



**Promotionsvortrag am
22.09.2015, 14.00 – 15.00 Uhr**

Gebäude: E.Bau Raum: 3A16

Albert Eisenbarth

The biology of *Onchocerca ochengi*, a filarial nematode from African cattle, and the implications on the epidemiology of the causative agent of river blindness, *Onchocerca volvulus*

Berichterstatter 1: PD Dr. Alfons Renz

Berichterstatter 2: Prof. Oliver Betz

Kurze Zusammenfassung des Vortrags

Onchocerca ochengi is a common filarial parasite of African zebu cattle, which is non-pathogenic, in contrast to its closest known relative *Onchocerca volvulus*, which causes onchocerciasis (river blindness) in humans. Both filariae are transmitted by the same black fly species of the *Simulium damnosum* complex in Cameroon. My presentation focuses on the biology of *O. ochengi*, including its population dynamics in a longitudinal follow-up study of a cattle herd exposed to natural transmission since their birth. Furthermore, I will discuss the alterations over time in transmission dynamics of the local vector in formerly meso- and hyperendemic onchocerciasis foci in North Cameroon, in order to determine the actual risk for the population and prospects for elimination of river blindness.

In a Sudan savannah focus at the Vina du Nord river basin the annual transmission potential dropped to 3.5 % of pre-control levels after 25 years of annual treatment of the human population with the microfilaricide ivermectin. At the Vina du Sud focus on the Adamawa highland plateau no transmission of the human parasite could be confirmed by molecular detection after 15 years of treatment intervention. The high cattle stock density there has contributed to the regional interruption of transmission. Taken together, the results demonstrate that annual mass drug administration alone may not be sufficient to prevent onchocerciasis in former hyperendemic foci.