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ECMED

The Extracellular Matrix in Epileptogenesis

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<p>D1.10 Advanced training course 4: “deCoding the CNS disorders for novel therapeutics and diagnostic methods”</p>

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CO	Confidential, only for members of the consortium (including the Commission Services)	
CI	Classified, as referred to in Commission Decision 2001/844/EC	

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1. History table

Version	Date	Released by	Comments
1.0	09.07.2018	Elena Gatti	Initial version
1.1	10.07.2018	Danylo Khomiak	

2. Definition and acronyms

Acronyms	Definitions
ECMED	The Extracellular Matrix in Epileptogenesis
ITN	Innovative Training Networks
ESRs	Early Stage Researchers
EEG	Electroencephalography

3. Introduction

The fourth ECMED ITN Advance Training course for ESRs was organized by Nencki Institute of Experimental Biology from 26th to 28th June, 2018. The course entitled “deCoding the CNS disorders for novel therapeutics and diagnostic methods” included hands-on training workshop “Advanced applications of Python for scientists”. The course program was composed of theoretical lectures and practical workshop. The lectures were not focused on one specific topic but rather covered different aspects of research into epilepsy and other brain disorders. Remarkably, all ESRs were able to suggest a speaker for the training course far in advance. Four speakers out of dozen invited finally made it and delivered a lecture. On the contrary, practical workshop specific purpose was to train ESRs in using programming in analyzing the results of experiments. The venue of the course was hotel and conference center “Warszawianka”, located on the bank of the lake outside Warsaw, insomuch ESRs needn’t to travel every day and could focus more on the course in a tranquil surrounding.



4. Activities carried out and results

Day 1:

ESR Danylo Khomiak briefly welcomed the participants and introduced the program of the course. Then followed the session of theoretical lectures. Dr. João Peça from the Centre for Neuroscience and Cell Biology (University of Coimbra, Portugal) presented a talk on glutamatergic synaptic dysfunction in autism spectrum disorders. The second talk was given by ECMED member Prof. Leszek Kaczmarek about MMP-9 in epileptogenesis. Next, Prof. Mahmood Reza Amiry-Moghaddam from the University of Oslo delivered a talk on the possible role of extracellular matrix in pathological conditions with astrocyte polarity involved. Later Prof. Athanasios Zissimopoulos from the Democritus University of Thrace (Greece) presented methods and practical cases of molecular imaging in epilepsy. Finally, Prof. Sergiusz Józwiak from Warsaw Medical University gave a talk on epileptogenesis modifications. Every talk was followed by intense discussion with a questions from ESRs.

After the morning session a transfer to Warsaw was arranged. At first ESRs and speakers visited the terrace at the Palace of Science and Culture and enjoyed the panoramic view of the city. Then the meeting continued at Nencki Institute, ESRs were shown the facilities of the institute, the operation room and EEG observation room among others, and highly rated the level of scientific facilities. During the stay in Nencki ESRs had a small networking session with the scientists from the Institute. The last event of the day was dinner at traditional polish cuisine restaurant “Bialy Domek”



Day 2:

The second day started with a morning lecture session. Dr. James Mills from the Academic Medical Center of the University of Amsterdam delivered a lecture about non-coding RNA from the bioinformational angle. Then Dr. Mayank Chaturvedi, who obtained his doctoral degree at Nencki and at the moment working at pharmaceutical company Syneos Health shared his experience in academia and industry on the career opportunities for ESRs. Finally, the head of CNS research unit at polish biopharmaceutical company Celon Pharma presented a talk about challenges in developments of CNS therapeutics.

After lunch the practical course “Advanced applications of Python for scientists” started. The course was led by neuroinformatition Michal Czerwinski and his assistant Marta Kowalska. The course was specifically developed for ESRs taking into consideration their expectations and previous programing experience. In the first train session ESRs learned the foundations required to write a program that will solve scientific issue and mastered how to build the plot in python.

In the evening ESRs had time to enjoy built-in aqua park and spa.



Day 3:

During the third day ESRs continued with the python workshop and learned how to analyze the image and video data from experiments and even wrote the program to evaluate mice performance in behavioral test. In the evening lecture session from the scientist from Nencki Institute Prof. Katarzyna Lukasiuk presented a talk on miRNA in epileptogenesis and Dr. Adam Gorlewicz about Role of glutamic receptor during the seizure development. During the gala dinner ESRs nostalgically recollected all moments spent together during ECMED journey and also made a plans to meet again in future.

5 Conclusions

The objective of advanced training course was to keep ESRs updated with the current research in the field by giving ESRs the opportunity to invite an expert in the field to share their knowledge with. Another goal of the course, and of hands-on training in python in particular, was to equip ESRs with practical skills in programming that will make the process of obtained results analysis much easier. All goals was fully achieved and in addition, the ESRs got an opportunity to interact with the specialists of the field and learn from their research experiences. All of ESRs mentioned that the course was well designed and met the needs of current research trends. They found the practical demonstrations very useful and educating. The social gatherings additionally facilitated networking amongst the ESRs and other participants. ESRs were fully satisfied with the venue and food quality.

