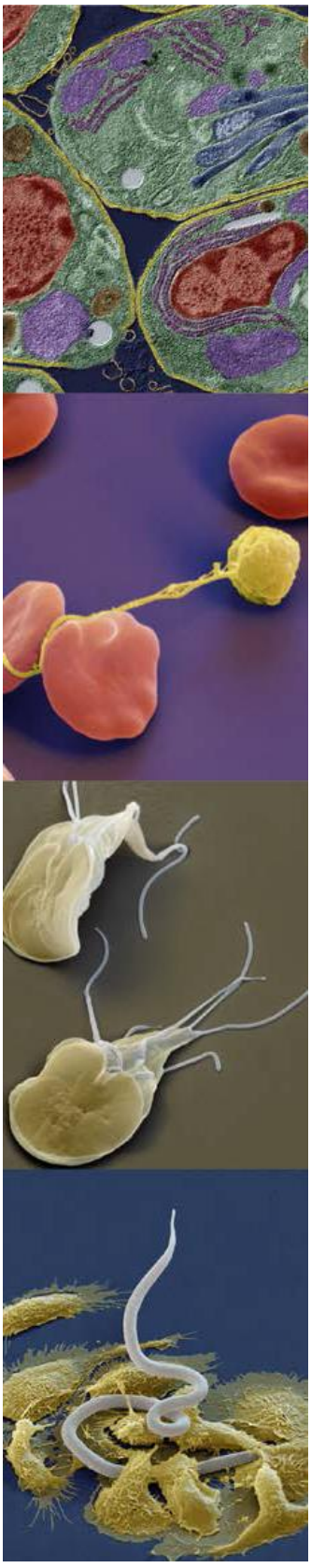
GRK 2046 Newsletter
November 2018



New Coordinator

As most of you will already know, we have recently had a change in the position of programme coordinator. Juliane Kofer has now left the GRK 2046, but since October 2019 continues to work full-time at the ZIBI Graduate School. We would like to thank Juliane for her input and commitment for our GRK, and wish her all the best for her new job!

Marko Janke has taken over the GRK 2046 coordinator position and will briefly introduce himself below.

Marko Janke

Image credit: Institute of Immunology

Hi, my name is Marko and I proudly present myself as new coordinator of RTG 2046. After studying biochemistry at Freie Universität Berlin, I somehow managed to do my PhD thesis in the field of Immunology (involving T cells + B cells in Arthritis, just if you want to know). After thinking a lot (really a lot), I decided not to follow an academic career but rather search for an administrative path involving coordination. That's where I am now. If you want to know more smashing things from my past, just ask me. Now, I am happy to coordinate your RTG. There is only one thing that I ask you for. If you have any questions, criticism, problems etc., just call me, send me an e-mail or come to my office. I have this strange and weird desire to help or assist if I can, for I think a graduate school is in the first line about you, the PhD students.

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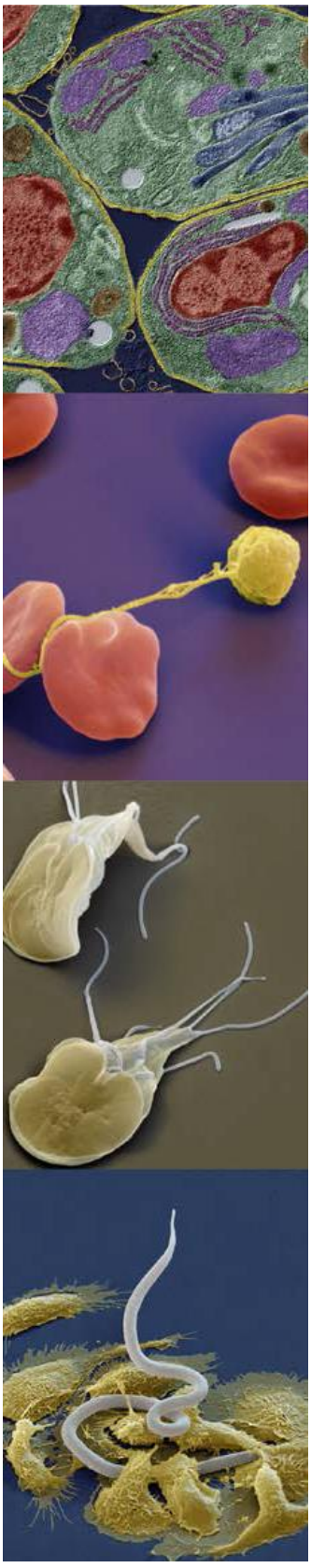

