

ECFA survey

ECFA/RC/10/388

Motivation:

- **Survey of particle physics in Europe carried out in 2009 to inform CERN Council Strategy Update which is scheduled to complete mid 2012**

Acknowledgements:

Bulk of organisation performed by P. Hansen.

Support for WWW-based collection of statistics from K. Huyser, NIKHEF.

Definitions:

- Survey counts persons:
 - Fractional research activities (FRAs):
 - Person who spends at least 20% of his/her time on PP research was counted with a weight of 1
 - The split of a persons time between two or more projects is counted as fractions which add up to 100%, i.e.:
 - Individual with 50% of his/her working time to spend on research and who splits this research time 75% on ATLAS and 25% on DØ would 'score':
 - » 1 FRA; 0.75 attributed to ATLAS, 0.25 attributed to DØ

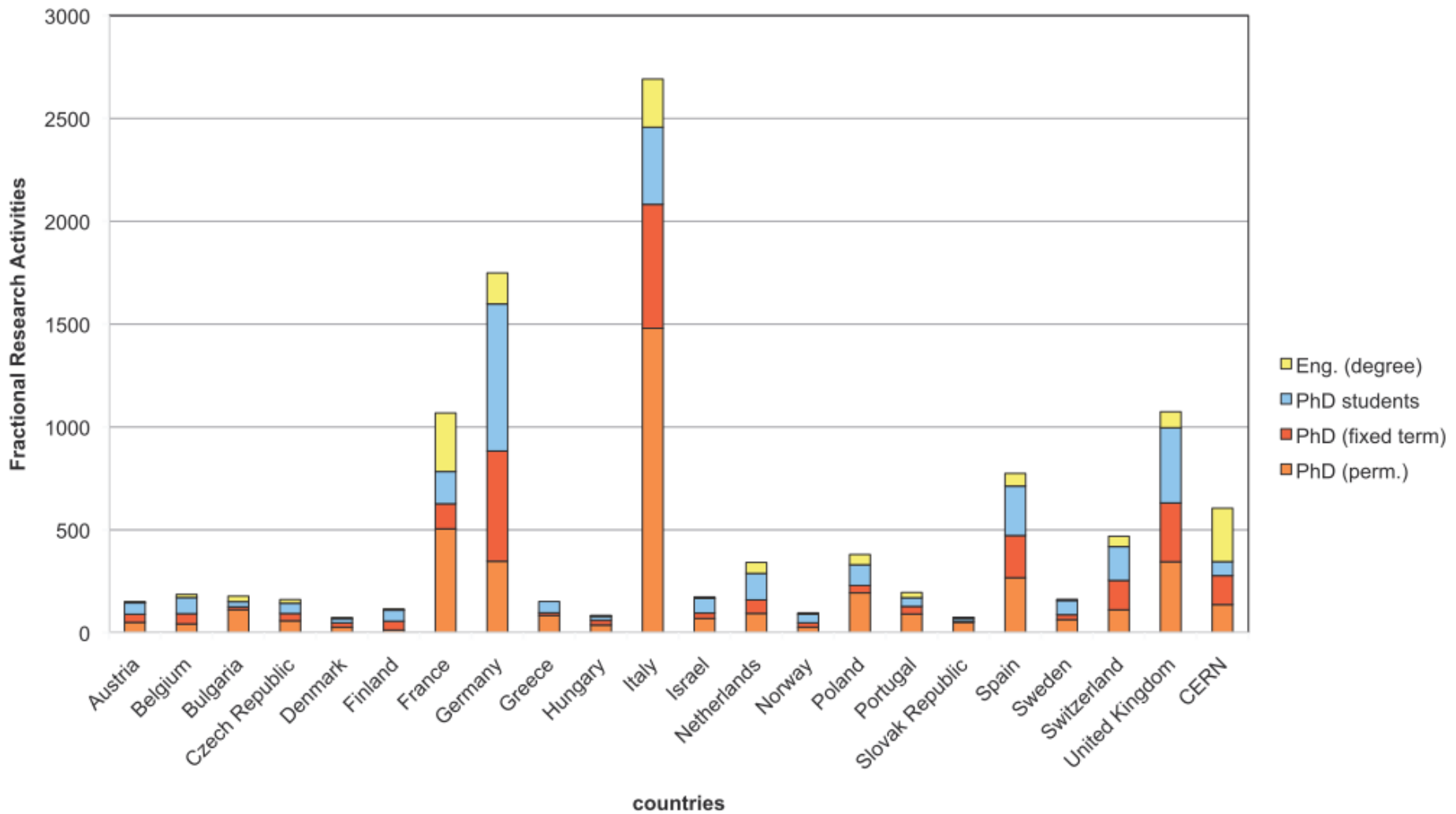
Update to presentation at 86th Plenary ECFA:

