

## The Bologna Process & Physics Doctoral Studies in Europe

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**Action programme** to create EHEA by 2010 via Declaration in Bologna (IT) (1999) signed by 29 Ministers of Education & (later on) by 17 Ministers from other countries

~ transparent range		-> match performance in US, Asia, AU
~ high quality courses		
~ knowledge advanced		
~ smooth recognition		

### Goals

~ 3-cycle system: 1 <sup>st</sup> or Ba (min 3 yrs)		-> mobility employment global attractiveness
2 <sup>nd</sup> or Ma (~ 2 yrs), 3 <sup>rd</sup> or Doc (usually 3-4 yrs)		
~ quality assurance [via ENQA & ECA]		
~ recognition of qualification [via ENIC-NARIC]		

### Synergies

Lisbon Strategy: Growth and Jobs

Copenhagen Process: co-operation in Vocational Education and Training (VET)

Link with: 'European Research Area' (ERA) via Framework Programme 7

### Support

- \* European Commission (E.C.) via Lifelong Learning (LLP) programme (e. g. **EUPEN**)
- \* Ministries: Bologna Follow-up Group (BFUG) + National 'Bologna Promoters'
- \* European Organizations: e.g. Council of Europe, EUA, ESU, ..., **EPS**, etc.

### (Physics) Doctoral Studies

- \* 'The Banff Principles on Graduate Education' (CA, 2007): AU, CA, CN, EU, US
- \* Clusters & networking: Summer/Winter Schools
- \* Doctoral Schools: by HEI, by region, by nation, trans-national
- \* Excellence initiatives (e.g. DE : 1.9 G€ )

'Graduate Education in Physics: Which Way Forward', ACP, College Park (MD, US) 2008-01-31/02-02