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**PROCEEDINGS OF THE BIORISE 1ST ESAB (EXTERNAL SCIENTIFIC ADVISORY BOARD)
MEETING HELD ON WEDNESDAY, 15 JUNE 2016, AT CING (CYPRUS INSTITUTE OF
NEUROLOGY & GENETICS) ROOM 317**

Present: Prof. Constantinos Pattichis (Chairman)
Prof. Kyroula Christodoulou (Project Coordinator)
Prof. Dr Andreas Keller (through Skype)

Absent: Dr Rebecca Chrysafi

In Attendance: Dr George Spyrou (BIORISE ERA-Chair Holder, BECH)
Dr Antonis Ververis (Project Manager)

The meeting started at 10:00am.

ITEM 1 – Overview of BIORISE project by the Project Coordinator, Prof. Kyroula Christodoulou

The Coordinator welcomed the attendees and gave a short overview of the agenda of the meeting. She presented the objectives of the BIORISE project; establishment of the Bioinformatics ERA-Chair at CING, recruitment of an expert to lead the Bioinformatics Group (which was already done with the recruitment of Dr Spyrou), establishment of the Bioinformatics Group with the employment of four post-docs, assessment of Bioinformatics needs in CING, and also the education and training of researchers in Bioinformatics. To achieve that last goal, two new programs in Bioinformatics and Medical Informatics will be created and offered through CSMM (Cyprus School of Molecular Medicine), which is CING's postgraduate school.

The Coordinator explained that BIORISE is divided into nine WPs (Work Packages) and will last for five years, until June 2020: WP1 is about the recruitment of the BECH and was finished with the employment of Dr Spyrou, WP2 deals with the generation of a Bioinformatics needs assessment analysis for CING and had been finalized, WP3 involves the establishment of the team with the post-docs recruitment and that was under way, WP4 is about the procurement of computer hardware and software and was under way, WP5 is about setting up efficient bioinformatics analysis workflows named "pipelines", WP6 deals with the establishment of the Bioinformatics course at CSMM, WP7 revolves around the execution of research programs, WP8 involves the communication, dissemination and exploitation of the results, and finally, WP9 regards project management.

The Coordinator continued by analysing the project management structure: The three-member SC (Scientific Committee) is composed by the Coordinator, Prof. Kyriacos Kyriacou and Dr Eleni Zamba Papanicolaou. The Coordinator reports to and gets input by the ESAB, while the SC gets input from the EAB (Ethics Advisory Board) and the IPC (Intellectual Property Committee) of BIORISE. The Coordinator has the responsibilities of managing all the project proceedings, communicating with the European Union, preparing and submitting BIORISE reports and deliverables (assisted by CING's office and the Project Manager). She explained to the ESAB members what is expected of them; the ESAB's role is to provide

advice and guidance on how to maximise the impact of the project, especially in relation to other national related initiatives.

The presentation was accompanied with PowerPoint slides.

ITEM 2 – Appointment of Chairman of BIORISE ESAB by the ESAB members

Prof. Kyproula Christodoulou stated that because of her role as Project Coordinator, she did not wish to be appointed as ESAB Chairman also, and nominated Prof. Dr Keller and Prof. Pattichis. Dr Chrysafi was excluded due to her absence from the meeting. Prof. Dr Keller declared his reluctance to perform this task due to his very busy schedule and suggested Prof. Pattichis for the chairmanship. Prof. Pattichis accepted the role.

