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PROCEEDINGS OF THE BIORISE 2ND ESAB (EXTERNAL SCIENTIFIC ADVISORY BOARD) MEETING HELD ON TUESDAY, 24 APRIL 2018, AT CING (CYPRUS INSTITUTE OF NEUROLOGY & GENETICS), ROOM 404

Present: Prof. Constantinos Pattichis (Chairman)
Prof. Dr Andreas Keller
Dr. Leda Skoufari-Themistou
Prof. Kyproula Christodoulou (Project Coordinator)

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

The meeting started at 11:10am.

Item 1 – Approval of previous minutes

The previous minutes were approved. None of the members had additional comments to make.

Item 2 & 3 – Presentation of the Bioinformatics Group & ongoing projects

Dr George Spyrou gave a short presentation in which he discussed the following:

- 1) The mission of the group which is the use of state-of-the-art bioinformatics research and advanced education in order to function as a hub of excellence in the areas of applied bioinformatics to early diagnosis, effective prognosis and drug discovery.
- 2) The objectives of the group in order to achieve its mission and its ultimate goal which is to have societal impact.
- 3) The history of the group establishment highlighting the appointment of 4 Postdoctoral Research Fellows and 4 PhD students (1 exclusively supervised by the Bioinformatics group and 3 shared between the group and other departments), the joining of a visiting scientist on different projects, the visiting

of various internship and ErasmusPlus trainees and the successful graduation of the first MSc student.

4) The different resources that have been used in order to develop the Bioinformatics Lab (computing stations, servers, storage devices, monitor, books and access to computing processing time in SuperComputing facilities in Cyprus and Europe achieved through successful proposals in the corresponding calls).

5) The structure of the group which covers three different areas (Omics Data Analysis Lab, Computational Diagnostics and Therapeutics Lab and Computational Neuroscience and Intelligent Systems Lab).

6) The different pipelines that are developing.

7) The training provided by the group (course on Bioinformatics, workshops, lectures and journal club).

8) The publications of the group.

9) The funding/external resources applied for, approved and pending.

Then, with the aid of the BIORISE website (<http://www.biorisecyprus.com/en/cing-home>), he provided more detail regarding the following:

1) Bioinformatics Group Members

- Dr. Anastasis Oulas who is working on omics data analysis
- Dr Margarita Zachariou who is focused on modelling & networks
- Dr George Minadakis who is working on network analysis & building pipeline analyses with Dr Oulas
- Dr Kleitos Sokratous who comes from a proteomics facility and now he works in structural bioinformatics

2) Past & ongoing funded projects

H2020-WIDESPREAD-04-2017-TeamingPhase 1

2017

EU Research Executive Agency

Grant Agreement (GA) No: 763781

Acronym: IPMT

Title: Integrated Precision Medicine Technologies Research Centre of Excellence

Participants: University of Cyprus, The Cyprus Foundation For Muscular Dystrophy Research, Ministry of Health of the Republic of Cyprus, Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V., Centro De Investigacion Biomedica En Red

Budget: 399.997,50 Euros

Position: CING's person in charge for the proposal and "Intelligent Systems and Bioinformatics" Technological Area Coordinator

H2020-WIDESPREAD-04-2017-TeamingPhase 1 **2017**

EU Research Executive Agency

Grant Agreement (GA) No: 763700

Acronym: AGRICYGEN

Title: Establishment of an Agricultural Genomics Centre in Cyprus

Participants: The Agricultural Research Institute of the Cyprus Ministry of Agriculture, Rural Development and Environment, The Cyprus Institute, The Cyprus Foundation For Muscular Dystrophy Research, The University of Edinburgh, Institut National de La Recherche Agronomique, Leibniz-Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK), RTD TALOS Limited

Budget: 399.997,50 Euros

Position: Participating Group

Pilot Project Grant **2017**

European Commission

Grant Agreement (GA) No: PP-2-1-2016

Acronym: CENSUS

Title: Congenital malformations in Cyprus - A national registry

Participants: The Cyprus Foundation For Muscular Dystrophy Research

Budget: 124.920,36 Euros

Position: WP Co-leader

H2020- MARIE SKŁODOWSKA-CURIE INNOVATIVE TRAINING NETWORKS (EJD) **2017**

Grant Agreement (GA) No: 765048

Acronym: STIMULATE

Title: SimulaTIon in MULTiscaLe physicaI and biological sysTEms – European Joint Doctorates