New Students

Benjamin Hamid


Image credit: Institute of Immunology

I completed my BSc (hons) Biomedical Science degree in 2013, and MSc Biotechnology degree in 2014 at Nottingham Trent University (UK). Since then I have spent 3.5 years working in technical roles. First in a large high-throughput diagnostic genetics lab in Manchester, and later at the University of Oxford where I worked on a project researching molecular biomarkers of osteoarthritis disease progression and regeneration. Since July 2018 I have been working on my PhD project at the Institute of Immunology, Freie Universität Berlin, under the supervision of Prof. Susanne Hartmann. My project aims to investigate the adaptation of macrophages and dendritic cells during protozoan-helminth co-infections, and the impact of this on Th1-Th2 polarisation.

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Bhavya Kapse


Image credit: Institute of Immunology

- Studied in India
- Bachelors and masters in Biotechnology and Biochemical Engineering at Indian Institute of Technology Kharagpur
- PhD topic: “Mechanisms of hybrid T helper cell instruction in nematode and *Giardia* infections”
- Institut für Immunologie, Department of Veterinary Medicine, Freie Universität Berlin
- Supervisors: Dr. Sebastian Rausch, Prof. Dr. Susanne Hartmann

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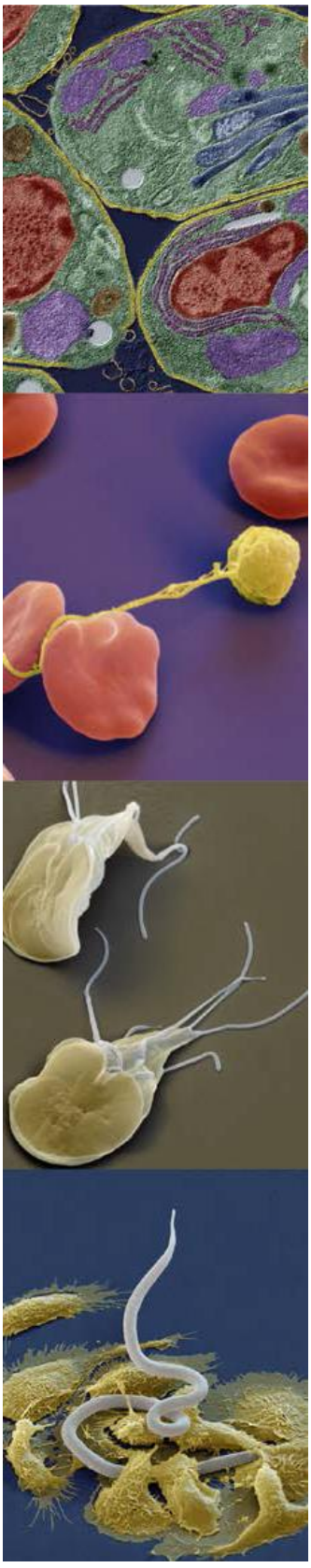

Calvin Hon

Image credit: Calvin Hon

I'm from Hong Kong, and have spent the years before university growing up in both Hong Kong and Singapore. I was living in England in the last 4 years where I have completed the BSc Marine Biology course in University of Portsmouth, followed by the MSc Medical Microbiology course in London School of Hygiene and Tropical Medicine. Since June 2018, I have been working on my PhD project, with the title "Immune correlates of protection against *Plasmodium berghei* infections", with Prof. Dr. Kai Matuschewski and his group at the Department of Molecular Parasitology of Humboldt Universität zu Berlin.

