

Module	Training opportunities in Parasitology: combining field and laboratory research
Organizer	Marcelo Urbano Ferreira
Goals	Interplay between field studies and laboratory.
Contents	<p>The course combines field research experience in the Amazon Basin of Brazil and laboratory research in the core laboratory facilities (USP). It provides an unique opportunity to address a major gap in research capacity training at both institutions. Students often lack the skills required to design, fund and conduct field-oriented research in resource-poor field sites, such as those endemic for neglected tropical diseases. This course offers intensive training in field-oriented research in a real research setting and basic training in sample processing and analysis.</p> <p>Field station:</p> <p>The field station is located in the town of Acrelândia (09°49'40''S, 66°53' 00''W), Acre State, Brazil. The agricultural settlements surrounding Acrelândia are endemic for malaria, leishmaniasis and the neglected filarial <i>Mansonella ozzardi</i>. The laboratory is equipped with microscopes, autoclave, refrigerators, freezer and ultrafreezer, liquid nitrogen containers, laminar flow hood, Diesel power generators, automated cell counter and two 4WD vehicles. It has also basic lodging facilities for 8 researchers.</p> <p>Core laboratory in São Paulo:</p> <p>Biological samples of our field projects are shipped to our core laboratory in São Paulo, where they are routinely processed.</p>
Methods	<ul style="list-style-type: none"> • Real-time PCR • ELISA • Sequencing
Exams	Protocol, seminar presentation
Language	English/Portuguese

Module	Analysis of organelle specific oxidative stress in malaria
Organizer	Carsten Wrenger
Goals	Analysis of the ROS status in cellular compartments.
Contents	Construct design
Methods	<ul style="list-style-type: none"> • Transfection of <i>P. falciparum</i> • Quantitative fluorescence microscopy
Language	English/German/Portuguese

Module	Aspects of virulence factor expression in <i>P. falciparum</i>
Organizer	Gerhard Wunderlich
Goals	Analysis of the mode of variant gene transcription in <i>P. falciparum</i> , analysis of virulence associated phenotypes
Contents	Preparation of virulence factor expressing <i>P. falciparum</i> lineages <i>in vitro</i> , global high throughput transcript analysis (RNAseq), transfection and genetic manipulation of parasites using novel technologies (tunable approaches, genome editing)
Methods	<ul style="list-style-type: none"> • Cell culture of malaria parasites • RNAseq • common protein methods (Westernblot, (Immuno)-fluorescence microscopy • Molecular Cloning
Language	English/German/Portuguese