Engineering Education in Europe – the case-study of Chemical Engineering

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The conference will cover three main groups of issues concerning models of engineering education in Europe, giving a specific and more detailed note about chemical engineering education.

I shall start by presenting my personal views of the structure and substance of the Bologna Process, a major political and academic movement that counts today with the agreement of 49 European countries, in building the European Higher Education Area (EHEA), formally launched in 2010 during the Budapest-Vienna Ministerial conference, along with the Bologna Process' decade anniversary, and the European Research Area that is currently under construction.

I shall then proceed to present models for engineering education, seen at the light of the Bologna Process agreements. I shall revisit the main concepts of learning outcomes and qualifications frameworks for engineering, stressing the concept of a three-layer qualifications framework and giving as example (i) the work at sectoral level developed by ENAEE – the European Network for Accreditation of Engineering Education – with the EUR-ACE accreditation framework, and (ii) the work at field level developed by the EFCE – European Federation of Chemical Engineering – with its recommendations for core curricula in the Bologna three-cycle system.

In a second part, I shall address some issues of the substance of chemical engineering education – contents, methods and instruments for new pedagogy.

I shall finish the presentation with some pictures, facts and figures concerning the City of Porto, the University of Porto and its Faculty of Engineering.

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