

There will be a seminar the 11th of June at 16.00 in lecture hall G by **Eric Beitz**.
The title of the seminar is:

Transmembrane transport of solutes in the malarial parasite

Abstract:

We aim at identifying more sustainable drug targets to fight resistant parasites causing – among others – toxoplasmosis, sleeping sickness, and malaria. Contrary to current treatments that hit resistance-prone, intracellular metabolic pathways, our strategy to circumvent defense mechanisms is to attack the parasites from the outside by blocking vital, yet largely unknown transporters for nutrients and metabolites. In this sense, we have identified and biochemically characterized the first protozoan aquaporins (AQP) with a major focus on PfAQP from the malarial parasite *Plasmodium falciparum*. PfAQP exhibits a bi-functionality with high permeability rates for water and solutes, mainly glycerol. We have identified the responsible structural element to reside in an extracellular connecting loop of the protein that has not been associated with aquaporin selectivity before. Glycerol uptake is required by the parasite to biosynthesize lipids for rapid growth. Malarial parasites generate energy solely from glycolysis resulting in high amounts of the metabolic end product lactate. If not immediately released the parasites will intoxicate themselves within minutes. Recently, we identified a first lactate transporting transmembrane protein in *P. falciparum*. In the talk a structure prediction and the basic properties will be discussed.

Eric will also be the opponent at the dissertation of Sabeen Survery the 12th of June at 10.15 am in lecture hall B.