Email: calvin.hon.yan.ki@hu-berlin.de

Dimitrios Alexandros Katelas

Image credit: GRK 2046

I am from Greece, I completed my BSc Chemistry degree in 2016 in the University of Ioannina (UOI) by my MSc Biochemistry program in Ruhr University of Bochum (RUB) in 2018. Since last month I have been on my PhD project under the title "Sphingolipid synthesis in the obligate intracellular parasite *Toxoplasma gondii*" at the Department of Molecular Parasitology, Humboldt University under the supervision of PD Dr. Nishith Gupta. My aim's to characterize the importance of exlusive lipids like phosphatidylthreonine (PtdThr) for the cycle of *Toxoplasma gondii*.

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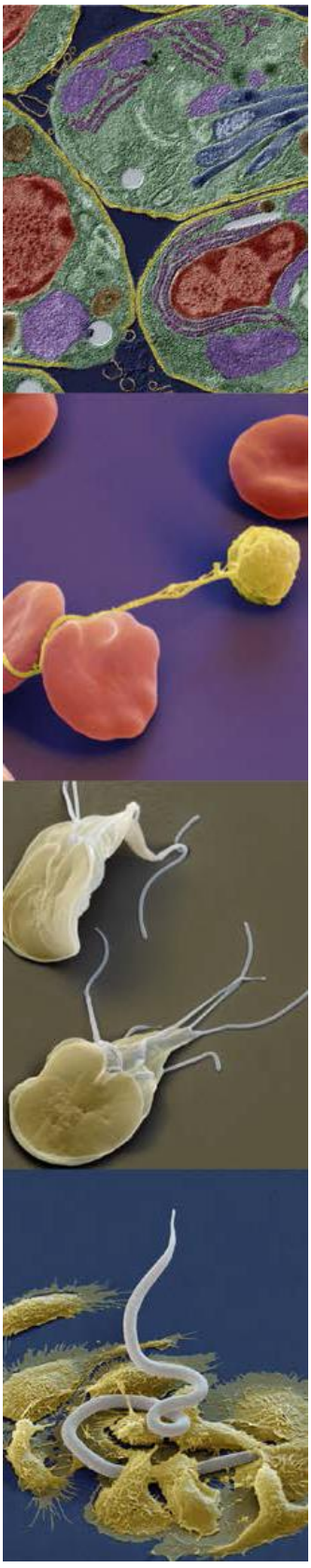

Estefania Delgado Betancourt


Image credit: Estefania Delgado Betancourt

I was born in Colombia and came to Germany seven years ago to pursue my university career. During this time, I did my bachelor's degree in biology followed by a master´s degree also in biology both at the Freie Universität Berlin. Currently I am doing my PhD project titled "Comparative analysis of innate immune responses of intestinal organoids from wild rodents upon infection: Challenging the *Toxoplasma gondii* / laboratory mouse model" at the Robert Koch-Institute in the Mycotic and Parasitic agents and Mycobacteria department (FG16), working specifically in the toxoplasma group of Prof. Dr. Frank Seeber.

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Irina Diekmann


Image credit: Irina Diekmann

- Studied veterinary medicine at the Freie Universität Berlin
- PhD topic "Cyathostomin species complex dimensions in the context of geographical background"
- Freie Universität Berlin, Institute for Parasitology and Tropical Veterinary Medicine
- Supervisors: Prof. Dr. G. von Samson-Himmelstjerna

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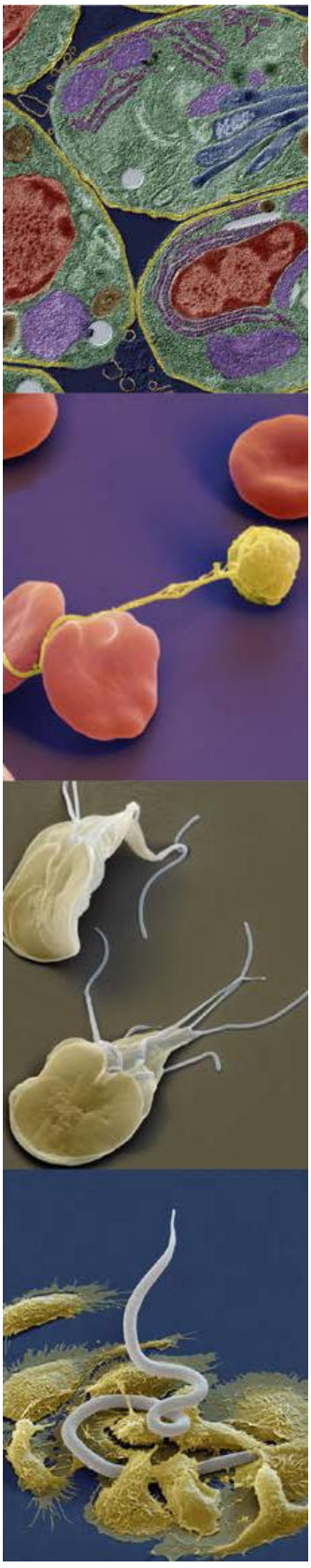

