

**Doctoral study program:** Pharmacology

**Specialization:** Experimental and applied pharmacology

**Form of study:** doctoral full-time

**Department:** Dept. of Pharmacology, Faculty of Medicine, Masaryk University

**Supervisor:** Jana Rudá, assoc. prof., PharmD., Ph.D.

Ph.D. topic: **Behavioral, neurochemical and neuroimaging biomarkers in animal models of neuropsychiatric diseases and effect pharmacological interventions**

### **Annotation**

Drug addiction is a chronic and very difficult-to-treat psychiatric illness that is often accompanied by other psychiatric disorders, such as depression. Currently, the primary treatment approach is psychosocial intervention, while pharmacological treatment very often fails, probably because depressive illness increases vulnerability to the effects of addictive substances. We have successfully modelled this situation in laboratory rats by combining a model of depression induced by olfactory bulbectomy and operant self-administration of addictive substances, where the animal self-determines its drug intake. This dissertation will aim to characterize the neurochemical mechanisms in a model drug addiction and/or depression assessed through NMR methods and functional brain changes induced by psychopharmaceuticals.

### **Funding for the research**

Currently, the proposed experimental work is not included in any external grant project; funding from a specific research project is envisaged. The supervisor has applied for national grant projects as well as international ones.

### **Information on funding PGS positions**

The Institute of Pharmacology is repeatedly successful in the competition for Specific Research projects, of which it is possible to finance the working hours or remuneration of doctoral students in terms of their research activities. The expected amount of work paid from these projects is in the range of 0.1-0.3 FTE.

### **Requirements for the student according to the Board for the PhD studies Pharmacology at MU**

The minimum publishing activity of the student within the PhD study presents one review article in a peer-reviewed journal and one original article in a journal with IF over the median of the field, both related to the dissertation topic. A condition for successful completion of the study is an internship abroad of at least 1 month, which is an integral part of the doctoral study. The student will apply for internship funding through ERASMUS or other programs. As part of their studies, doctoral students also participate in the teaching of the subject of Pharmacology in bachelor's and master's degree programs.

### **Supervisor**

The supervisor has several successful international collaborations, offering nice student internship opportunities. Joint publications can confirm these collaborations.

The supervisor led 4 students to defend the dissertation, currently she is supervising another PhD candidate. Author or co-author of 50 papers with impact factor, 76% above the median IF. Her H-index is 19, 1307 citations (WOS).

ResearcherID: D-5117-2012

OrcID: <https://orcid.org/0000-0002-1846-0799>

<https://www.muni.cz/lide/169493-jana-ruda>

In case of questions, it is possible to contact the supervisor: [jkucer@med.muni.cz](mailto:jkucer@med.muni.cz)