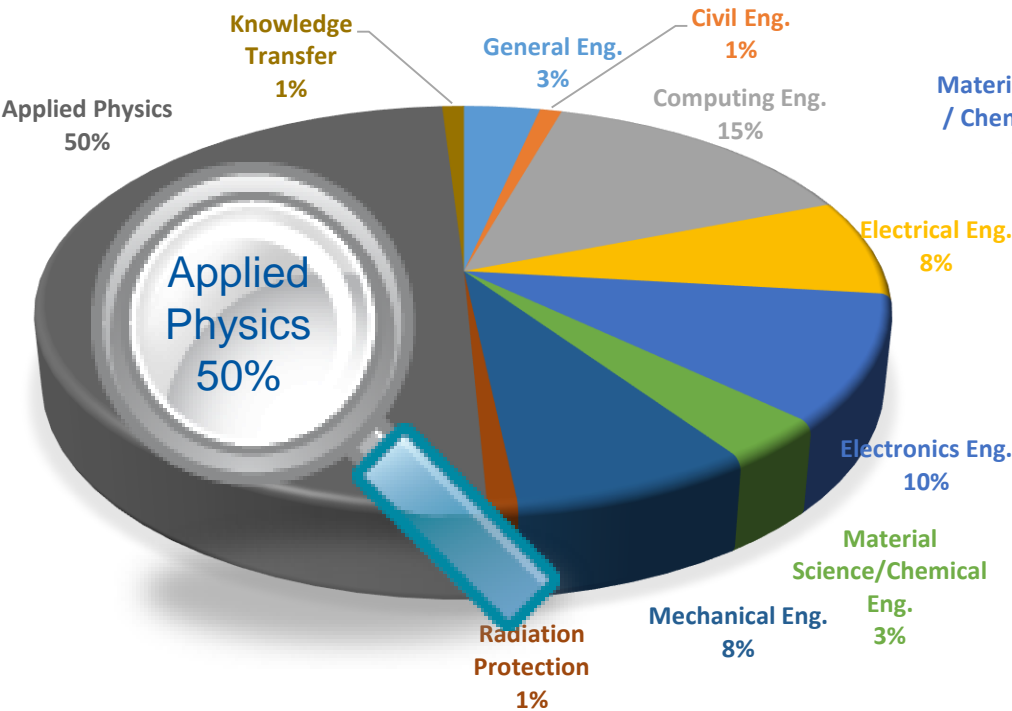
**Committees in May and December**

# Students by Discipline

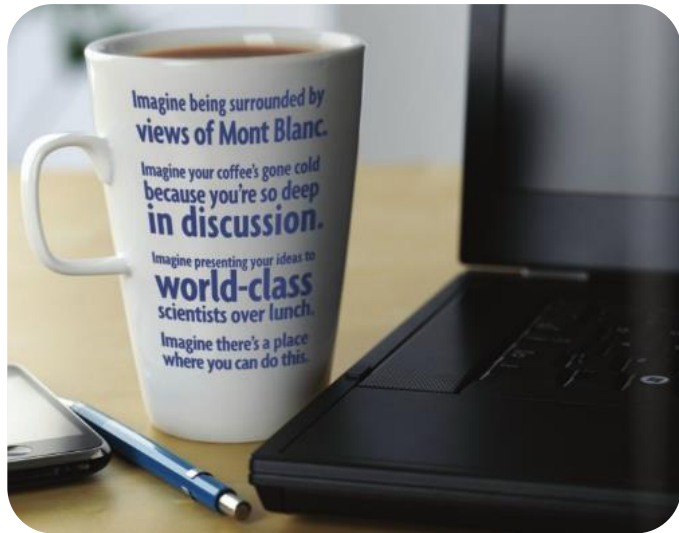
## TECHNICAL STUDENTS



## DOCTORAL STUDENTS



# Fellows



*“An ideal place to follow the most recent ideas in physics and start new collaborations”*

## ~250 positions/year

- FIELDS :** physics, engineering, computing - from junior engineers to posst-doc research physicists
- LENGTH:** 2-3 years
- ELIGIBILITY :** BSc, MSc or PhD  
no more than 10 years relevant post-MSc experience
- FEATURES :** employment contract  
attractive salary incl. social benefits  
training and networking

Fellows are normally nationals of the Member States of CERN. There also exist a limited number of places for Fellows from non-Member States.

