HELLENIC REPUBLIC
MINISTRY OF DEVELOPMENT
GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION

FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS
INSTITUTE OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY

P.N. 0367-P/118900
11 September 2023

One (1) Master's Student Position

[Ref # PAR-0504]

The research group of Kyriaki Sidiropoulou under the International Program NIH- R01NS131467 «GIRK-EPILEPSY" entitled ""Dravet Syndrome Anti-Epileptic Control by Targeting GIRK Channels"" (Program Coordinator Prof. Diomedes Logothetis) invites applications for one (1) motivated Master's student to assist with the investigation of novel pharmaceutical agents on neuronal activity.

About the lab
The Neurophysiology and Behavior Laboratory at IMBB uses a multidisciplinary approach to understand the cellular mechanisms of learning and memory in health and disease.

About the project:
Dravet Syndrome (DS) is a devastating form of epilepsy caused by loss of function of NaV1.1 (80-90% of cases), the predominant voltage-gated Na+ channel expressed in inhibitory (GABAergic) interneurons in the hippocampus and prefrontal cortex. This causes a decrease in the release of inhibitory neurotransmitter (GABA), resulting in hyperexcitability. Two small molecule monotherapies have been approved recently by the FDA: Epidiolex (Cannabidiol or CBD) in 2018 and Fintepla (fenfluramine or FA) in 2020 for patients two years of age and older. Even though they reduce the frequency of seizures, these drugs at their effective dosages cause multiple side effects. Their mechanism(s) of action to reduce epileptiform activity remain(s) unknown. G protein-gated inwardly rectifying K+ (GIRK) channels have been strongly implicated in epilepsy. They are activated by the Gβγ dimer of G proteins and by [Na+]i in a synergistic manner. The basis of synergism lies in that they each work allosterically to control predominantly the two channel gates: Gβγ, the membrane gate and Na+, the cytosolic gate. In the case of the GABAergic interneurons, we hypothesize that NaV1.1 and GIRK1/2 are coupled, such that the Na+ entering through NaV1.1 promotes GIRK1/2 activity to hyperpolarize the cell and ensure removal of NaV1.1 inactivation for fast spiking. In DS this mechanism becomes compromised causing cell depolarization and inactivation of voltage-gated channels at large present in GABAergic neurons failing to compensate for the loss of NaV1.1. We use GAT1508, a specific activator of GIRK1/2 to compensate for the compromised Na+ entry. Since GAT1508 opens the cytosolic gate, we ask whether it synergizes with CBD (via CB1R) and FA (via 5-HT1DR) to open more fully the membrane gates. Experiments to test the above hypothesis will be performed in native pyramidal neurons and interneurons in acute brain slices.

Position Description:
The candidate should have a strong background in neuroscience and experience with handling animals as well as histological, electrophysiological experiments in acute brain slices, molecular and cellular biology techniques and programming languages for data analysis. The candidate should be highly motivated and able to work independently.

Required qualifications:

- BSc in Biological Sciences
- Enrollment in a Graduate Program in a Greek University
- Excellent oral and written skills in English language

Desired qualifications:

- More than 1 year of experience with animal handling, acute mouse brain slice preparation, extracellular and/or patch-clamp recordings, molecular and cellular biology techniques.
- Certification for work with animals used for biomedical purposes
- Publications in the field of molecular and cellular neurobiology

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	Evaluation criteria	Maximum score
1.	Biology degree (grade x2)	20
2.	Experience with animals used for biomedical purposes (<2 years=10; 2-3 years=15; <3 years=20)	10
3.	Experience with histological and electrophysiological techniques and data analysis (<2 years=10; 2-3 years=15; <3 years=20)	10
	Experience with molecular and cellular techniques (<2 years=5; 2-3 years=7; <3 years=10)	10
4.	Certification for handling animals	10
5.	Publications in peer-reviewed journals (10/publication, maximum 20)	20
6.	Oral and written skills in the English language (B1= 5, B2= 10, C1= 15, C2= 20)	20
Total score		**100**