Lubomir Bednar

Image credit: Lubomir Bednar

My PhD project is based around the European "House Mouse Hybrid Zone" (HMHZ) and the two sub-species interacting there, the Western (Mus musculus domesticus) and Eastern (Mus musculus musculus) house mice and their parasites. Thanks to the establishment of hybrid zone by those two species, I can study the background, establishment and mechanics of a unique phenomenon called Hybrid Vigor (also known as out-breeding enhancement or Heterosis). Despite the hybrid mice being evolutionary less fit than their parental strains, they exhibit an increased resistance to intracellular parasites such as Eimeria falciformis and Eimeria ferrisi, which are the two species I focus on. So far nobody has described "what" and "how", the particular immunological mechanism present in these rodents manage to confer an advantage during such infections.

- Supervisor: Prof. Dr. Emanuel Heitlinger
- Masters: Cardiff Metropolitan University, Cardiff, Wales, United Kingdom. MSc in Biomedical Sciences: Microbiology specialization.
- Bachelors: Aberystwyth University, Aberystwyth, Wales, United Kingdom. BSc in Zoology: Parasitology specialization.

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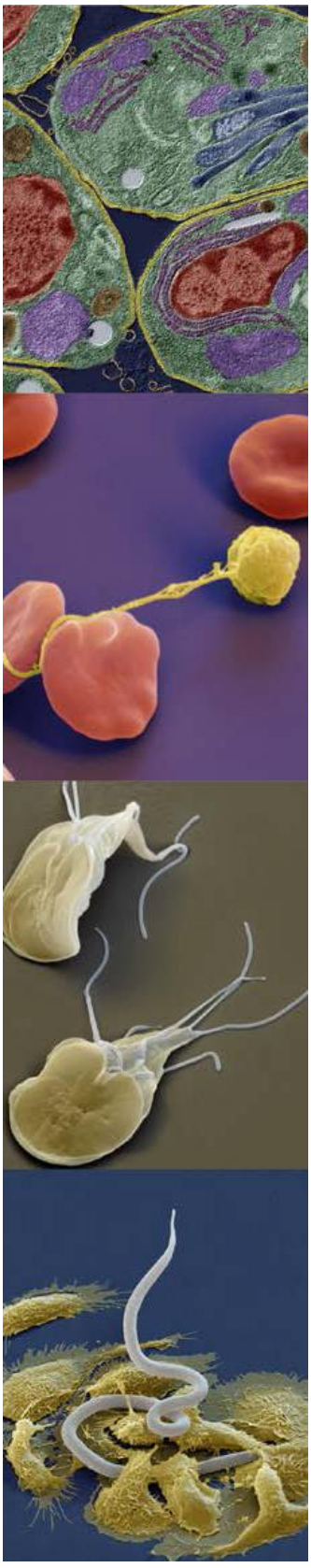

Maria Serocki


Image credit: Maria Serocki

I am working at the Leibniz Institute for Zoo and Wildlife Research (IZW) Berlin since June 2018 on the project “Apicomplexan parasites, immunity and its link to life history states in cheetahs” within the Department of Evolutionary Ecology and the Department of Wildlife Diseases. From 2011 to 2017 I was accomplishing my bachelor’s and master’s studies in Biology at Freie Universität Berlin. During my studies I focused on evolutionary research questions by completing my bachelor and master theses in the Evolutionary Group of Prof Dr Jens Rolff.

