



Excellent project



Title:	Real-Time PCR to detect <i>Giardia lamblia</i> in patients (VL5M students)
Vacancy:	One or two Life Science students (at VL5M level)
Credits:	Excellent star after consultation (e.g. gedrevenheid of vakbekwame en reflectieve professional)
Assessment:	Final assessment will be based on technical skills and delivery of a new assay with corresponding protocol
Required skills:	Affinity with molecular DNA technology and parasitological infections
Interim products:	Midterm and final presentation
Location:	Heidelberglaan 7, Utrecht
Contact person:	John Bouwman

Background information:

Giardiasis is an intestinal diarrheal illness caused by the protozoan parasite *Giardia lamblia*. Traditionally, giardiasis has been diagnosed in patients using fecal concentration and microscopy techniques. In recent years PCR based methods showed excellent specificity and sensitivity and replaced microscopy in clinical microbiology labs. For teaching purposes ILC wants an 'in-house' Giardia Real-Time PCR for implementation in courses Microbiology e.g. VL5M Projecticum Medische Microbiologie.

Objective:

Aim of this project is to design and develop an 'in-house' Real-Time PCR for the detection of *Giardia lamblia* in patients material. After experimental setup the student will construct a comprehensive and clearly written protocol for the new assay procedure.

Approach:

To obtain this objective, the student will first study how PCR assays are used as a diagnostic tool for intestinal infection by *Giardia lamblia*. The student has to collect stool samples and isolate *Giardia*-DNA. Subsequently *Giardia*-specific PCR primers and a detection probe have to be ordered and tested. Finally, the assay has to be performed on species-specific DNA controls and well-defined stool samples and protocol must be written.

Applicant profile:

The applicant is a microbiology VL5M student and has affinity with molecular DNA technology and parasitological diseases. Furthermore he/she is interested in current diagnostic methods and is a punctual, enthusiastic and communicative student. Good laboratory skills, creativity and a critical attitude are required.

Additional information:

Are you interested in this project, please feel free to contact me at any time.
John Bouwman