

Study programme: PAEDIATRICS

ANNOTATION

The program focuses on better understanding of human diseases on molecular basis, research and development of new diagnostic and therapeutic procedures. In particular, the study program is focused on identification of new molecular targets, innovative therapeutics, health data management and personalized medicine. The program emphasizes critical thinking, rigorous science and develops theoretical and practical knowledge of enrolled students.

ADMISSION PROCEDURE 2020/21

Contact details of the training department:

Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacký University Olomouc and University Hospital Olomouc, Hněvotínská 5, Olomouc, phone: +420 585 632 082.

Dissertation topics of the training department:

1. Cytogenetic alterations in solid tumors

Supervisor: RNDr. Radek Trojanec, Ph.D., Mgr. Vladimíra Koudeláková, PhD.

Number of students: 1 full-time student

2. Small animal imaging of selected bioactive molecules

Supervisor: PharmDr. Miloš Petřík, Ph.D.

Number of students: 1 full-time student

3. Genetic and epigenetic biomarkers in cancer

Supervisor: doc. Mgr. Jiří Drábek, Ph.D., doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 2 full-time student

4. Identification of molecular targets of anticancer therapy applying cell biology and proteomics tools

Supervisor: MUDr. Petr Džubák, Ph.D., doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 2 full-time students

5. Exhaled breath condensate as resource of lung diseases biomarkers

Supervisor: MUDr. Petr Džubák, Ph.D., doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 2 full-time students

6. Drug resistance mechanisms in cancer

Supervisor: doc. MUDr. Marián Hajdúch, Ph.D., MUDr. Petr Džubák, Ph.D.

Number of students: 2 full-time students

7. Identification of pro-longevity pathways and mechanisms of model organisms

Supervisor: Mgr. Jiří Voller, Ph.D.

Number of students: 1 full-time student

8. Bio- and cheminformatics in biology of aging

Supervisor: Mgr. Jiří Voller, Ph.D.

Number of students: 1 full-time student

9. Screening and characterization of compounds for therapy of diseases caused by aberrant pre-mRNA splicing

Supervisor: Mgr. Jiří Voller, Ph.D.

Number of students: 1 full-time student

10. Screening and characterization of compounds for therapy of mitochondrial and metabolic disorders

Supervisor: Mgr. Jiří Voller, Ph.D.

Number of students: 1 full-time student

11. In silico design of compounds with desired properties

Supervisor: Pavlo Polishchuk, MSc., Ph.D.

Number of students: 2 full time-students

12. Development of 3D pharmacophore signatures and their applications to drug design

Supervisor: Pavlo Polishchuk, MSc., Ph.D.

Number of students: 1 full time-student

13. Genetic biomarkers in cancer

Supervisor: prof. Mgr. Jiří Drábek, Ph.D.; Ing. Rastislav Slavkovský, Ph.D., doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 2 full-time students

14. Human papillomavirus infection in humans

Supervisor: Mgr. Vladimira Koudeláková, Ph.D., doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 2 full-time students

15. A combination of 2D and 3D cell cultures for a smart and effective identification and characterization of anti-hypoxic candidates

Supervisor: Viswanath Das, Ph.D.; doc. MUDr. Marian Hajduch, Ph.D.

Number of students: 2 full-time students

16. An extensive structural and biochemical characterization of tau oligomeric species in Alzheimer's disease and other tauopathies

Supervisor: Viswanath Das, Ph.D.

Number of students: 1 full-time student

17. The role of tumor hypoxia in acquisition of resistance to microtubule-targeting drugs

Supervisor: Viswanath Das, Ph.D.

Number of students: 1 full-time student

18. Identification of novel proteomic cancer biomarkers

Supervisor: doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 2 full-time students

19. Biology of aging and DNA damage

Supervisor: doc. MUDr. Marián Hajdúch, Ph.D.

Number of students: 1 full-time student

20. In vitro screening methods for the assessment of factors influencing bioavailability of new drug candidates in pre-clinical development

Supervisor: doc. MUDr. Marián Hajdúch, Ph.D., Mgr. Barbora Lišková, Ph.D.

Number of students: 1 full-time student

Application deadline:

12 May 2020

Date and location of the entrance examination:

18 June 2020; Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacký University Olomouc and University Hospital Olomouc, Hněvotínská 5, Olomouc, tel. 585 632 082, www.imtm.cz

Anticipated maximum number of admitted students:

Full-time form: 29 students

Distance form: 0 students

Examination format: oral

Contents of entrance examination:

Medical faculty graduates (M.D. or equivalent degrees): basic knowledge of general medicine with emphasis on oncology, hematology, infectious and inflammatory diseases, pediatrics, laboratory medicine and basic knowledge of medical genetics and molecular biology.

Non-medical faculty graduates (MSc or equivalent degrees): basic knowledge of molecular and cellular biology, fundamentals of laboratory medicine, principles of heredity with particular aspects on the needs of medical genetics.

Evaluation criteria:

The result of the admission procedure and/or interview, laboratory and/or clinical skills, previous experience in science (publications, bachelor/master thesis, conference presentations, etc.), motivation of the applicant, extracurricular activities and language skills.

The annual tuition fee for the post-graduate study program conducted in English is set at EUR 3,000.