

Study programme: MEDICAL BIOLOGY

ANNOTATION

The Medical Biology PhD study programme is focussed on studies of basic principles of biological processes in human cells at the molecular level. Molecular genetic studies carried out by the students aim to provide valuable information on gene/protein function which is relevant to human health and disease. The programme provides graduates with an extensive knowledge of methodological approaches allowing understanding the origin of human diseases, preclinical research of drugs using model systems etc. The students are supervised by mentors of the Faculty of Medicine and Dentistry Palacký University Olomouc and University Hospital Olomouc, recognized experts in the medical biology research field.

ADMISSION PROCEDURE 2023/24

Dissertation topic/s of the training department:

Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacký University Olomouc, Hněvotínská 5, Olomouc, tel. 585 632 081

1. Cellular Fluxomic Analysis for the Research of Pathobiochemical Processes

1 position in the full-time or part-time form of study

Supervisor: prof. RNDr. Tomáš Adam, Ph.D.

2. New Prognostic and Predictive Factors in Solid Tumors

3 positions in the full-time or part-time form of study

Supervisors: Doc. MUDr. Marián Hajdúch, Ph.D., MUDr. Josef Srovnal, Ph.D.

3. Genetic and Epigenetic Biomarkers of Cancer Diseases

4 positions in the full-time form of study

Supervisors: Ing. Rastislav Slavkovský, Ph.D., MUDr. Petr Džubák, Ph.D., Doc. MUDr. Marián Hajdúch, Ph.D., prof. Mgr. Jiří Drábek, Ph.D.

4. Development of 3D Pharmacophore Signatures and their Application in the Design of Anticancer Drugs

1 position in the full-time form of study

Supervisor: Pavlo Polishchuk, Ph.D., M.Sc.

5. The Role of Tumor Hypoxia in the Development of Acquired Resistance to Microtubule-targeted Drugs

1 position in the full-time form of study

Supervisor: Viswanath Das, Ph.D., M.Sc.

6. Identification of Proteomic Biomarkers in Exhaled Air Condensate in Patients with Systemic or Pulmonary Disease

2 positions in the full-time form of study

Supervisors: MUDr. Petr Džubák, Ph.D., Doc. MUDr. Marián Hajdúch, Ph.D.

7. Antitumor Drugs Targeting Nucleic Acid Metabolism

2 positions in the full-time form of study

Supervisors: MUDr. Petr Džubák, Ph.D., Doc. MUDr. Marián Hajdúch, Ph.D.

8. Bioinformatics Processing of Big Data within Clinical and Preclinical Studies

3 positions in the full-time or part-time form of study

Supervisors: Doc. MUDr. Marián Hajdúch, Ph.D., RNDr. Petr Pavliš, Ph.D.

9. Search and Characterization of Substances for the Therapy of Congenital or Acquired Diseases Caused by Aberrant Splicing of pre-mRNA

1 position in the full-time form of study

Supervisor: Mgr. Jiří Voller, Ph.D.

10. DNA Damage Signaling in the Cellular Response to Stress

1 position in the full-time form of study

Supervisor: Mgr. Martin Mistrík, Ph.D.

11. Identification of Molecular Targets and Mechanisms of Resistance in Antitumor Drugs Using Cell Biology and Proteomics Methods

2 positions in the full-time form of study

Supervisors: MUDr. Petr Džubák, Ph.D., Doc. MUDr. Marián Hajdúch, Ph.D.

12. Physiology and Pathophysiology of Aging

2 positions in the full-time form of study

Supervisors: Doc. MUDr. Marián Hajdúch, Ph.D., Mgr. Jiří Voller, Ph.D.

13. Drug Repurposing for Treatment and Prevention of Diseases

1 position in the full-time form of study

Supervisors: Doc. MUDr. Marián Hajdúch, Ph.D.

14. Drug Development of Small Molecules

2 positions in the full-time form of study

Supervisors: doc. RNDr. Milan Urban, Ph.D., doc. MUDr. Marián Hajdúch, Ph.D.

15. Microsynthesis of Small Molecules in Medicinal Chemistry

2 positions in the full-time form of study

Supervisor: doc. RNDr. Milan Urban, Ph.D.

16. Modification of Biologically Active Molecules to Improve their Pharmacological Properties.

2 positions in the full-time form of study

Supervisor: doc. RNDr. Milan Urban, Ph.D.

17. Diagnostics and Therapy of Rare Diseases

2 positions in the full-time form of study

Supervisors: Doc. MUDr. Marián Hajdúch, Ph.D., MUDr. Josef Srovnal, Ph.D.

Application deadline:

May 15, 2023

Date and location of the entrance examination:

June 15, 2023 Institute of Molecular and Translational Medicine, Hněvotínská 5, Olomouc.

Alternatively, online entrance exam can be scheduled between June 12 and 16, 2023.

Anticipated maximum number of admitted students:

Full-time form: 20 students

Part-time form: 4 students

Examination format: oral (face-to-face or online)

Contents of entrance examination:

- cellular and molecular biology and medicine
- knowledge of the topic on which the candidate is applying
- language skills (English)
- motivation to PhD. studies

Evaluation criteria:

The level of general professional knowledge will be evaluated according to the result of the admission procedure and interview, the applicant's aptitude for scientific work, the applicant's previous experience with scientific and professional work (diploma thesis, professional lectures and publications, etc.), language skills, preconditions for graduation and individual motivation.

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