

Study program: Life Sciences

List of Dissertation Topics

Admissions for academic year 2019/2020
with commencement of study in spring 2020

Field: Bio-omics

- 1. ADAR2 RNA editing in CNS**
Supervisor: Liam Keegan, Ph.D.
- 2. Characterization of cyclin-dependent kinase 12 (CDK12) substrates and their roles in regulation of transcription and tumorigenesis**
Supervisor: Dalibor Blažek, Ph.D.
Consultant: assoc. prof. Zbyněk Zdráhal, Panagiotis Alexiou, Ph.D.
- 3. Dynamics of the Structure Maintenance of Chromosome (SMC) complexes**
Supervisor: assoc. prof. Jan Paleček
- 4. Functions of cyclin-dependent kinase 11 (CDK11) in regulation of gene expression**
Supervisor: Dalibor Blažek, Ph.D.
Consultant: assoc. prof. Zbyněk Zdráhal, Panagiotis Alexiou, Ph.D.
- 5. Investigating the regulation of the RNA modifying enzyme ADAR1 and how it regulates other biological pathways and diseases**
Supervisor: prof. Mary O'Connell
Consultants: Liam Keegan, Ph.D.
- 6. Mass spectrometric imaging of biological tissues**
Supervisor: prof. Jan Preisler
Consultant: Mgr. Markéta Machálková
- 7. Microenvironmental interactions and regulation of their crosstalk in malignant B-cells by transcription factors**
Supervisor: assoc. prof. Marek Mráz
- 8. Regulation of BCR signalling by DNA damage response and P53 protein**
Supervisor: assoc. prof. Marek Mráz
- 9. Structure, function and evolution of plant telomere components**
Supervisor: prof. Jiří Fajkus
- 10. The role of posttranscriptional RNA modifications in cell differentiation**
Supervisor: assoc. prof. Štěpánka Vaňáčková

11. The role of protein-protein interactions in the dynamics of m6A RNA modification

Supervisor: assoc. prof. Štěpánka Vaňáčová

12. Search for new regulators of intracellular trafficking in plants

Supervisor: Tomasz Nodzynski, Ph.D.

Consultant: Marta Zwiewka, Ph.D.

Field: Structural Biology

1. A structural basis for the cross-talk between histones and RNA Polymerase II

Supervisor: assoc. prof. Richard Štefl

Consultants: Karel Kubíček, PhD., assoc. prof. Štěpánka Vaňáčová

2. Cracking the CTD code

Supervisor: assoc. prof. Richard Štefl

Consultants: Karel Kubíček, PhD., Pavel Plevka, Ph.D.

3. Integrative structural biology of 3'UTRs

Supervisor: Peter Lukavsky, Dr. rer. nat.

Consultants: Boris Tichý, Ph.D., assoc. prof. Zbyněk Zdráhal

4. Protein sensitivity of membrane curvature

Supervisor: assoc. prof. Robert Vácha

5. Regulation of protein-protein interactions

Supervisor: assoc. prof. Robert Vácha

6. Structural and time-resolved studies of phage replication in bacterial biofilm

Supervisor: Pavel Plevka, Ph.D.

7. Structural study of enterovirus replication in vivo

Supervisor: Pavel Plevka, Ph.D.

8. Structural studies of the TPLATE complex

Supervisor: Konstantinos Tripsianes, Ph.D.