ITEM 3 – Presentation of the work done so far by the Bioinformatics ERA-Chair Holder, Dr George Spyrou

Dr Spyrou stated that he is very happy to be employed at CING because of the excellent work environment and openness to new developments, and that there is a plethora of data that bioinformatics can contribute to their analysis. Dr Spyrou said that the first thing he has done was to get familiar with CING people, places & facilities, by having personal meetings with the CING's heads of departments to examine their needs in Bioinformatics analysis and to envisage future collaborations, and also started networking with other people in Cyprus working in the fields of Bioinformatics & Medical Informatics, from both the public and the private sector. He begun collaborations with other CING's department in performing *in silico* function analysis on proteomics data produced by the proteomics facility at CING as well as performing optimization in the medical information flow. Dr Spyrou prepared the job descriptions for the BIORISE post-docs positions and begun the recruiting procedure. He additionally designed the computational infrastructure for the Bioinformatics group, performed market analysis in collaboration with CING's IT department, drafted the equipment's specifications and designed the lab space based on them. He also submitted a project proposal to the Cyprus's supercomputer, CyTerra, and secured 100,000 CPU hours for one year. For educational purposes he prepared the Bioinformatics & Medical Informatics postgraduate courses syllabus for CING's school, CSMM, and started designing the Biomedical Informatics program that will be offered through CSMM. Finally he has started moving his research from his previous job (BRFAA - Academy of Athens) to CING, and he also gave two invited talks; one at CING lecture series and the other at an international conference in the field of Mathematical Modelling.

ITEM 4 – Presentation of the future directions and developments, regarding the Bioinformatics Group at CING by the BECH, Dr George Spyrou

Dr Spyrou talked about the need to proceed with the purchase of the Bioinformatics equipment, which includes two database and two web servers in order to develop tools that will be made publicly available, and a small high performance computing setup including two or three very powerful servers in order to have high performance computing in CING to avoid any pending cues that supercomputers worldwide might have.

Dr Spyrou stated that he intends to build a small lab that will deal with mobile health, e-health and assistive technology equipment, and that he was thinking to buy wearables like jackets or helmets to be able to take physiological and electrical measurements in order to

build a computational system based on intelligence, for the prediction of the possible onset for a disease or a disturbance in the physiological mode of the patient, to gather information for the physicians or other authorised parties.

He said that he is looking at the possibility to buy eye tracking technology equipment, to work on man-machine interaction and the development of man-machine interaction software, to develop prototypes and novelty products to facilitate communication for CING's disabled patients.

Dr Spyrou highlighted as his main objectives the fields of Bioinformatics, Biomarker Discovery, Next Generation Sequencing Analysis, Systems Bioinformatics, Drug Repurposing, and from the Medical Informatics perspective, Signal and Medical Image Analysis, Signal and Medical Image Marker Discovery and the unification of bio-findings with imaging findings.

He also said that he plans to assimilate information on the various types of data that are produced by CING's departments, categorize and prioritize the CING Bioinformatics analyses needs and requirements, and propose analysis models for each type of requirement.

He concluded by expressing that he would like to focus on research and development, ask new questions regarding data analysis and integration, design and develop new computational methodologies and web-based bioinformatics tools and databases, focus on e-health, mobile health and assistive technologies, and establish collaborations within and outside CING.

ITEM 5 – Discussion and feedback from the ESAB

Prof. Dr Keller expressed his enthusiasm for the amount of progress BIORISE made within such a short time. However, he stated that there have been many targets set by the BECH that cover a broad range, and suggested that perhaps it would be better for the group's motivation, and at the same time being more doable, to focus on solving smaller problems and go step by step, than trying to deal with much bigger tasks that might take years before they are completed.

Prof. Pattichis had exactly the same comments to make as Prof. Dr Keller. He said that there was a plethora of projects mentioned by Dr Spyrou, and emphasised that BIORISE has to set his priorities for project's and CING's best interests. He continued by commenting that if this huge workload presented was to be done, then more personnel would need to be hired in order to comply with the projects.

Prof. Dr Christodoulou agreed with the comments of the two other members of ESAB.

Dr Spyrou agreed also with that approach, and told the board that he has his priorities set in order to have presentable results to exhibit. He explained that some of the projects presented were side projects that could be running in the background, while focusing on the main BIORISE objectives.

The meeting concluded at 10:45am.

