

Lecture Series with Tutorials – Frontiers in Biosciences I – Winter Semester 2023/2024

Common lecture for all students of the master program

Lectures Wednesday, Thursday, Friday – 8:15-9:45 a.m. – Lecture Halls at BioQUANT (INF 267; Wed) and COS (INF 360; Thur + Fri)

Tutorials Monday/Tuesday – parallel groups – 8:15-9:45 a.m. – various seminar rooms of COS (INF 230) and BioQuant (INF 267)

Details: <https://moodle.uni-heidelberg.de/course/view.php?id=10194>

Program:

1st unit: **Genome Expression – Organizer: Professor Brunner**

18./19./20.10. Lectures, 23./24.10. Tutorials

Topics: Transcriptional control, mRNA processing, mRNA translation, mRNA decay, non coding RNAs

Methods: RNASeq, RNA-protein interaction methods, Polysome gradients, Ribosome profiling, Measuring decay

2nd unit: **Proteome & Interactome – Organizer: Dr. Mogk**

25./26./27.10. Lectures, 30./31.10. Tutorials

Topics: Protein structure, Protein modification, Protein quality control, Protein complex and signalling, Cell cycle

Methods: Western blots, Mass spectrometry, X-ray & NMR & otherIP, yeast 2-hybrid, MS, X-link

– *pause: 1.-7. November* –

3rd unit: **Metabolome – Organizer: Professor Brügger**

8./9./10.11. Lectures, 13./14.11. Tutorials

Topics: Enzyme kinetics, control of enzyme activity, flux of metabolites (ions, ...)

Methods: Metabolites analyses, Sensors, MS methods

4th unit: **Cell organisation and dynamics– Organizer: Professor Pereira**

15./16./17.11. Lectures, 20./21.11. Tutorials

Topics: Protein sorting and intracellular dynamics, cell motility, cytoskeleton

Methods: Immunofluorescence, GFP live imaging

5th unit: **Genome structure and evolution – O**

22./23./24.11. Lectures, 27./28.11. Tutorials

Topics: genome structure, genes and their evolu

Methods: genome editing, QTL, Methods to dete chromosome painting, Epigenetic methods

Written Exam:

date:

Monday, 18. Dec. 2023,

4.30 pm

(retake: date t.b.d./t.b.a.)

location:

INF 252 / Large Auditorium

gHS

details:

exam time: 90 min

mode: MCQ



Change in week Genome structure and evolution

von Wolke, Dr. Andrea - Mittwoch, 25. Oktober 2023, 09:12

Hi

the week Genome structure and evolution by Prof Kaessmann has to be postponed

New 29/30/Nov; 1-12 Vorlesung 4./5.12 Tutorien