

# Laboratory Diagnosis of Human Parasitic Infections

Monday January 27<sup>th</sup> – February 7<sup>th</sup> 2020

9:00 – 17:00 uur

*<see daily actual starting time in schedule below>*

**Course language:**

English

**Course venue:**

University of Applied Sciences Leiden (Hogeschool Leiden), Zernikedreef 11, Leiden, Netherlands

<http://www.hsleiden.nl/english>

This location is about 10 minutes 'walk from Leiden Central station.

**Speakers:** (week 1 or week 2)

Department of Parasitology; LUMC

- E.A.T. Brienen (1,2)
- Prof. Dr. C.H. Hokke (2)
- Dr. L. van Lieshout (1,2)
- Dr. M. Roestenberg (2)

Other departments LUMC

- Dr. M. van der Beek, Dept. Medical Microbiology (2)
- Prof. Dr. L.G. Visser, Dept. Infectious Diseases (1,2)

Guest-speakers

- Dr. J. van der Giessen, Center of Disease Control the Netherlands ; National Institute of Public Health and Environment, Bilthoven (1)
- Drs. A. van Goor, Microbiology, University of Applied Sciences Leiden (1,2)
- Dr. C.L.M. van Hees, Dermatology, Erasmus MC, Rotterdam (2)
- Dr. J.J. van Hellemond, Microbiology, Erasmus MC, Harbour hospital, Rotterdam (2)
- Drs. L.M. Kortbeek, Center of Disease Control the Netherlands ; National Institute of Public Health and Environment, Bilthoven (2)
- Dr. T.G. Mank, Regional Laboratory for Medical Microbiology and Public Health, Haarlem (1)
- Dr. B. Mulder, Dept. Medical Microbiology and Infectious Diseases; Canisius Wilhelmina Hospital;Nijmegen (2)
- Dr. F. Stelma, Dept. Medical Microbiology, Radboud UMC, Nijmegen (2)
- Dr. J.J. Verweij, Laboratory for Medical Microbiology and Immunology; Laboratory for Clinical Pathology; St. Elisabeth Hospital, Tilburg (1,2)

# Monday 27 January 2020

Approx. 30 min - pre-course homestudy

**Introduction to course and laboratory diagnosis of parasitic infection**

*L. van Lieshout*

Approx. 1 hr - pre-course homestudy

**Diagnosis of soil transmitted helminths and Strongyloides, some theoretical aspects**

*L. van Lieshout*

Approx. 30 min - pre-course homestudy

**Diagnosis of Echinococcosis, Taenia and other common cestodes; some theoretical aspects**

*L. van Lieshout*

09.45 - 10.15     **Registration, coffee/tea**

10.15 - 10.30     Introduction to room G3.004

10.30 - 11.00     **Quiz and FAQ about pre-course homework**

*L. van Lieshout*

11.00 - 12.30     **Diagnosis of soil transmitted helminths and cestodes – practice**

**Strongyloides – the neglected among the neglected - theory**

*L. van Lieshout; E.A.T. Brienen, A. van Goor*

12.30 - 13.15     **Lunch break**

13.15 - 14.15     **Clinical aspects of echinococcosis**

*M. Roestenberg*

14.15 - 15.15     **Epidemiology and control of echinococcosis**

*J. van der Giessen*

15.15 - 15.30     **Coffee/tea break**

15.30 - 16.30     **Diagnosis of soil transmitted helminths and cestodes - practice**

*L. van Lieshout; E.A.T. Brienen, A. van Goor*

16.30 - 17.00     **Discussion about patient of the day, slide quiz and general review**

*L. van Lieshout*

# Tuesday 28 January 2020

Approx. 30 min - homestudy

## **Diagnosis of trematodes, some general aspects**

*L. van Lieshout*

- 09.30 – 10.30 **Diagnosis and control of schistosomiasis - theoretical aspects**  
**Quiz and FAQ about homework**  
*L. van Lieshout*
- 10.30 - 10.45 **Coffea/tea break**
- 10.45 - 12.30 **Laboratory procedures for the diagnosis of helminths in stool and urine**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.30 - 13.15 **Lunch break**
- 13.15 - 14.00 **Laboratory procedures for the diagnosis of helminths in stool and urine**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 14.00 - 14.45 **Blinded cases for the diagnosis of helminths**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 14.45 - 15.00 **Coffea/tea break**
- 15.00 - 16.30 **Blinded cases for the diagnosis of helminths**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 16.30 - 17.00 **Discussion about patient of the day, slide quiz and general review**  
*L. van Lieshout*

