

BIOMEDICAL ENGINEERING EDUCATION IN EASTERN NEIGHBOURING AREA: NEEDS AND CHALLENGES TO FACE IN REPUBLIC OF MOLDOVA

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Health care delivery today is technology driven and Biomedical Engineering (BME), as one of the fastest growing technological areas in the developed world, is the driving force of this development. As a consequence, the role of biomedical engineers is becoming essential in both the industrial and the health care delivery sectors [1]. The future of BME as a profession is therefore in a high demand. In a recent study, the US Dept. of Labour predicts that the BME profession will be amongst the “hottest” jobs by the end of this decade, with large added value in products and services [2]. It is clear that countries that will not invest in BME education will be unable not only to develop but also to even use efficiently existing and forthcoming health care technologies.

In the Eastern Neighbouring Area countries including Republic of Moldova, Medical Technology manufacturing is extremely limited and this is partly due to the inexistence of specialised educational programs in BME. Lack of specific educational programs in BME results in the absence of R&D in this field, a fact that has a negative effect on local production of even simple medical devices. Furthermore, in Republic of Moldova the implementation and production of medical devices has been impossible also due to the inexistence of legal framework. Throughout 2014, all regulations regarding the implementation and production of medical devices will be created and adopted with the adoption of the Medical Devices Law (No. 92 of 26.04.2012). Presently, there are 466 registered vendors and service providers in the field of medical devices, of which only 104 were active in 2013 on the market. It should be mentioned that most vendors are private companies and have a shortage of specialists in the Biomedical Engineering field. The situation becomes difficult taking into consideration that the companies are required to have specialists in the Biomedical Engineering field under the Medical Devices Law for licensing of the activity in the medical devices field.

The TEMPUS IV, BME-ENA project (Biomedical Engineering Education Initiative in Eastern Neighbouring Area) is aiming to create a comprehensive joint BME study program in the Republic of Moldova that will provide the possibility to link local educational institutions with EU Universities with long experience in the BME field. Two universities from Moldova: Technical University of Moldova and State University of Medicine and Pharmacy "Nicolae Testemitanu" participate in this project, involving one Faculty of Engineering and one Faculty of Medicine in order to achieve the best interdisciplinary approach, beneficial for both Engineering and Medical disciplines.

The joint BME program is expected to become a model in applying the European Higher Education Area policy, state-of-the-art educational approaches, use of ECTS and extensive bilateral collaboration agreements with EU countries. The BME education in Moldova will be given the opportunity to enlarge its horizons and extend its activities beyond the national borders through the creation of new international collaborations in this field.

Acknowledgements: The BME-ENA “Biomedical Engineering Education Tempus Initiative in Eastern Neighbouring Area”, Project Number: 543904-TEMPUS-1-2013-1-GR-TEMPUS-JPCR is a Joint Project within the TEMPUS IV program and is 90% financed by the Commission of the European Communities.

[1] Z. Bliznakov and N. Pallikarakis, Overview of Biomedical Engineering education programs in Europe: The results of the CRH-BME project survey, 5th European Conference of International Federation on Medical and Biological Engineering (MBEC 2011), 14 - 18 September, Budapest, Hungary

[2] The Wall Street Journal “What Will Be the Hot Jobs of 2018?”, May 26, 2010, <http://online.wsj.com/news/articles/SB10001424052748704026204575266342935418962>