

Symposium on "Biomedical Informatics and Biomedical Statistics Education"

Editorial

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On April 12-15, 2004 more than 250 experts from 30 countries gathered in Prague, Czech Republic, to participate in the International Joint Meeting EuroMISE 2004, which was composed of several scientific events. The symposium "Biomedical Informatics and Biomedical Statistics Education" was held at the occasion of the 10th anniversary of the European Centre of Medical Informatics, Statistics and Epidemiology (EuroMISE Centre) of Charles University and the Academy of Sciences of the Czech Republic. The EuroMISE Centre of Charles University and the Academy of Sciences of the Czech Republic were established on April 12, 1994 with the support of European Union projects. Higher education in medical informatics, statistics and epidemiology has started to be developed at the EuroMISE Centre within the Tempus-Phare project. From the international courses run by the EuroMISE Centre more than 100 participants, mostly from Central and Eastern European countries, have graduated. Teachers from well-known universities and research institutes of European Union countries conducted the courses. Successful graduates of the international courses participated as teachers in these courses in following years. The symposium was organized in co-operation with the First Faculty of Medicine and the Faculty of Mathematics and Physics of Charles University in Prague and with the Institute of Computer Science of the Academy of Sciences of the Czech Republic. It brought together researchers and health professionals to discuss different approaches to education and training in the field of biomedical informatics and statistics.

Jan H. van Bemmelen, The Netherlands, and Alexa McCray, USA, chaired the Programme Committee of the symposium. Members of the Program Committee were

Marion Ball, USA, Arie Hasman, The Netherlands, Reinhold Haux, Germany, Evelyn Hovenga, Australia, Basil C. Katsouyannopoulos, Greece, John Mantas, Greece, Izet Masic, Bosnia and Herzegovina, Jochen Moehr, Canada, Ioana Moisil, Romania, Maciej Nalecz, Poland, Nora Oliveri, Argentina, Myra O'Regan, Ireland, Jean Roberts, United Kingdom, Bernard Richards, United Kingdom, Štěpán Svachina, Czech Republic, Zdeněk Zdráhal, United Kingdom, and Jana Zvárová, Czech Republic. During the symposium, 20 contributions were presented and their abstracts were published in the Proceedings of the International Joint Meeting EuroMISE 2004. Eight full papers based on the contributions of the symposium on Education were, after the reviewing process, included in this special issue. These papers dealing with new approaches in teaching and learning, e-education and training, biomedical and health informatics education and medical curriculum issues are summarized further.

The introductory paper of Moehr from Canada explores whether education in health/medical informatics should continue to evolve along the lines pursued since the early seventies, or whether a change is advisable. It is concluded that curative medicine is adequately served by current educational approaches but that the move towards prospective health care requires a move towards education and change management for health professionals and health informatics professionals. The paper of Hovenga from Australia tries to identify a valid method for academic workload allocation. A case study is provided to illustrate how the adoption of a flexible learning mode and supporting technologies across one university with multiple campuses and an international student cohort has impacted upon academic roles and teaching

delivery methods. More traditional universities can learn from such experiences to be better prepared for these inevitable changes. The Austrian-German paper of the authors' team headed by Haux reports on the themes and on experiences with practicums in the management of information systems in health care settings for medical informatics students. It is clearly recommended that students specializing in medical informatics already need to be confronted with real-world problems of health information systems during their studies. Besides theoretical knowledge on information management and project management methods, activities, and tools, it is helpful for their future professional career to already obtain experience of how to approach and solve such problems as students. They must be thoroughly supervised and guided by a faculty experienced in health information management projects. The Czech-British paper of Štěpánková and Engová shows links between computer literacy and quality of healthcare as well as the need for computer literacy among healthcare professionals. It considers how this need can be addressed, using the United Kingdom's National

Health Service information technology reform and the application of the European Computer Driving Licence as practical examples of the discussed issues. The Dutch paper with Hasman as the first author tries to determine whether educators consider Electronic Patient Record (EPR)-related education necessary and if so, what subjects have to be taught more extensively in the future. The Czech paper with the first author of Martinková describes the ExaMe system for evaluation of targeted knowledge. In this paper, the new features of the ExaMe system are introduced; in particular the new three-layer architecture is described. Besides the system itself, the properties of *fixed tests* in the ExaMe system are studied and the *reliability* of fixed tests is discussed in detail. The Brazilian paper of the main author of Rosa describes teaching strategies currently used in the course "Administration and Planning in Health Care". The course content emphasizes the development of computer skills for data collection and analysis, and the use of the Internet-based health data and information. Staying current in these areas is as much a challenge to a faculty as it is to students. The last paper from

Taiwan of the main author Yen presents a relationship network that contains the information of gene symbols, relationship features, and disease MeSH term that can provide an integrated view to discover gene-disease relationships. In such a way biological researchers can learn about gene-disease relationships before they proceed with experiments.

Acknowledgment

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