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Miguel Veiga


Image credit: Miguel Veiga

I am a Portuguese veterinarian (graduated in 2016, University of Lisbon) and, for my master’s degree, I studied the implications of wild ungulates on bovine tuberculosis dynamics, in Spain. I then returned home to work as a mixed-practice veterinarian for 7 months, before joining the ZIBI Graduate School in mid-April. My PhD project is entitled "Fitness consequences and determinants of parasite infections in a wild social carnivore, the spotted hyena (*Crocuta crocuta*)" and is one of the GRK 2046 projects focusing on parasite infections in natural populations. This is an ongoing project built on previous knowledge acquired from a long-term monitoring of this species by researchers at the department of Ecological Dynamics at the Leibniz Institute for Zoo and Wildlife Research (IZW) and on the work from the first GRK generation, Susana Ferreira.

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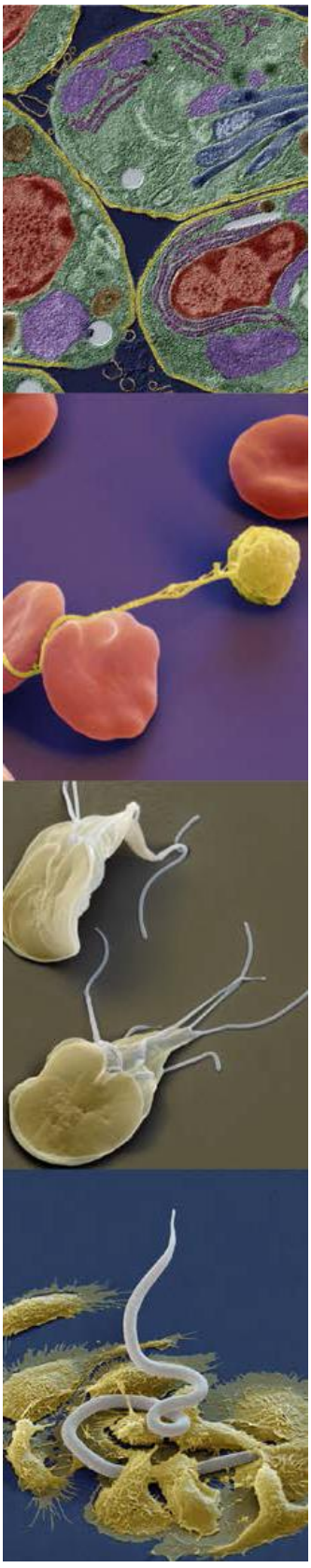

Natalie Jakobs

Image credit: Natalie Jakobs

I studied Chemical Biology for Bachelor and Master degrees at the Technical University of Dortmund, Germany. Now I am working in the group of PD Dr. Jürgen Krücken at the Institute of Veterinary Parasitology, FU Berlin. My PhD project is about the Identification and characterization of ML metabolic pathways in *Cooperia oncophora*.

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Robin Benter

Image credit: GRK 2046

I'm from the north of Germany, Mecklenburg-Western Pomerania, and came to Berlin for a training as a biology lab technician. After training, I worked in a GMP-based vaccination manufacturing company and then decided to study. In 2015, I completed my BSc in Biology and in 2018 my MSc in Molecular Life Sciences at the Humboldt University of Berlin. Since May of this year, I have started my PhD project entitled "The role of microbial communities in structuring mosquito populations" at the Max Planck Institute for Infection Biology at the department of vector biology supervised by Dr. Elena A. Levashina. This includes the study of factors which are relevant for shaping mosquito populations. Therefore I will perform high throughput time series analyses of collected anopheline larvae to identify gender, species, TEP1 (complement-like factor – relevant for Plasmodium infections) with the main focus on the microbiota, which play a crucial role in almost all organisms.

