

**A PhD student position in computational biology** available from March 2022 in the project founded by National Science Centre entitled *Ancestral traits and genomic innovations in early diverging fungi - implications for mucormycosis* led by Anna Muszewska.

The main idea of our project is to describe how different groups of fungi cope with their environments and find the genomic features which separate one type of fungi from the other. We will navigate the fungal tree of life keeping in mind that different branches of the tree group organisms living in different ways. During this journey, we will look for genes and groups of genes which are specific for ancient fungi. We will describe which genes are present in evolutionarily old fungi (Mucorales) and which are absent in modern fungi and mammals.

This will result in a big dataset spanning many traits for each organism which will be analysed simultaneously with statistical tools. All this data together may shed new light on how we understand the relationship between organisms lifestyle and genome organisation. On the practical side, we may find new genes which may facilitate the diagnosis of invasive fungal infections or treat this disease with more efficacy than currently available drugs.

### Tasks

The PhD Student will participate in all stages of the proposed project. For instance:

- will select ancestral protein groups with relevance to fungal fitness
- will trace their evolutionary history
- will gather literature
- will expand bioinformatics, mycology, genomics, evolutionary biology skills

Additionally, will participate in manuscripts preparation for publishing.

### Requirements

The successful applicant should:

- hold a MSc degree (or equivalent) in Biology, Computer Science, Biotechnology, Bioinformatics or will be close to obtain it;
- join the School of Molecular Biology at our Institute;
- have fluency in spoken and written English;
- have basic bioinformatic skills (Python, R), Linux, phylogenetic methods, protein sequence analysis
- be enthusiastic about nature, ecology, evolution and problem solving
- be well organized, eager to learn and ready to assimilate literature

### Our offer

- Participation in courses and conferences;
- Four years stipend (5000 PLN brutto per month, ~3800 net);
- Polish course for foreigners, assistance with onboarding

### The application must include

- Curriculum vitae,
- Motivation letter,
- At least one recommendation letter and contact details of the referee/s,
- A list of publications and/or communications (if applicable).

Applications with a “*PhD applicant - NCN*” tag are welcome at [ania.muszewska@gmail.com](mailto:ania.muszewska@gmail.com),

Application submission deadline: January 20, 2022

Selected candidates will be invited to an on-line interview in English.

The competitive selection process will be concluded by January 31, 2022.

During the recruitment process, the Institute of Biochemistry and Biophysics follows the principles set out in the European Charter for Researchers.

All applications must contain the following statement to allow us process your data: "I hereby give consent for my personal data included in the job offer to be processed for the purposed recruitment under the Data Protection Act 1997 (Dz. U. 2002 no. 101, item 926 with subs. changes)."