Physics Graduate Education in Europe

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The *Bologna Process* started in 1999 with the Bologna Declaration signed by 30 European Ministers of Education with the aim of implementing the objectives by 2010. At its inception the process targeted to create a coherent system of higher education in Europe. At the 2010 Conference in Budapest-Vienna it was decided to consolidate the scheme during the next decade 2010/2020 by creating of the *European Higher Education Area* (EHEA) and the process was expanded to 47 countries. Coupled with the three last Conferences a series of Bologna Policy Fora focused on a global policy dialogue.

The *European Physical Society* (EPS) tried to contribute by a three-year project (2009/2011). This EPS study analyzed the implementation of the Bologna reform goals in 129 European universities in 26 Bologna signatory countries for the field of physics at the bachelors, masters and doctoral level. The analysis comprised two steps: (a) an online questionnaire; and (b) an analysis of the curricula on the basis of printed or electronically provided material. The study was performed with the help of the International Center for Higher Education Research (INCHER), was coordinated by the EPS and financed by the European Commission, DG Education and Culture. Some 24 EPS Member Societies participated in the project. The EPS also issued a series of European Specifications for Physics Studies at University Level, approved by the EPS Executive Committee. These three brochures provide a means to describe the characteristics of physics study programs in a European dimension and cover the bachelor, the master and doctorate. The brochures represent general expectations of the standards for the award of qualifications at the given level and articulate the attributes and capabilities - i.e. the learning outcomes - that those possessing such qualifications should be able to demonstrate. The results of the study and the brochures can both be downloaded in three parts and the part related to graduate education will be highlighted.

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