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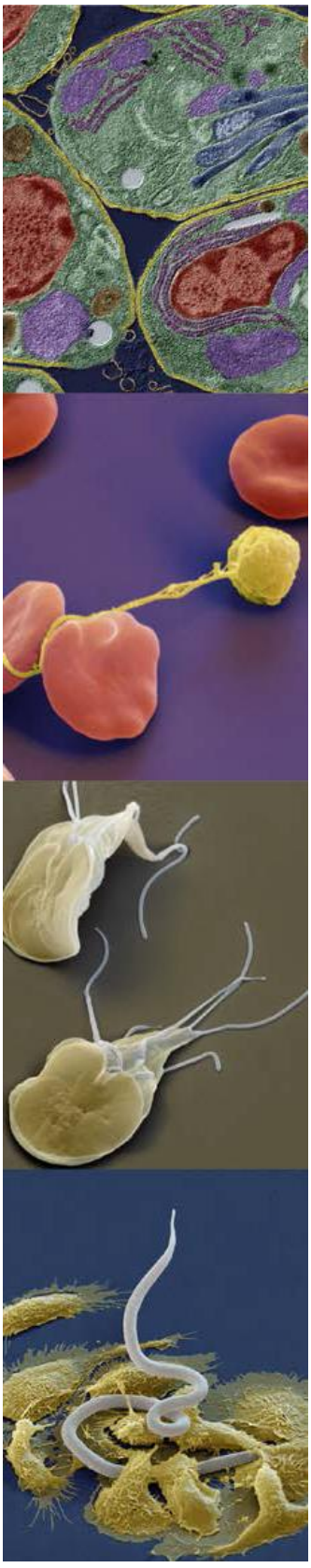

Welmoed van Loon

Image credit: Welmoed van Loon

Hi all, I'm Welmoed, started in June at Prof. Mockenhaupt's malaria research group and I plan to investigate artemisinin efficacy and resistance in relation to hemoglobinopathies. I did an MSc in Antwerp; Tropical and Infectious Diseases, my dissertation research topic: tuberculosis immunology. After that I worked for half a year at the Public Health department of the Rotterdam University as a mathematical modeller in infectious disease transmission. More important things to define myself though: yellow is my favorite color and I like desserts (note the double s...) and funk.

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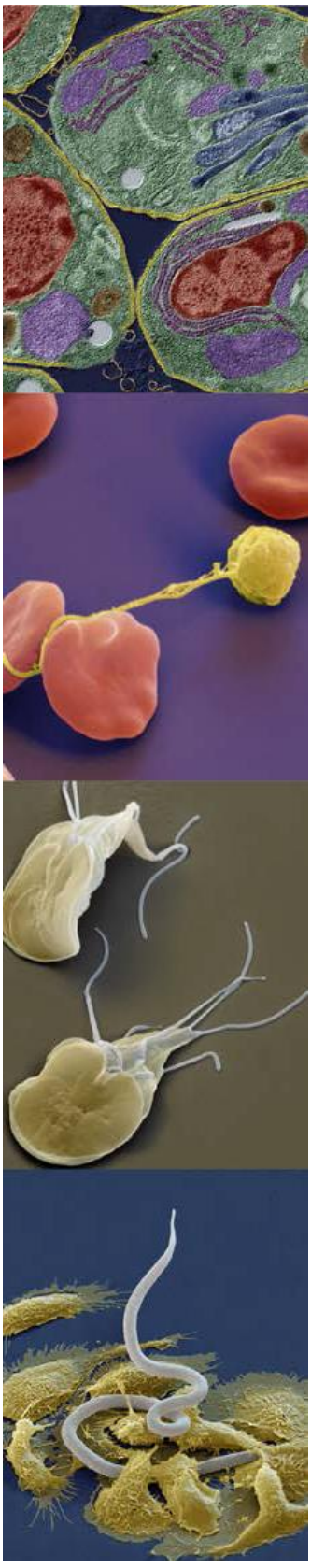
Berlin Parasitology Seminars

Boris Striepen
University of Pennsylvania

8th May 2018

In May 2018 I had the pleasure to host the pioneer of the current wave of research on *Cryptosporidium* spp., Boris Striepen from the University of Pennsylvania in Philadelphia. Dr. Striepen was the first to successfully apply the CRISPR/Cas9 technique on this parasite, which cause a diarrheal disease with millions of deaths per year. The finding foster research on drugs against this parasite and Striepen lab is an undisputed leader in this field. Striepen not only gave an overview on the current tools to study the parasite but also presented precious and exciting unpublished data. For example, the parasite remodels host's actin to allow infection and it seems to secrete proteins that reach the host's nucleus, similarly to other Apicomplexa like Plasmodium and Toxoplasma.