# Wednesday 29 January 2020

Approx. 30 min - homestudy

## **Diagnosis of intestinal protozoa, some general aspects**

*L. van Lieshout*

- 09.30 - 10.30    **Laboratory diagnosis of amoebiasis, theory and practice**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 10.30 - 10.45    **Coffea/tea break**
- 10.45 - 11.30    **Laboratory diagnosis of other pathogenic intestinal protozoa, theory and practice**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 11.30 - 12.30    **Laboratory diagnosis of non-pathogenic intestinal protozoa, theory and practice**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.30 - 13.15    **Lunch break**
- 13.15 - 15.00    ***Giardia* and *D. fragilis*, clinical aspects, diagnostics and epidemiology**  
*T.G. Mank*
- 15.00 - 15.15    **Coffea/tea break**
- 15.15 - 16.30    **Blinded cases for the diagnosis of most common intestinal prozoa**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 16.30 - 17.00    **Slide quiz, discussion about patient of the day and general review**  
*L. van Lieshout*

# Thursday 30 January 2020

Approx. 30 min - homestudy

## **Diagnosis of coccidia and microsporidium, some general aspects**

*L. van Lieshout*

- 09.30 - 10.00    **Artefacts when detecting helminth or protozoa in stool or urine**  
*E.A.T. Brienen*
- 10.00 - 10.30    **Laboratory diagnosis of coccidia and microsporidium and artefacts**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 10.30 - 10.45    **Coffea/tea break**
- 10.45 - 12.30    **Laboratory diagnosis of *P. falciparum*, theory and practice**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.30 - 13.15    **Lunch break**
- 13.15 - 15.00    **Laboratory diagnosis of non-*P. falciparum* malaria, theory and practice**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 15.00 - 15.15    **Coffea/tea break**
- 15.15 - 16.30    **Blinded cases for the diagnosis of malaria**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 16.30 - 17.00    **Slide quiz, discussion about patient of the day and general review**  
*L. van Lieshout*
- 17.00 - 20.30    **Social Event – (optional)**  
*Dutch pancakes – Dutch treat (not included in the fee)*

# Friday 31 January 2020

- 09.00 - 10.30 **New developments in the laboratory diagnosis of parasitic infection**  
*J.J. Verweij*
- 10.30 - 10.45 **Coffea/tea break**
- 10.45 - 11.30 **A brief introduction to other common blood and tissue parasites**  
*L. van Lieshout*
- 11.30 - 12.30 **Laboratory diagnosis of other common blood and tissue parasites**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.30 - 13.15 **Lunch break**
- 13.15 - 14.30 **Blinded cases for the diagnosis of parasitic infections**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 14.30 - 15.15 **Discussion about patient of the day, quiz and general evaluation of the week**  
*L. van Lieshout*
- 15.15 - 15.30 **Coffea/tea break**
- 15.30 - 16.45 **Clinical aspects of parasitic infections discussed during the first week**  
*L. Visser*
- 16.45 - 17:00 **Closure of week 1**  
*L. van Lieshout*

# Monday 3 February 2020

Approx. 30 min - homestudy

## **Filariasis and dracunculosis – within endemic regions**

*L. van Lieshout*

Approx. 30 min – homestudy (optional)

## **Pneumocystose, clinical aspects, diagnostics and treatment**

*M. van der Beek*

- 09:45 - 10.15    **Pneumocystose practical (optional)**  
*E.A.T. Brienen, A. van Goor*
- 10.15 - 10.30    **Coffea/tea break**
- 10.30 - 12.15    **Malaria microscopy of complicated cases**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.15 - 12.30    **Discussion about patient of the day and general review**  
*L. van Lieshout*
- 12.30 - 13.15    **Lunch break**
- 13.15 - 14.45    **Parasites of the skin**  
*C. van Hees*
- 14.45 - 15.00    **Coffea/tea break**
- 15.00 - 16.15    **Clinical aspects and treatment of malaria**  
*L. Visser*
- 16:15 – 17:00    **Non-microscopy diagnosis of malaria**  
*M. Roestenberg*