Participants: The Cyprus Institute, Bergische Universität Wuppertal (BUW), Rheinisch-Westfälische Technische Hochschule Aachen (RWTH), Humboldt-Universität zu Berlin – HUB, Hebrew University of Jerusalem – HU, University of Cyprus (UCY), Università degli Studi di Ferrara (UNIFE), Università degli Studi di Roma Tor Vergata (UTOV), Stiftung Deutsches Elektronen Synchrotron – DESY, The Cyprus Institute of Neurology and Genetics – CING, Forschungszentrum Jülich – FZJ, MAGWEL NV – MAGWEL, IBM Research GmbH – IBM, NVIDIA GmbH – NVIDIA

Budget: 21.000 Euros (for CING)

Position: Academic Partner

The Cy-Tera and Eastern Mediterranean HPC of the Cyprus Institute **2017**

Call for Production Phase Projects

“Probing the effects of BRCA1 missense mutations on the structure of BRCA1 RING domain and on the formation of BRCA1-BARD1 RING domain heterodimer using molecular dynamics simulations to investigate”

Institution: Cyprus Institute of Neurology and Genetics

Role: *Collaborating Researcher*

Allocated CPU Core Hours: 200.000

Allocated GPU Core Hours: 20.000

The National High Processing Computing System, ARIS **2017**

Call for Preparatory/Development Projects

“DeDiCoBC: Using the DeDiCo clustering algorithm in order to address real-life problems emerging in breast cancer research”

Institution: Department of Mathematics, University of Patras

Role: *Collaborating Researcher*

Allocated Core Hours: 100.000

The Cy-Tera and Eastern Mediterranean HPC of the Cyprus Institute **2016**

Call for Production Phase Projects

“ENHANCING: ENabling High performance omics ANalysis related to diseases investigated at CING”

Institution: Cyprus Institute of Neurology and Genetics

Role: *Principal Investigator*

Allocated CPU Core Hours: 100.000

3) Past & future activities of the group

- Education/Training (Bioinformatics Course at the Cyprus School of Molecular Medicine and Bioinformatics Workshops)
- Bioinformatics Journal Clubs
- Lecture Series
- Invited Talks
- Dissemination to the Society (Participation to the Researcher's Nights in 2017 & 2018, visits to schools etc.)
- Upcoming OpenMultiMed Cost Training School in Systems Bioinformatics towards Network Medicine in May 2018

BIORISE ESAB members were impressed by the large and high quality work performed by the Bioinformatics Group and congratulated Dr Spyrou for creating a very strong group that shares and fully supports the vision of the CING Bioinformatics ERA Chair.

As the meeting proceeded the main point discussed was the challenge of sustainability of the ERA Chair i.e. the ability to establish and expand the Department. The members of the committee all agreed that Dr Spyrou and the Bioinformatics Group had made an excellent work so far and that it is indeed important to sustain the Chair in Cyprus. The following suggestions have been made:

- 1) Professor Pattichis suggested that it is important to start from now to projecting the importance of the services provided by the Bioinformatics Group to the research & clinical communities within and outside the CING.
- 2) Professor Keller on the other hand pointed out that the work shouldn't be characterised as "services" and that the group should start projecting the importance of data and data analysis via bioinformatics when it comes to establishing a connection between different disciplines.
- 3) Professor Christodoulou suggested to write a supportive letter to the members of the CING Scientific Council, highlighting the importance of the Bioinformatics Group. Professor Pattichis agreed and added that they should use the same structure as the one used by the CING to the external advisors.
- 4) Dr Skoufari-Themistou informed Dr Spyrou that the Cyprus Research Promotion Foundation will be announcing new funding opportunities soon,

and advised him to carefully examine the comments in the previous non-funded but highly rated applications and see how he can address the points in order to make the application stronger and re-submit.

