mar610 - Profile Module Isolation and characterization of microorganisms

Module label: Profile Module Isolation and characterization of microorganisms
Module code: mar610
Credit points: 6.0 KP
Workload: 180 h
Used in course of study: • Master's Programme Microbiology > Mastermodule

Contact person: Module responsibility
  - Heribert Cypionka

Entry requirements: Microbial Physiology and diversity (M1)

Skills to be acquired in this module:
In this course the students will isolate bacteria and other microorganisms. They will learn classical microbiological techniques as enrichment culture, aseptic work, preparation of liquid and solid media, cultivation under oxic and anoxic condition, on agar plates and in deep agar dilution, description of microbes by techniques as staining, microscopy, microphotography.

Module contents:
Prior to the laboratory work the participants shall read literature about first isolation, description and current studies on their target organisms and present this and their isolation strategy in the seminar. During the course and at the end, results and a possible molecular identification of isolates will be presented and discussed.

Practical work: Every student prepares media and agar plates required for the isolation of the different target organisms. If pure cultures have been isolated, they should be transferred to long-term storage on agar and in liquid nitrogen. Sampling sites and different stages of the enrichment and isolation are documented by macro- and microphotography and described in the report. Finally, tests to verify purity of the culture and its identification, as well as a phylogenetic analysis are requested.

Reader’s advisory:

Links:
Language of instruction: English
Duration (semesters): 1 Semester
Module frequency: jährlich
Module capacity: unlimited
Reference text:
  - 6 CP | SE; PR | 1. or 3. FS | Cypionka
  - MM (Mastermodul)
  - Wahlpflicht
Lern-Lehrform / Type of program:
  - Seminar (2 CP, 1 SPPW ), practical course (4 CP, 4 SPPW)
Vorkenntnisse / Previous knowledge:

Examination:
Type of examination:
  - One assessment of examination:
    - Portfolio (seminar presentation, written protocol)
    - Protocol (100 %), webpage, seminar presentation (no mark). Active participation (Active and documented participation in practical courses (labs, exercises, seminars, field trips) and courses. These include e.g. the delivery of exercises, writing a lab report or seminar presentations according to the advice of the course supervisor.)

Course type:
  - Seminar: 1.00
  - Practical: 4.00
Total time of attendance for the module:
  - 14 h
  - 56 h
  - 70 h