Welcome to the first EuroKUP course on

MALDI imaging of Kidney Tissue

Held in Helsinki, Finland
October 12-14, 2009

The Course can host maximally 9 students and is intended for students from EuroKUP participating partners. The Course starts on October 12, 2009 and will continue until October 14, 2009.

The Course venue is at **Biomedicum Helsinki, Protein Chemistry/Proteomics, Peptide Synthesis and Array Unit, Haartmaninkatu 8, 00290 Helsinki, Finland.**

Students who whish to enrol to the Course should submit an electronic application at (http://research.med.helsinki.fi/corefacilities/proteinchem/courses.htm). The application form and more details will be available August 17, 2009 at the link above. Deadline for the applications is August 31, 2009. Electronic Applications should be accompanied by a letter of support from the supervisor and a short description of the current research interest of the applicant as an attached Abstract file in PDF format sent to (marc.baumann(at)helsinki.fi). If the applicant wishes to analyze an own sample, this should also be mentioned. Detailed questionnaire for these samples will be send separately.

"Selected Participants will be reimbursed by the Cost office following approval by the EuroKUP Management Committee. Reimbursement for travel and accommodation is limited to 600 euro (maximum)."

Background of the Field

Mass spectrometry (MS) has gained enormous interest in the last 10 years due to the new generation of instruments equipped with user friendly interfaces and getting a shape of bench-top sized devices. These parameters have made MS to a method of choice in large and small-scale biomolecular analyses e.g. proteins, carbohydrates, lipids and DNA/RNA molecules. MALDI mass spectrometric imaging (MSI, MALDI-IMS) is a new concept which utilizes MS for direct biomolecular screening from tissue or array surfaces. MALDI-IMS has become one of the most interesting and promising technologies, allowing measurements of hundreds of different molecules in tissue specimens at the same time without disruption the sample integrity. Based on its applicability MALDI-IMS can be generally divided into two classes: analysis of small molecules, drugs and their metabolites or endogenous lipids and direct profiling of complex peptide/protein mixtures. Functional information obtained in MALDI-IMS studies can be correlated with proteomic profiles and routine immunohistochemical staining, thereby providing an in-depth comprehension of molecular mechanisms underlying health and disease.

On this Course we will show the students how MALDI-IMS is utilized for tissue profiling and also highlight some aspects of chip IMS analysis for Kidney diseases. The students will learn how to prepare a test set-up for successful tissue imaging, to run the instrument with their own samples and to critically evaluate the results. In addition, we will go through some selected methods used in

modern proteomics and finally discuss the current need for such new technologies from the clinical point-of-view.

For any further questions please feel free to contact:

marc.baumann(at)helsinki.fi or maciej.lalowski(at)helsinki.fi