- Updates since P. Hansen's presentation to P-ECFA 26th November 2009:
 - Recheck of totals reported in the document;
 - Minor editorial changes;
 - Indication of uncertainty in the results added:

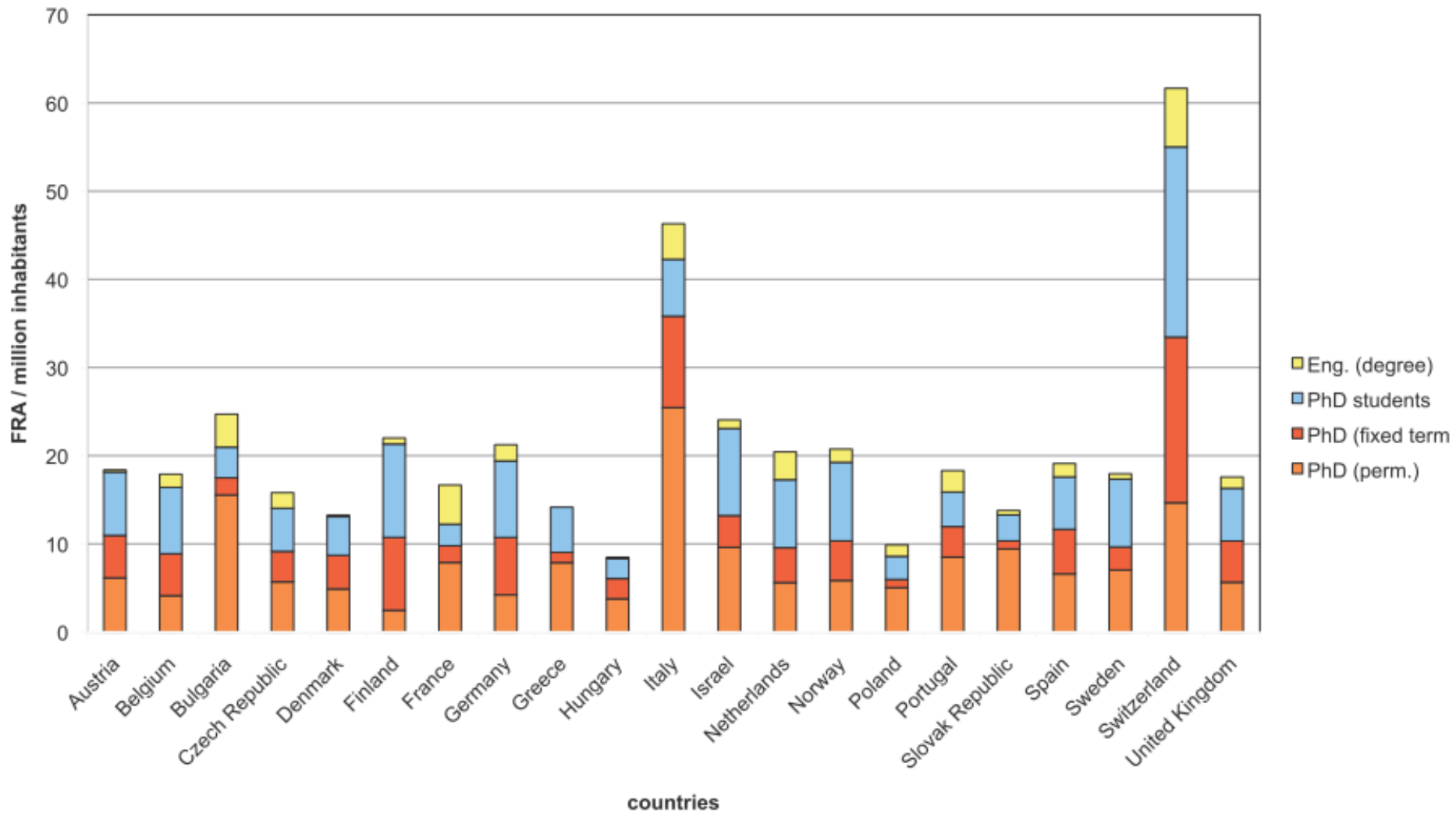
Efforts have been made to ensure that the results presented below accurately reflect the strength of the European community and the distribution of activity within the various classifications. However, systematic uncertainties may be introduced by the different administrative and reporting arrangements that pertain in each of the member states. The results of the survey should therefore be used to assess trends and the relative volume of activity. Quantitative analysis based on the results presented here should be carried out with utmost care.

