

Doctoral study program: Biomedical Sciences

Form: *doctoral (present)*

Department: Department of Histology and Embryology, Faculty of Medicine

Supervisor: Aleš Hampl, D.V.M., CSc., Assoc. Prof.

Co-Supervisor: Libor Streit, M.D., Ph.D. Assoc. Prof. (Clinic of Burns and Reconstructive Surgery, University Hospital Brno and Faculty of Medicine MU))

Ph.D. position: Bridging Tissue Engineering and Clinical Practice

Annotation:

Recent advancement in biology, particularly in understanding of involvement of stem and progenitor cells in development and tissue maintenance, opened thoroughly new avenues for therapeutic scenarios for diseases, for which currently there is no cure. In many cases, these scenarios include application of advanced biomaterials, 3D bioprinting, microfabrication, and other advanced technologies. The theme proposed for this thesis will build on combination of current state-of-the-art technologies with cellular elements to *ex vivo* engineer bioartificial tissues/organs for application as models for understanding pathophysiology of diseases, for testing pharmaceuticals, and, ultimately, also for applications in patients. The main focus will be on skeletal tissues. The theme is highly multidisciplinary as it will employ expertise of cell and molecular biology, in advanced biomaterials, both supported by adequate knowledge of clinical medicine. Important part of the thesis will also be devoted to production of engineered tissues for clinical setting, including its regulatory aspects.

Funding of the research:

State external sources of PhD position funding
AZV ČR; funds by the department

Information on funding PGS positions:

The program requires that all PhD students have some means of financial support of min. 25 000 CZK per month. This is often a combination of various sources (grants, scholarship etc.)

Requirements for the student according to the Doctoral Board:

The student's minimum publication activity within the course of study is one first-author publication with an IF value above the median in the field or 2 first-author publications in journals with an IF value in the 3rd quartile in the field (Q3). A condition for successful completion of the studies is also a foreign internship of at least 1 month, which is an inseparable part of the studies. As part of their studies, students will also participate in the teaching.

Information about supervisor:

The supervisor is Head of the Department of Histology and Embryology with a years-long expertise in research and education in the respective area of science.

Masaryk University, Faculty of Medicine

Kamenice 753/5, 625 00 Brno, Czech Republic

T: +420 549 49 2910, E: info@med.muni.cz, www.med.muni.cz

Bank account: KB Brno, Ref. No.: 85636621/0100, ID: 00216224, Tax ID: CZ00216224

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