Contract Duration: 4 months with the possibility of extension according to the project needs
Total budget: 500 € monthly cost (fellowship)
Envisaged starting date: 1/11/2023
Application submission: Interested applicants should submit their application electronically by **22 September 2023 @ 13:00 (Greece time)**

The application should consist of:
1. Application Form (see below)
2. CV
3. Brief statement of purpose
4. The names and contact details of two referees
5. Scanned copies of academic titles
6. Scanned copies proving all the qualifications

Submission of applications: par0504@imbb.forth.gr

Evaluation procedure

Applications will be evaluated by a three-member evaluation committee. In case of interview procedure, applicants will be invited to participate in person or teleconference.

In case of titles and qualifications awarded by foreign Higher Education Institutions, the provisions of the Law 55/2023 (article 36) and 4957/2022 (article 304) are implemented.

The results of the selection will be announced on the website of IMBB-FORTH. Applicants have the right to appeal the selection decision, by addressing their written objection to the IMBB secretariat within five days since the results announcement on the web. Objections are submitted in one of the following ways: in person, by an authorized person, by post, by courier. They also have the right to access (a) the files of the applicants as well as (b) the table of applicants' scores (ranking of applicants results). All the above information related to the selection procedure will be available at the secretariat of IMBB-FORTH in line with the Hellenic Data Protection Authority. Access to personal data of co- applicants shall be limited to personal data (and relevant data) and supporting documents which have been the basis of the evaluation of the applicants for the specific post(s). Prior to the announcement of the personal data and/or documents of the co- applicants to the applicant, FORTH will inform the data subjects in an appropriate way.

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The selected applicants will be notified personally regarding the success of his/her application and will be requested to submit certified copies of his/her degrees. If the submitted documents do not agree with the original application, the applicant will be dismissed.

GDPR Disclaimer

FORTH is compliant with all legal procedures for the processing of personal data as defined by the Regulation EU/2016/679 on the protection of natural persons with regard to the processing of personal data. FORTH processes the personal data and relevant supporting documents that applicants have submitted. Processing of that data is carried out exclusively for the needs and purposes of this specific call. Such data shall not be transmitted to or communicated to any third party unless required by law.

FORTH retains the above data up to the announcement of the final results of the call, unless further process and reservation is required by law or for purposes of exercise, enforcement, prosecution of certain one's legitimate legal rights' as defined in the Regulation EU/2016/679 and/or in national law. Under the Regulation EU/2016/679, applicants have the rights to be informed about their personal data, access to, rectification and erasure, restrictions of process and objection to as provided by applicable regulation and national laws. Applicants have the right to file a complaint to the national Data Protection Authority. For any further information regarding exercise of personal data protection rights, applicants may contact the Data Protection Officer at FORTH at dpo@admin.forth.gr.

Applicants have the right to withdraw your application and consent for the processing of personal data at any time. In this case, FORTH shall destroy such documents and/or supporting documents submitted and shall delete the related personal data.

APPLICATION FORM

Name: _____
Surname: _____
Date of birth *(dd/mm/yy)*: _____
Address: _____
Telephone number: _____
Email address: _____

TO

FOUNDATION OF RESEARCH AND TECHNOLOGY (FORTH)
INSTITUTE OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY

Hereby I submit my application for the position:
In the framework of the project: _____

Position code [Ref #] _____

Submitted with this application:

1. _____
2. _____
3. _____
4. _____
5. _____

I certify that:

A) I accept the terms and conditions of the job announcement
B) I possess all the necessary certificates and documents and I can present them in their original form to the committee without any delay if I am asked to do so
C) I am able to complete the project within the foreseen time -frame
D) all the information given in the framework of this application are accurate and true.

Date: _____

Applicant name

_____
(signature)