Please join us for our Public Research Talk

Thursday, October 11TH 12:00PM-1:15PM
Summerlee Science Complex Room 1511

UNIVERSITY of GUELPH
COLLEGE of BIOLOGICAL SCIENCE

SPECIAL GUEST SPEAKER
DR. SÖRGE KELM
UNIVERSITY OF BREMEN

Trans-Sialylation and its Role in African Trypanosomosis – A Disease of Neglected People

(A Journey from a Biochemistry Lab to the Livelihood Development in Rural Communities)

ABSTRACT

African Trypanosomosis, known as sleeping sickness in humans and as Nagana in livestock animals, is a devastating disease caused by infections with the parasites of the genus Trypanosoma, which are transmitted by blood sucking tsetse flies. Due to the wide distribution of the vector insects in Sub-Sahara Africa (SSA), millions of people are affected by Trypanosomosis, mainly in remote rural areas. Human sleeping sickness, listed as of one of the so-called "Neglected Tropical Diseases" (NTD) by the WHO, has been successfully controlled in most parts of the continent and nowadays is restricted to a few foci. However, the socioeconomic consequences of Nagana in livestock animals is devastating and prevents productive animal farming in large areas of SSA. It causes an annual loss of about 4.5 billion USD in agriculture productivity due to the death of more then 3 million cattle, with 40 millions estimated to be threatened. While large farms can reduce the risk for their animals by several preventive measures and treatment of infected animals, this is out of reach for small farmers, particularly in very remote areas, with drastic consequences on their economic situation.

For the affected communities, Trypanosomosis adds to many other diseases, e.g. due to infection or caused by malnutrition, as well as poor infrastructure, including little or no access to education or medical health care. Thus, Trypanosomosis is not (only) a NDT, it should be looked at as a Disease of Neglected People.

Over the last decade we have gradually moved from the characterisation of a biochemically interesting enzyme (trans-sialidase) typical for trypanosomes to its role in the disease and its transmission to the question how to improve the livelihood of these neglected communities in general. This has led us to evolve concepts towards addressing sustained livelihood development by capacity building at African universities, which we now want to implement with our African partners.