

Title of Course:

Modular advanced practical in the focal point programme "Molecular Medicine",

VZ: 209 806 / 209 852

"Characterization of proteins required for peroxisomal biogenesis in humans, yeast and trypanosoma parasites"

Type: Compulsory Course			Workload 120h	Intended for Semester 1	Duration 2 weeks
I	Module: Elective Practical		Hours per Week	Self-study 46,5 h	Credit Points
			5.25		
2	Teaching Methods: a) A two-week all-day practical lab course in a research group; b) Integrated seminar				
3	Group Size: 1-3				
4	Learning/Course Objectives: After completion of the course, students will have aquired basic practical skills in biochemical, microbiological and molecular biological methods. The students will be able to isolate protein-complexes by affinity chromatography and to characterize these complexes according to their size (size-exclusion chromatography) and constituents (SDS-PAGE, immuno-blotting). Students will learn how state-of-the-art molecular cell biological methods are used to tackle the structure and function of cellular nanomachines with the peroxisomal protein translocation apparatus as an example.				
5	Contents: The module focuses on: . the characterization of single proteins and protein complexes of the peroxisomal protein import machinery from yeast and/or human . the elucidation of protein-protein interactions and determination of contact sites . studies of peroxisomes specific protein-degradation . Parasite (trypanosomal spec) drug targets on protein level				
6	Degree Courses: Master of Science Biochemistry				
7	Prerequisite(s): Knowledge of basic methods in molecular biology and protein chemistry.				
8	Method(s) of Examination: Assessment of active and successful participation in the practical (50%) and a written project report (50%)				
9	Requirements for Acquiring Credit Points: Achievement of at least the mark "sufficient" regarding the above modes of examination.				
10	Significance for Overall Grade: Weighted according to CPs				
II	Frequency: Every winter term				
12	Lecturer(s): Prof Dr. Ralf Erdmann and teaching assistants				
13	Additional Information: This lab course is one of four courses in total to be completed in the first term, which must be fulfilled in different Focal Point Programs				