

Study programme: IMMUNOPHARMACOTHERAPY

ANNOTATION

Ph.D. students are profiled for deep orientation in the principles of basic, clinical and applied immunology and pharmacology. They will be trained in the field of analysis of host immune responses including analyses of intracellular signaling pathways. They gain experience in vaccine and biologicals design and their physicochemical and biological characterization. Students gain experience in the construction, expression and characterization of recombinant proteins; in antigen modification supporting targeting of cytotoxic T cell responses, inducing regulatory T cells, or inducing neutralizing antibodies; in formulation of proteoliposomes and other corpuscular forms of antigen; in principles of the design, expression, and testing proteins for tumor diagnostics and therapy.

The dissertation topics proposed by the Department of Immunology, Faculty of Medicine and Dentistry and University Hospital Olomouc, reflect the experimental focus of individual research groups and their collaboration with other academic and clinic departments and collaborating commercial subjects. The programme benefits from the cooperation of Palacký University Olomouc and Veterinary Research Institute Brno with academic institutions in the USA, France, UK, Taiwan, as well as with commercial partners in the Czech Republic, UK, France, Netherlands, and Germany.

ADMISSION PROCEDURE 2023/24

Dissertation topics of the training department:

Department of Immunology, Faculty of Medicine and Dentistry, Palacký University Olomouc and University Hospital Olomouc, Hněvotínská 3, Olomouc, phone: +420 585 632 752.

1. Study of the Mechanisms Involved in Activation of Dendritic Cells Applicable for Development of Anti-infection or Anti-tumor Vaccines

1 position in the full-time form of study

Supervisor: prof. Mgr. MUDr. Milan Raška, Ph.D.

2. Application of Small Binding Proteins for Diagnostics and Therapy of Inflammatory Bowel Diseases

1 position in the full-time form of study

Supervisor: prof. Mgr. MUDr. Milan Raška, Ph.D.

3. Immune Check Points in Diagnostics and Therapy of Selected Cancers

1 position in the full-time form of study

Supervisor: prof. Mgr. MUDr. Milan Raška, Ph.D.

**4. Application of Small Binding Proteins in the Development of Anti-viral Vaccines
Inducing Broadly Neutralizing Antibodies**

1 position in the full-time form of study

Supervisor: prof. Mgr. MUDr. Milan Raška, Ph.D.

**5. Oral Mucoadhesive Drug Formulations for Controlled Release of Therapeutics and
Vaccines**

1 position in the full-time form of study

Supervisor: prof. RNDr. Jaroslav Turánek, DrSc.

Application deadline: **15 May 2023**

Date and location of the entrance examination: **15 June 2023** at 10 a.m. CET
on-line through Zoom Meeting

Alternative date of entrance examination: **22 June 2023** at 10:00 a.m.
will be specified

Anticipated maximum number of admitted students:

Full-time form: 6 students

Examination format: oral

General content of the oral entrance examination:

The candidate must meet the requirements for professional knowledge of Molecular Biology and Fundamentals of Immunology corresponding to the master's degree level.

Evaluation criteria:

MSc, MD or equivalent degree in natural or medical sciences.

The level of knowledge of molecular biology and immunology will be evaluated, as well as the motivation towards commencing PhD studies and the current scientific research activities.

Based on the CV evaluation, candidates will be invited for an interview.

The annual tuition fee for the post-graduate study programme conducted in English is set at EUR 100.