- Our feeling:
 - 'Results good to ~10%'

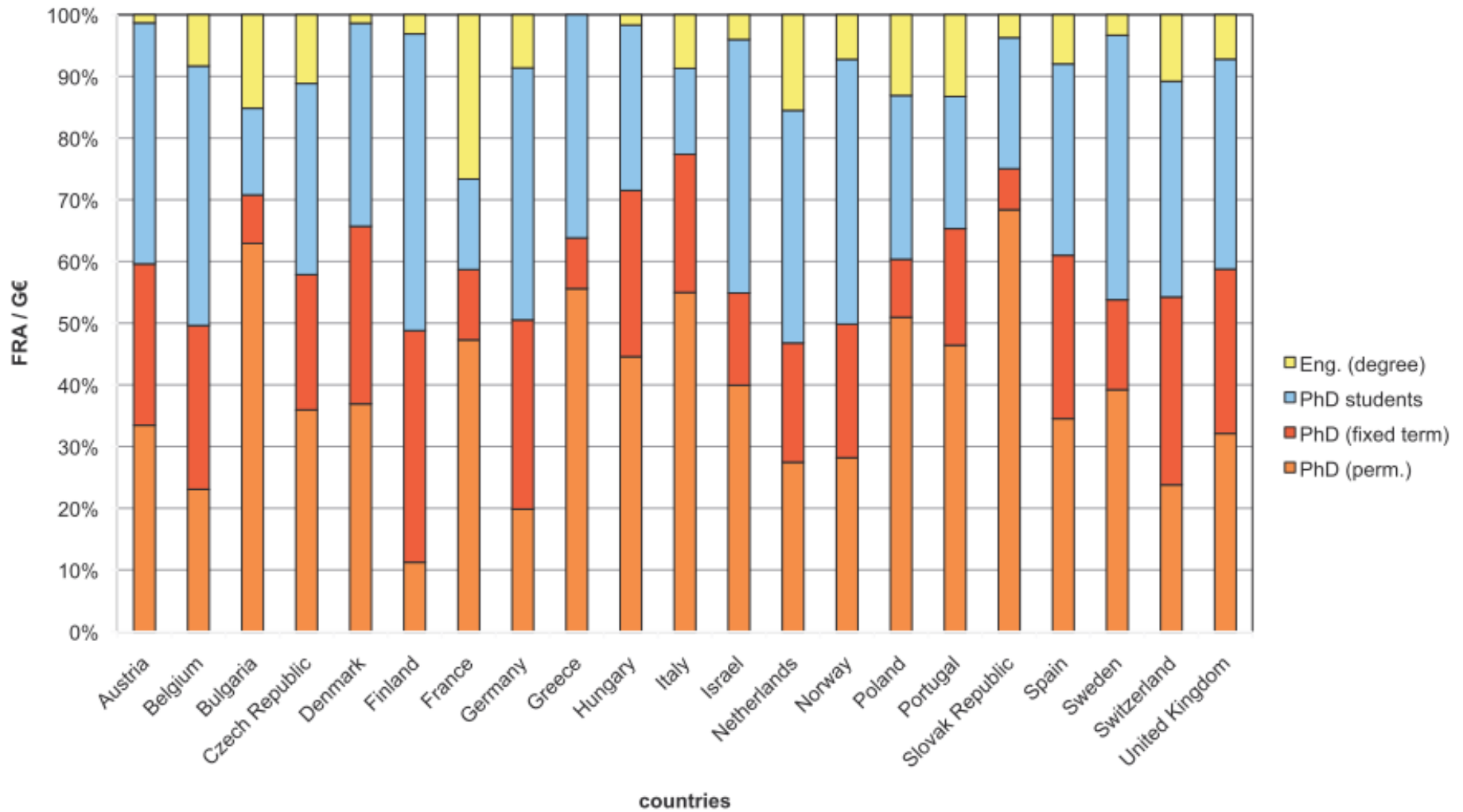
researchers in particle physics



researchers normalized with the population of the countries



researcher categories in the countries



Engineers (degree)
 PhD students
 Physicists fixed term
 Physicists permanent

#	Project
Accelerator-based Experimental Particle Physics (running or analysis phase)	
Colliders LHC (excluding detector upgrades)	
01.	ATLAS
02.	ALICE
03.	CMS
04.	LHCb
05.	TOTEM
06.	LHCf
Colliders Tevatron	
07.	D0
08.	CDF
Colliders HERA	
09.	H1
10.	ZEUS
11.	HERA-b
12.	HERMES
Colliders b-Factories	
13.	BaBar
14.	Belle
Colliders RHIC	
15.	RHIC
Colliders Daphne	
16.	Daphne
Fixed Target Experiments (except neutrinos)	
17.	CERN based
18.	Fermilab based
Accelerator based neutrino experiments	
19.	CERN based beams
20.	KEK based beams
21.	JPARC based beams
22.	Fermilab based beams
23.	other
Experimental Particle Physics (generic activities and future facilities)	
24.	Generic detector R&D
25.	High performance computing for particle physics
26.	Upgrades of LHC experiments (SLHC)
27.	ILC/CLIC experiments
28.	FAIR experiments
29.	super-Belle or super-b experiments