PROCEEDINGS OF THE BIORISE 1ST EAB (ETHICS ADVISORY BOARD) HELD ON THURSDAY, 23 JUNE 2016, AT CING (CYPRUS INSTITUTE OF NEUROLOGY & GENETICS) ROOM 317

Present: Prof. Constantinos Phellas (Chairman)
Dr George Miltiadous

Absent: Prof. Dr Nikolaus Forgo

In Attendance: Prof. Kyroula Christodoulou (Project Coordinator)
Dr George Spyrou (BIORISE ERA-Chair Holder, BECH)
Dr Antonis Ververis (Project Manager)

The meeting started at 12:30pm.

ITEM 1 – Overview of BIORISE project by the Project Coordinator, Prof. Kyroula Christodoulou

The Coordinator welcomed the attendees and gave a short overview of the agenda of the meeting. She presented the objectives of the BIORISE project; establishment of the Bioinformatics ERA-Chair at CING, recruitment of an expert to lead the Bioinformatics Group (which has been accomplished with the recruitment of Dr Spyrou), establishment of the Bioinformatics Group with the employment of four post-docs, assessment of Bioinformatics needs in CING, and also the education and training of researchers in Bioinformatics. To achieve that last goal, two new programs in Bioinformatics and Medical Informatics will be created and offered through CSMM (Cyprus School of Molecular Medicine), which is CING's postgraduate school.

The Coordinator went on by explaining that BIORISE is divided into nine WPs (Work Packages) and will last for five years, until June of 2020: WP1 is about the recruitment of the BECH and was finished with the employment of Dr Spyrou, WP2 deals with the generation of a Bioinformatics needs assessment analysis for CING and had been finalized, WP3 involves the establishment of the team with the post-docs recruitment and was under way, WP4 is about the procurement of computer hardware and software and was under way, WP5 is about setting up efficient bioinformatics analysis workflows named "pipelines", WP6 deals with the establishment of the Bioinformatics course at CSMM, WP7 revolves around the execution of research programs, WP8 involves the communication, dissemination and exploitation of the results, and finally, WP9 regards project management.

The Coordinator continued by analysing the project management structure: The three-member SC (Scientific Committee) is composed by the Coordinator, Prof. Kyriacos Kyriacou and Dr Eleni Zamba Papanicolaou. The Coordinator reports to and gets input by the ESAB (External Scientific Advisory Board), while the SC gets input from the EAB and the IPC (Intellectual Property Committee) of BIORISE. The Coordinator has the responsibilities of managing all the project proceedings, communicating with the European Union, preparing and submitting BIORISE reports and deliverables (assisted by CING's office and the Project Manager). She explained to the EAB members what is expected of them; the EAB's role is to

provide advice on ethical issues of the project such as use of human biological samples and data.

The presentation was accompanied with PowerPoint slides.

ITEM 2 - Presentation of the Bioethics Issues related to BIORISE and the steps taken so far by the BIORISE Program Coordinator, Prof. Kyproula Christodoulou

Prof. Christodoulou explained that every project that gets funded by the EC has to be approved by an independent ethics committee. This committee raised seven issues that were addressed by the Coordinator and included in the grant agreement. Through that procedure, four ethics-related deliverables were added to BIORISE by this committee that included getting ethical approval from the Cyprus National Bioethics Committee (CNBC). All of the ethics requirements were fulfilled and the relevant deliverables have been submitted.

ITEM 3 – Appointment of Chairman of BIORISE EAB by the EAB members

Prof. Constantinos Phellas suggested that the presidency of the board could be rotating between the three members. Dr Miltiadous suggested that Prof. Phellas could be the first to serve, something that Prof. Phellas accepted and was named as the Chairman of BIORISE EAB for the next year of the project.

ITEM 4 – Any other business that needs addressing

Prof. Christodoulou told the EAB that she would send all the necessary bioethics-related documents for the members to study them. Prof. Phellas then suggested the usage of a web platform that through it BIORISE Coordinator and BECH would share ethics-related documents and other files with the EAB members, communicate and keep EAB updated on any issue that might occur. Dr Spyrou undertook the task of setting up a web-based file sharing.

The EAB members also agreed that they would meet one to two times a year.

The meeting concluded at 1:15pm.