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Małopolskie  
Centrum  
Biotechnologii

## **INFORMATION ABOUT THE COMPETITION**

**Director of The  
Małopolska Center of Biotechnology**  
ul. Gronostajowa 7a, 30-387 Kraków  
Tel./fax: +48 12 664 53 69

Kraków, 08.08.2023

**Competition for the position of  
Scholarship Holder (PhD student)**  
at the Małopolska Center for Biotechnology  
at the Dioscuri Center for Modelling of Posttranslational Modifications

The Dioscuri Center for Modelling of Posttranslational Modifications invites applications for the position of the Scholarship Holder (PhD student). We are looking for an individual interested in research at the intersection of computational glycobiology and computational electrophysiology to study the role of glycans in gamma-aminobutyric acid (GABA) receptors.

### **The Candidate will be involved in the following tasks:**

- 1) Performing large-scale simulations of GABA receptors in different glycan configurations
- 2) Analyzing the results
- 3) Working closely with experimental partners to stimulate new experiments and accurately map experimental systems *in silico*

### **The perfect Candidate should have:**

- 1) MSc degree in chemistry, physics, or related fields
- 2) At least one publication in peer-reviewed journals
- 3) Experience working on computational glycobiology, structural biology, computer simulations (especially in Gromacs)
- 4) Ability to code in Bash, Python, familiarity with simulation analysis packages such as MDAnalysis, Pymol, VMD.
- 5) Experience in processing and analyzing simulation results
- 6) Excellent communication skills and strong working proficiency in English.
- 7) Candidate should be enrolled in a PhD program at the Jagiellonian University Doctoral School

### **Required application documents:**

- CV
- Information about achievements and publications,
- Contact information of persons who can provide recommendations,
- Certificate of PhD student status at the Jagiellonian University,
- Statement with information on the processing of personal data with consent to their processing <https://cawp.uj.edu.pl/wynagrodzenia/stypendia>

**Form of submission:** by e-mail to the address: [iwona1.duda@uj.edu.pl](mailto:iwona1.duda@uj.edu.pl), title: "Competition for the position of Scholarship Holder (PhD student) – Dioscuri"

**Position:** Scholarship Holder (PhD student)

**Unit:** MCB UJ

**Application Deadline for submission of applications:** 22.08.2023 r.

**Announcement of contest results planned date:** 23.08.2023 r.

### **Terms of Employment:**

Scholarship Agreement.

Planned start of work: from 1.09.2023 r.

The Scholarship Holder (PhD student) will be involved in a research project: Dioscuri Centre for Modelling of Posttranslational Modifications, funded by the Ministry of Education and Science (MeiN) and the German Federal Ministry of Education and Research Under the direction of Dr. Mateusz Sikora

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**We offer:**

- Work in a young and growing scientific team
- Opportunity to develop and improve skills/experience
- Opportunity to participate in scientific conferences
- Support and nice work atmosphere

GABA plays a significant role in the nervous system within inhibitory synapses. The GABA receptor is heavily glycosylated, and the three-dimensional localization glycans on the protein surface, as well as their evolutionary conservation, suggest a significant impact of glycans on the receptor's mechanism of action. Glycosylation with atypical glycans is observed in most neuropsychological and neurological disorders, such as autism, ADHD, schizophrenia, and depression. The relationship between the type of glycans and the disruptions in the functioning of proteins in the nervous system is not yet fully understood. In the proposed project, in close collaboration with experts in neurobiology, we will conduct computer simulations to elucidate how glycans (in various glycoforms) influence the functioning of GABA and consequently the functioning of the nervous system.

We cordially invite you to apply.

The Malopolska Centre of Biotechnology and the Dioscuri Centre strive to ensure a workplace with equal opportunities. We celebrate diversity and are committed to creating an inclusive environment for all members regardless of gender, nationality or disabilities.

Dioscuri Center for Modelling of Posttranslational Modifications Jagiellonian University, Krakow, Poland.

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