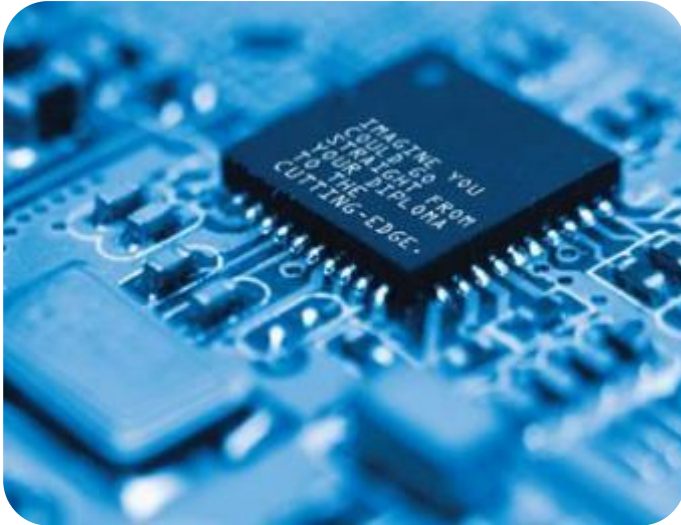
## Committees in May and November



# Technician Training Experience

~ 30-50 positions/year

- FIELDS :** Mechanics, electronics, electricity, etc.
- ELIGIBILITY :** Technical diploma  
no more than 4 years relevant experience
- SELECTION:** All applications for TTE opportunities will be considered by a panel of CERN specialists.
- FEATURES :** An initial contract of one year renewable for a second year  
Project with CERN supervisor  
Training and networking (on the job, formal, languages)  
Employment contract with attractive salary incl. social benefits




*“I never imagined the possibilities CERN would offer me.”*



**Committees in June and December**

# Staff positions



Imagine  
the answer  
suddenly  
becomes  
clear.

*“It’s the chance to focus on being  
the very best at what you do.”*

## ~ 150 positions/year

**FIELDS :** physics, engineering, computing, technicians,  
administrative staff

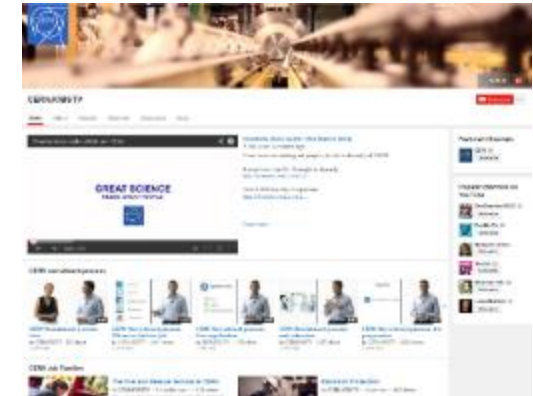
**ELIGIBILITY :** from apprenticeship to PhD

**SELECTION:** advertised on [cern.ch/jobs](http://cern.ch/jobs)  
application via **ATS**  
**Asynchronous video-screening (Sonru)**  
**Interview at CERN**

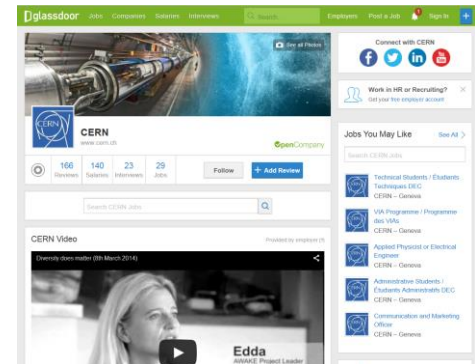
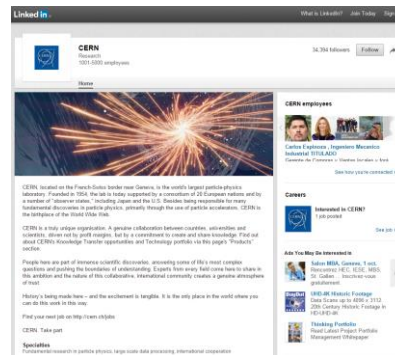
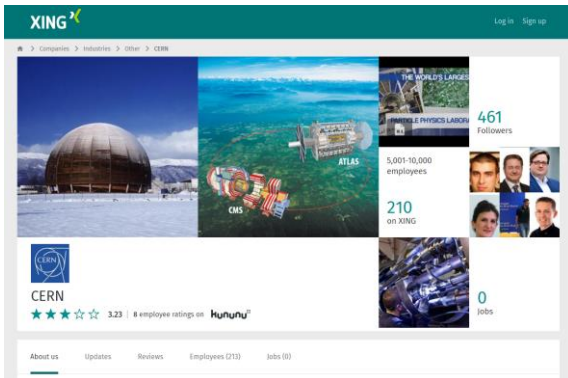
**FEATURES:** up to 5 year initial limited duration contract  
competitive salaries incl. social benefits  
relocation expenses  
training (language courses, technical training)



# Tell your friends!



@CERN\_JOBS





SUISSE  
FRANCE

LHCb

ATLAS

CERN Meyrin

CERN Prévessin

SPS 7 km

CMS

ALICE

Thank You!

LHC 27 km



*Accelerating Science and Innovation*