bio736 - Evolutionary Transcriptomics

Module label | Evolutionary Transcriptomics
Module code | bio736
Credit points | 6.0 KP
Workload | 180 h
Used in course of study | • Master's Programme Biology > Background Modules
Contact person

Module responsibility
- Arne Nolte

Authorized examiners
- Arne Nolte
- Sascha Laubinger
- Udo Gowik

Module counseling
- Sascha Laubinger
- Udo Gowik

Entry requirements
none

Skills to be acquired in this module
- deepened biological expertise
- deepened knowledge of biological working methods
- data analysis skills; critical and analytical thinking
- independent searching and knowledge of scientific literature
- data presentation and discussion in English (written and spoken)
- statistics & scientific programming

Module contents
Lecture: Gene expression represents the first step of the translation of genomic information into a phenotype. This phenotype is of broad interest in all disciplines of biology. Gene expression data can reveal how genetic changes at single genes manifest phenotypically and how gene expression is regulated. The same data can also explain differences in life history and adaptation to different environments. Different perspectives can be understood by studying mechanisms of gene regulation as well as broad scale transcriptomics analyses.

Exercise: We will generate and analyze gene expression data during the course including wet lab and computational methods. Practicals include the analysis of single-gene expression data as well as RNAseq data representing complete transcriptomes.

Reader's advisory

Links

Languages of instruction | German, English
Duration (semesters) | 1 Semester
Module frequency
Module capacity | 12
Reference text | associated with bio733: Evolutionary Biology Population Genetics (recommended)
Modullevel | MM (Mastermodul / Master module)
Modulart | Wahlpflicht / Elective

Lern-/Lehrform / Type of program
Vorkenntnisse / Previous knowledge | Evolutionary Biology

Examination
Time of examination | Type of examination
Final exam of module | portfolio (60%)
presentation (40%)

Course type | Comment | SWS | Frequency | Workload attendance
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Lecture | 1.00 | WiSe | 14 h
Exercises | 3.00 | WiSe | 42 h

Total time of attendance for the module | 56 h