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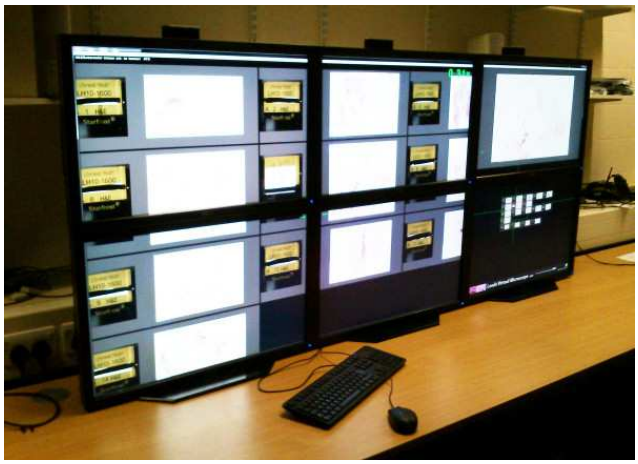
BASTION – FROM BASIC TO TRANSLATIONAL RESEARCH IN ONCOLOGY

Report on the visit of Mr Slawomir Gruca to the University of Leeds Bioinformatics Group, within the 7PR21/BASTION/WP1 (Twinning, T1.1)

Between the 4th of November and 23rd of December of 2014 Mr Slawomir Gruca was visiting the Bioinformatics Laboratory of professor David R. Westhead, at the University of Leeds, UK, within the confines of the BASTION project's Twinning.

Mr Slawomir Gruca (in the middle) with colleagues after the bioinformatics journal club session

Mr Gruca talked over bioinformatics and biostatistics topics with the lab members, participated in the group journal club and university bio-med seminars; one, regarding a large health informatics system, provided an opportunity to discuss digital pathology matters with Mr Owen Johnson.



The setup for user friendly inspection of histopathology slides, being developed in the University of Leeds

The e-pathology area has been one of Mr Gruca's interests - he has been involved in setting up Digital Imaging Facility at Medical University of Warsaw. Visiting University of Leeds enabled him to get a feel of- and discuss solutions for presentation of digital histopathology slides, developed and evaluated in the Virtual Pathology laboratory of Dr Roy Ruddle, in the University of Leeds.

Professor Westhead's laboratory has got well established collaborations with the scientists and clinicians located at the St James's University Hospital in Leeds. Dr Jan Taylor, who participated in the bioinformatics journal club, gave Mr Gruca a tour of the leukaemia diagnostic facility at the hospital; discussing the implementation of high throughput technologies (NGS) for diagnosis and disease management - a practical application of recent scientific advances in clinical oncology- was a valuable experience.

Mr Slawomir Gruca talked with researchers involved in several oncological projects, in order to establish grounds for scientific collaboration. Eventually, the visit resulted in two high throughput data based projects that would be continued. The first one is a research with Dr Peter Laslo on the topic of drug resistance in Chronic Myeloid Leukaemia (CML). The work involves deciphering gene regulation events upon acquiring of a drug (Imatinib Mesylate) resistance during treatment.

Secondly, Mr Gruca teamed up with the cancer biostatistics group of professor Tim Bishop. He participated in seminar meetings and talked over the analysis of the data the group has gathered over the years (genome sequencing, mRNA expression, histopathology) researching melanoma. The established collaboration will involve analysis of WGS data.

Within the BASTION project, Mr Slawomir Gruca designed and supervised installation of a computing cluster at Medical University of Warsaw. Coincidently, during the stay in Leeds, the bioinformatics group was in the process of formulating the requirements for the purchase of a computing system for bio-med purposes. Mr Gruca joined the work and shared the knowledge gained earlier when designing MUW's cluster. He also visited the University of Leeds high performance computing facility and discussed HPC topics withMr Mark Dixon.

Inside the HPC centre of the University of Leeds

Overall, the visit was a diverse and gainful experience, accompaniedwithinitiating two scientific collaborations in the area of oncology.