

Editorial

This volume of our Electronic Journal of Pathology and Histology contains the most important contributions of the second workshop BIOPATH II, held in Brussels, October 5 – 7 2001. This workshop was sponsored by the European Community (grant 2000-20019), and was perfectly organized by Dr.A. Danguy and Dr. R. Kiss, Department of Anatomy, Free University of Brussels.

Having introduced young colleagues in the basic aspects of biochemistry and surgical pathology at the first event (BIOPATH I), held in Heidelberg, December 2000 (for more information please see Elec J Pathol Histol, Vol. 7,3), the second Euroworkshop (BIOPATH II) was designed to inform and train young colleagues in more advanced aspects of biochemistry and surgical pathology. The highlights of the conference included recently developed molecular biological techniques focussing on galectins, and on morphological techniques such as three dimensional reconstruction and telecommunication in pathology. Functional glycomics, a biochemical technique which analyses cellular functions beyond the level of proteomics and genomics, as well as the application of artificial intelligence systems for telepathology formed the head lines of the conference.

The interdisciplinary scientific information exchange was performed on highly specific subjects by thorough guide of the corresponding specialists and a detailed discussion between the experts working in different fields of science and belonging to different generations of researchers. The young colleagues were trained in the following fields:

- a. how to write a scientific article
- b. how to search for optimal ligands in common available libraries
- c. how to work with diagnostic telepathology systems
- d. how to apply computer technology for education and teaching
- e. how to judge multivariate statistics in multichip technology.

Young colleagues coming from 12 different European Countries were trained as stated. They were asked to explain their understanding and ideas in order to work out the scientific basics for future collaboration. The ideas focussed on a collaborative network in biochemistry and in electronic pathology to be used for diagnostic support in various types of precancerous lesions and cancer. Whereas the Euroworkshop BIOPATH I resulted in a project which has been submitted to the EC for funding, a detailed workout of the present ideas has still to be undertaken. The Institutes of Pathology of the Universities of Ancona and Ioannina are in close cooperation with the Department of Pathology, Thoraxklinik, Heidelberg and with the Institute of Physiological Chemistry, University Munich for definite description and implementation of a collaborative information network.

The conference was divided into five separate compartments:

I: common sessions with demonstration of the latest aspects of biochemistry in glycomics and electronic surgical pathology

II +III: separate sessions of biochemistry and pathology to discuss the latest research results in the specific areas and training sessions of the specific fields

IV: training courses and workshops in glycomics and electronic communication in pathology

V: common discussions and common training sessions for further research and future combined projects.

This Euroworkshop on Interdisciplinary Perspectives of Diagnostic Pathology, Cell Biology and Morphometry for Young Researchers (BIOPATH) includes a series of three scientific events. The first event was held in Heidelberg, Germany, December 8-10, 2000. The next conference is designed Madrid, Spain in September 2002. The first event focussed on basic principles and area-related specific features to educate and train young researchers in interdisciplinary research between biochemistry and surgical pathology and related medical fields. In the second event advanced biochemical techniques and the latest developments in electronic tools to be useful in surgical pathology were chosen. These include topics of galectins focussing on specific structures, dynamics and drug design as well as the potential biological importance in human. For details see the contributions of Dr. Siebert or Dr. Gabius in this issue. Galectins are probably involved in all levels of inter- and intra-cellular information exchange, and seem to participate in cellular mobility, proliferation, differentiation, apoptosis, adhesion forces between mammalian cells and bacteria, and in organ development and maturation. On the biochemical level these information is related to DNA and RNA transcription and protein generation. The topics of the surgical pathology sessions started with general theory of information collection (sampling techniques), followed by specific expression and presence of galectins in hematology and in the immune recognition process. The extracellular matrix and structural analysis of cellular formations and chromatins were important topics as well as the three - dimensional reconstruction of serial light microscopic images. The closest association between the two general sciences was seen in evaluation of prognostic markers for certain cancer types, which yielded in quantitative parameters based upon the measurement of binding capacities and expression of galectins and additional neighborhood analysis of the analyzed cells. Application of electronic communication in diagnostic pathology and potential use of telecommunication in pathology, especially of remote control microscope and measurements were an additional significant contribution. Specific training programs for young researcher were performed on monitoring cell motility, diagnostic telepathology and the accurate presentation of scientific results in oral and written modalities. Round table discussions with emphasis on interdisciplinary collaboration projects lead to a framework of future developments in biochemical – pathological partnership.

Combined sessions and "meet the professor" workshops were performed to permit young researcher detailed insight views how to create new ideas, settle up and estimate the significance of new research questions, and to figure out the most promising techniques to to solve these problems.

A total of 27 key lectures and 23 posters were presented. I want to express my deep gratitude to all contributors allowing us to publish this specific volume with its significant results. Last but not the least I wish all readers and colleagues who are interested in our Electronic Journal of Pathology and Histology a Merry Christmas and a Happy and Healthy New Year, and I am looking forward to meeting our community in Madrid in autumn 2002.

Heidelberg, December 2001, Klaus Kayser (editor in chief)