– Francesca Torelli



Scott Lindner
Pennsylvania State University

22nd May 2018

Scott Lindner presented his work in a talk entitled “Adaptation of Translational Repression for Efficient Transmission of Malaria Parasites”. His engaging talk focused on translationally repressed mRNAs important for *Plasmodium* transmission between host to vector and vice versa. In particular, he talked about the role of the CAF1/CCR4/NOT complex in gametocytogenesis and the importance of deadenylase components for male gametocyte maturation. The seminar was followed by a lively discussion and an informal get together after the talk.

– Oriana Kreutzfeld

Celia Holland
Trinity College Dublin

10th July 2018

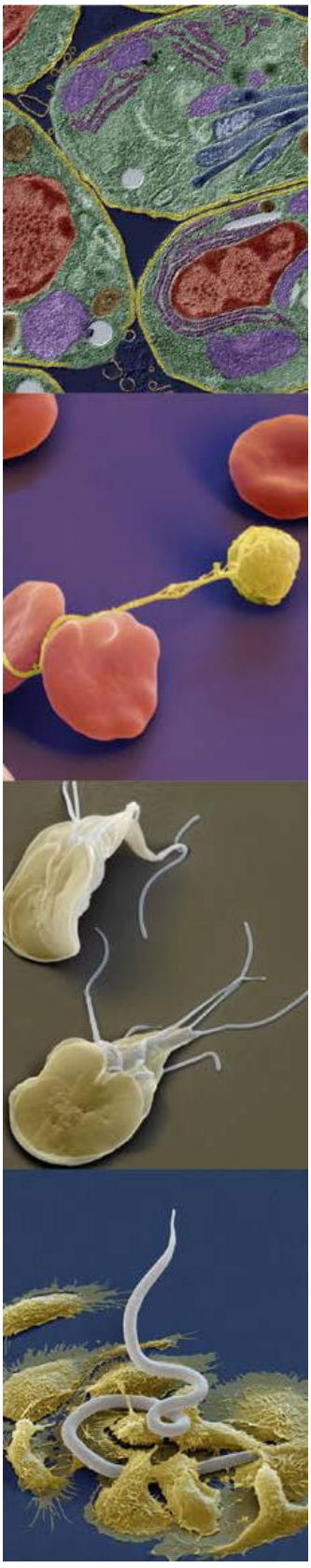
Professor Celia Holland presented her work in her talk “Chasing *Ascaris* aggregation from the field to the laboratory”. A researcher, devoted personally and professionally, to investigating not only *Ascaris*, but generally the impact of parasite infections on the host. Being one of the foremost researchers on the field of globally significant but neglected helminths and their epidemiology, she not only published one of the most influencing books about “*Ascaris* – the Neglected Parasite”, but is a constant inspiration to us.

– Lisa Käbisch

Ray M. Kaplan
University of Georgia

16th October 2018

Ray Kaplan is Professor for Veterinary Parasitology at the University of Georgia and his contributions have shaped the field of anthelmintic resistance (AR) in parasitic helminth for two decades. Accordingly, in his talk "The Global Rise of Anthelmintic Resistance and What This Means for the Future of Parasite Control" he reviewed the current situation, depicting the extent of the problem in a large number of parasitic helminths. To wrap up the talk, Professor Kaplan introduced the idea of



refugia management and presented computer-model and real-world data suggesting that this is a sustainable approach to reducing the development and spread of AR. The talk was followed by a vivid discussion which was continued over Bretzels and Beer.