# Tuesday 4 February 2020

Approx. 30 min - homestudy

## **Free living amoeba**

*L. van Lieshout*

- 9.00 - 09.30      **Molecular diagnosis of Leishmania and Trypanosoma**  
*J.J. Verweij*
- 09.30 - 10.30    **Ectoparasites**  
*A.van Goor*
- 10.30 - 10.45    **Coffea/tea break**
- 10.45 - 11.00    **Microscopy and macroscopy of ectoparasites and artefacts**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 11.00 - 12.30    **Laboratory diagnosis of special cases (T-cases)**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.30 - 13.15    **Lunch break**
- 13:15 – 14:00    **Filariasis in practice**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 14.00 - 14.45    **Discussion about patient of the day a and special cases (malaria slide quiz)**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 14.45 - 15.00    **Coffea/tea break**
- 15.00 - 16.00    **Toxoplasmosis**  
*L.M. Kortbeek*
- 16:00 – 17:00    **Clinical aspects of toxocariasis and trichinellosis**  
*L.M. Kortbeek*



## Wednesday 5 February 2020

- 09.00 - 10.30 **Trichomonas & clinical cases seen in a Dutch travel clinic or academic hospital**  
*J. van Hellemond*
- 10.30 - 10.45 **Coffea/tea break**
- 10.45 - 12.15 **Blinded cases diagnosis (IP-cases)**  
*L. van Lieshout; E.A.T. Brienen*
- 12.15 - 12.30 **Discussion about patient of the day and general review**  
*L. van Lieshout*
- 12.30 - 13.15 **Lunch break**
- 13.15 - 13.30 **Walk to LUMC (room L4-25, Medical Microbiology)**
- 13.30 - 15.00 **Therapy of malaria, leishmania and other more complicated parasitic infections**  
*L. Visser*
- 15.00 - 15.15 **Coffea/tea break**
- 15.15 - 16.00 **Research in human parasitology**  
*C.H. Hokke*
- 16.00 - 17.00 **Visit to research department of Parasitology, LUMC**  
*L. van Lieshout, C.H. Hokke*

# Thursday 6 February 2020

Approx. 30 min - homestudy

**Readings about parasites discussed so far during the course**

*L. van Lieshout*

- 09.30 - 10.30 **Malaria microscopy of complicated cases, including slidequiz**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 10.30 - 10.45 **Coffea/tea break**
- 10.45 - 12.30 **Blinded cases diagnosis (T -cases)**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 12.30 - 13.15 **Lunch break**
- 13.15 - 14.15 **Sarcocistis, gnathostomiasis and other exotic parasites**  
*M. Roestenberg*
- 14:15 – 15:00 **Parasitic cases in severely immunocompromised patients**  
*F. Stelma*
- 15.00 - 15.15 **Coffea/tea break**
- 15.15 - 16.45 **Clinical cases as seen in a Dutch regional laboratory and treatment protocols**  
*B. Mulder*
- 16.45 - 17.00 **Discussion about patient of the day and general review**  
*L. van Lieshout*

# Friday 7 February 2020

Approx 30 min - homestudy

**e-learning “Laboratory Diagnosis parasitic infections”**

*L. van Lieshout*

- 09.30 - 10.00    **Answers of the e-learning “Laboratory Diagnosis parasitic infections”**  
*L. van Lieshout*
- 10.00 - 10.30    **More about microscopy-based techniques for the detection of intestinal parasites: Permanent staining, FLOTAC, mini-FLOTAC and more.**  
*L. van Lieshout*
- 10.30 - 10.45    **Coffea/tea break**
- 10.45 - 11.30    **Blinded cases diagnosis (IP-cases)**  
*L. van Lieshout; E.A.T. Brienen, A. van Goor*
- 11.30 - 11.45    **Answers of the T-cases**  
*L. van Lieshout*
- 11.45 - 12.30    **Case of the day, E-diagnosis, artefacts and delusions**  
*L. van Lieshout*
- 12.30 - 13.15    **Lunch break**
- 13.15 - 13.45    **Discussion about patient of the day and cases of the participants**  
*L. van Lieshout together with participants*
- 13.45 - 14.15    **Final test**  
*L. van Lieshout*
- 14.15 - 15.30    **Clinical aspects of parasitic infections discussed in during the course**  
*M. Roestenberg / L. Visser*
- 15.30 - 15.45    **Evaluation of the course**  
*E.A.T. Brienen, L. van Lieshout*
- 15.45 - 16.30    **Drinks and departure**
- 16:30**            **Closure of week 2**