THE USE OF NEW TECHNOLOGIES IN MEDICAL EDUCATION

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Introduction. Application of Information Technologies (IT) is one of the principal tendencies in medicine now. This process depends on the organization of healthcare provision in each country and the presentation of IT in the healthcare sector. The development of healthcare informatization is based on knowledge of Biomedical Informatics (BMI). BMI is an interdisciplinary area of knowledge which development requires experience in medicine and Information Technologies (IT).

There are several obstacles to developing and implementing BMI in Ukraine and post-Soviet countries: the deficiency in cooperation of research and development specialists in BMI from medical and technical universities (they usually work separately and need corresponding organization and means for collaboration), the shortcoming of integrated engineering skills needed to design and maintain components of BMI for state and private sectors, insufficient knowledge of medical specialists in BMI background, and the different methodologies for the learning of BMI in medical and technical universities [1-3].

The goal of our work is to provide conditions for cooperation of medical and technical specialists in the area of medical informatics by the creation of virtual platform for education on BMI at medical and technical universities.

Materials and methods. For Ukrainian engineering and medical faculties it is vital to acquire the world-recognized methodologies of BMI. Processing and implementing of acting worldwide best practices will provide a sound basis for the introduction of BMI in Ukraine. To increase the BMI training quality we propose to develop the new curricula, courses and learning materials on BMI for MSc/PhD-students of technical and medical universities involving teachers of both technical and medical universities by means of experts from EU universities. Therefore, some positive aspects of the Bologna process will be took into account. The experts from IT-companies will be also involved. The pilot courses will be conducted on the basis of the

Ukrainian universities and the proposed curriculums will be approved.

Results and discussion. In such approach we will address the following needs at university level: systematic approach to give the direction and context for development of new MSc/PhD curriculum in BMI with the cutting-edge EU developments, defragmentation and decentralization of the PhD studies for the prominent young researchers, commitment of technical universities to increase their knowledge and to transfer the capability by networking with other institutions and systematic guest lectures, raising awareness and impact on national and regional stakeholders in the infocommunication engineering community. The target program is intended for MSc/PhD-students of medical and technical universities to gain the understanding of the BMI methodologies and paradigms, such as telemedicine, medical decision support systems, pattern recognition and image processing, large scale distributed repositories and systems, such as Grids and Clouds.

Systematization and promotion of training and peer-assessment of students envisage: developing new learning materials in BMI available in electronic form, making lectures for students by leading EU and Ukrainian university teachers, organizing seminars for students and teachers. The close cooperation links between national institutions and university systems in Ukraine will be spanned through these programs and high quality of education in a higher education system in BMI programs will be enhanced.

By developing and introducing of the new Bologna curricula on BMI, establishment of required facilities, intense capacity building measures we will bring the positive challenges in a short term. The academic quality of BMI will be significantly ensured; the curriculum will include the most recent achievements, standards, regulations required by future engineering staff, IT and medical experts, infocommunication and medical leaders in these industries. The professional and language skills of the program graduates will be sufficient for entering doctoral studies on this specialty and successfully start their employment. Obtained results will be summed-up; the efforts, their relevance and utility to the higher educational system will be reported and disseminated through the meetings of practitioners, academics and experts in EU and Ukraine.

The results of learning material development will become public with the help of the Web-portal. Its functionality will include the cen-

tralized storage of information, information exchange between the universities (internal curricula, reports, storage of document versions), web-based system of distance learning.

Conclusions. To improve the quality of BMI education one needs to integrate medical and technical universities in the training of students. To achieve this purpose we have to develop new curricula, courses and learning materials, presented at web-portal for distance learning.

LITERATURE

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LECTINOHISTOCHEMICAL REGULARITIES EPITHELIAL GERMS DIFFERENTIATION OF THE HUMAN PAROTID GLAND

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In spite of the fact that the period of the intrauterine development is relatively short transformation of the body during this time is rather considerable. The lectin (Lc) histochemistry is a new modern methodological approach to the study of glycopolymers (glycoproteins and glycolipids) in cells and extracellular tissue structures, particularly during embryonic differentiation [1; 4]. Glycopolymeric (GPM) compounds make up structural and functional basis of cells and tissues of a living organism [2; 5; 7]. Existence of identification and junction of such glycopolymers by endogenic Lc in the body, called lectin-receptor interactions, can trigger lectin-dependent regulations of cellular functions and cellular response in ontogenesis which stipulate differentiation of tissues and their structural components.

Information from the literature on the histological topography lectins receptors in the early months of prenatal human ontogenesis