30.	Accelerator based neutrino experiments
31.	other

#	Project
Astroparticle Physics	
32.	Dark Matter: DAMA, CDMS, ZEPLIN, XENON, WARP, CRESST, EURECA, ...
33.	Dark energy: LSST, JDEM, EUCLID, ...
34.	Properties of neutrinos (mass from endpoint, neutrinoless double beta) KATRIN, CUORE, GERDA, NEMO, ...
35.	Neutrino oscillations: BOREXINO, ICARUS, LAGUNA, Double Chooz, ...
High energy universe	
36.	Cosmic rays: KASCADE, AUGER, EUSO, ...
37.	Gamma rays: MAGIC, HESS, CTA, ...
38.	Neutrinos: ANTARES, NESTOR, NEMO, ICECUBE, KM3NeT, ...
39.	Space based: AMS, PAMELA, AGILE, FERMI, ...
40.	Gravitational waves: GEO600, Virgo, LISA, LIGO, Nautilus, ...
The Particle Physics—Cosmology connection	
41.	Cosmic rays: WMAP, PLANCK, ...
42.	other
Accelerator Physics	
43.	S-LHC
44.	ILC
45.	CLIC
46.	b-Factories
47.	Generic Laser/Plasma accelerators
48.	Generic high field magnets
49.	Generic high intensity proton beams
50.	Neutrino facilities
51.	other
Theory	
52.	Standard Model Phenomenology
53.	Hot and Dense Nuclear Matter
54.	Beyond the Standard Model Phenomenology
55.	Field Theory
56.	Cosmology
57.	String Theory
58.	Quantum Gravity
59.	Lattice Gauge Computation
60.	Astroparticle Physics
61.	other