Item 4 – Any other business

N/A

The meeting ended at 12:30pm

**PROCEEDINGS OF THE BIORISE 2ND EAB (ETHICS ADVISORY BOARD)
MEETING THAT WAS HELD ON TUESDAY, 6 MARCH 2018, AT CING
(CYPRUS INSTITUTE OF NEUROLOGY & GENETICS), ROOM 404**

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

Absent: Prof. Nikolaus Forgo

In attendance: Prof. Kyproula Christodoulou (Project Coordinator)
Dr George Spyrou (BIORISE ERA-Chair Holder, BECH)
Dr Niovi Nicolaou (Project Manager)

The meeting started at 09:10am.

ITEM 1 – Approval of previous minutes

The Chairman went through the minutes from the previous meeting. It was confirmed that all the work packages have been completed or are undergoing as expected. The new course in Bioinformatics started according to the plan within the existing programs of the Cyprus School of Molecular Medicine (CSMM) and its first year evaluation proved that it has been successful. Finally, it was pointed out that the new program in Biomedical Informatics including two new courses (Bioinformatics and Medical Informatics) has not yet been offered through the CSMM as envisioned, but the effort to establish the new programme will continue.

ITEM 2 – Presentation of progress by the Bioinformatics ERA Chair

Dr George Spyrou presented the progress of the Bioinformatics group, in which he discussed the following:

1) The mission of the group which is the use of state-of-the-art bioinformatics research and advanced education in order to function as a hub of excellence

in the areas of applied bioinformatics to early diagnosis, effective prognosis and drug discovery.

2) The objectives of the group in order to achieve its mission and its ultimate goal which is to have societal impact.

3) The history of the group establishment highlighting the appointment of 4 Postdoctoral Research Fellows and 4 PhD students (1 exclusively supervised by the Bioinformatics group and 3 shared between the group and other departments), the joining of a visiting scientist on different projects, the visiting of various internship and ErasmusPlus trainees and the successful graduation of the first MSc student.

4) The different resources that have been used in order to develop the Bioinformatics Lab (computing stations, servers, storage devices, monitor, books and access to computing processing time in SuperComputing facilities in Cyprus and Europe achieved through successful proposals in the corresponding calls).

5) The structure of the group which covers three different areas (Omics Data Analysis Lab, Computational Diagnostics and Therapeutics Lab and Computational Neuroscience and Intelligent Systems Lab).

6) The different pipelines that are developing.

7) The training provided by the group (course on Bioinformatics, workshops, lectures and journal club).

8) The publications of the group.

9) The funding/external resources applied for, approved and pending.

A discussion followed through which the following points were covered:

1) Professor Phellas encouraged the projection of the Bioinformatics group and the work carried out by the group and the CING in general to the public. He suggested participation in different upcoming events he is either organising or actively participating.

2) The bioethics regarding the use/publication of data collected from patient samples were discussed.

- It was suggested by Professor Phellas to use/prepare consent forms for patients to sign, in which to include an option that will clearly explain to the patients that the data collected will be used for future research purposes (being specific where possible).
- The existing bioethics approvals for the data previously collected cover their bioinformatics/biostatistics analysis.
- There is no need for new consent forms to be signed for using data from Biobanks that were collected before 2012 (*this needs to be confirmed by Professor Phellas*)
- As long as a consent form exists, it is acceptable to use patient data (generated for diagnostic or research purposes) for generating/testing a prognostic omics tool (e.g. to predict if a patient will develop Alzheimer's)
- When using data from external collaborators or starting a new research for which data will be collected there is a need for approval from the relevant authorities. It was explained by Professor Phellas that there are two ways to do this:
 - 1) Send the relevant forms for approval to the Cyprus National Bioethics Committee
 - 2) Contact the chairperson of the Cyprus National Bioethics Committee (Professor Phellas) to get his expert opinion (*relevant forms to be sent to Dr George Spyrou and Professor Christodoulou by Professor Phellas*)
- Finally, it was agreed that the aforementioned points will be sent to Professor Phellas via email in the form of Q&As.

ITEM 3 – Any other business

N/A

The meeting ended at 10:10am.