– Alexander Gerhard

Retreat

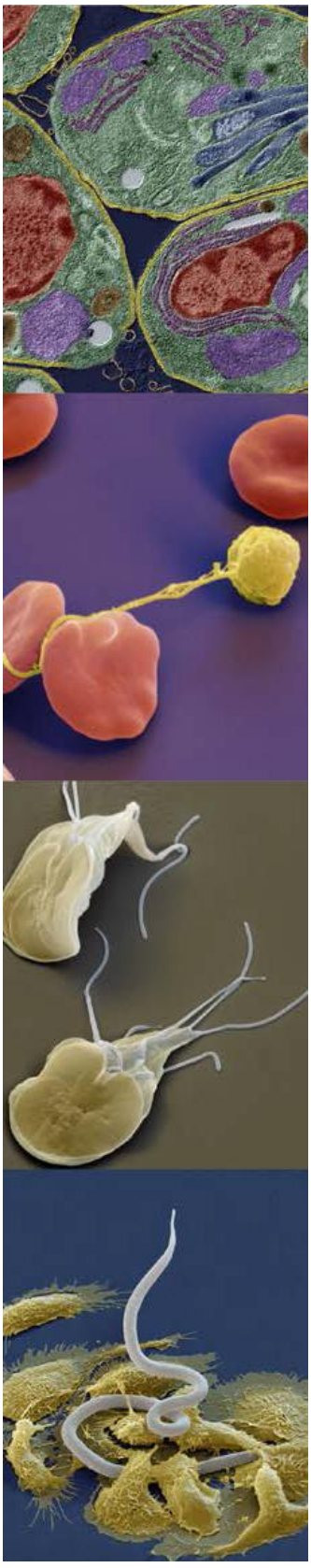
The annual GRK 2046 retreat was organized on 29th and 30th October 2018. The retreat was inaugurated with the welcome address by the director and a brief introduction to the second generation of GRK 2046. The welcome address was followed by the talk sessions by the 1st and 2nd generation students. The first day was concluded with a short quiz and games session and the social evening. The second half of the retreat comprised of the talk sessions and a meeting of the doctoral researchers with the director and the co-ordinator and the election of the student representatives.

– Bhavya Kapse

The annual GRK 2046 retreat took place on the 29th and 30th October 2018. This was a fantastic opportunity for all GRK 2046 students and PIs to hear updates on the broad range of projects being conducted within the graduate school, many of which are now nearing completion. All new second-generation students also presented their aims and future plans, and it was interesting to see how these built on the work of the first-generation students.

This was also the first major opportunity for networking between the first and second-generation students from all of the participating institutes. This important social aspect was greatly eased by a range of entertaining games prepared by Lubomir Bednar and Jonnel Jaurigue. A big thank you to them, and to the retreat organisers Irina Diekmann and Natalie Jakobs.

– Benjamin Hamid



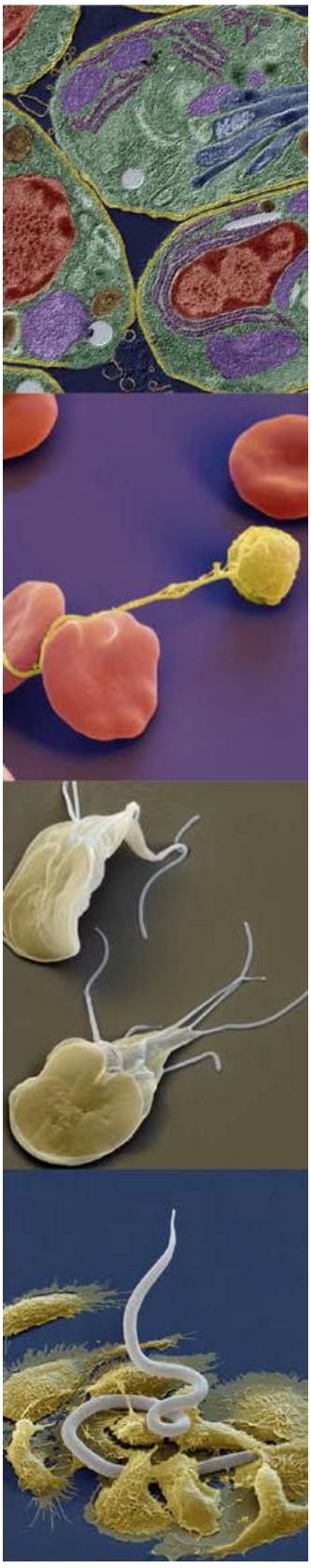
Conferences

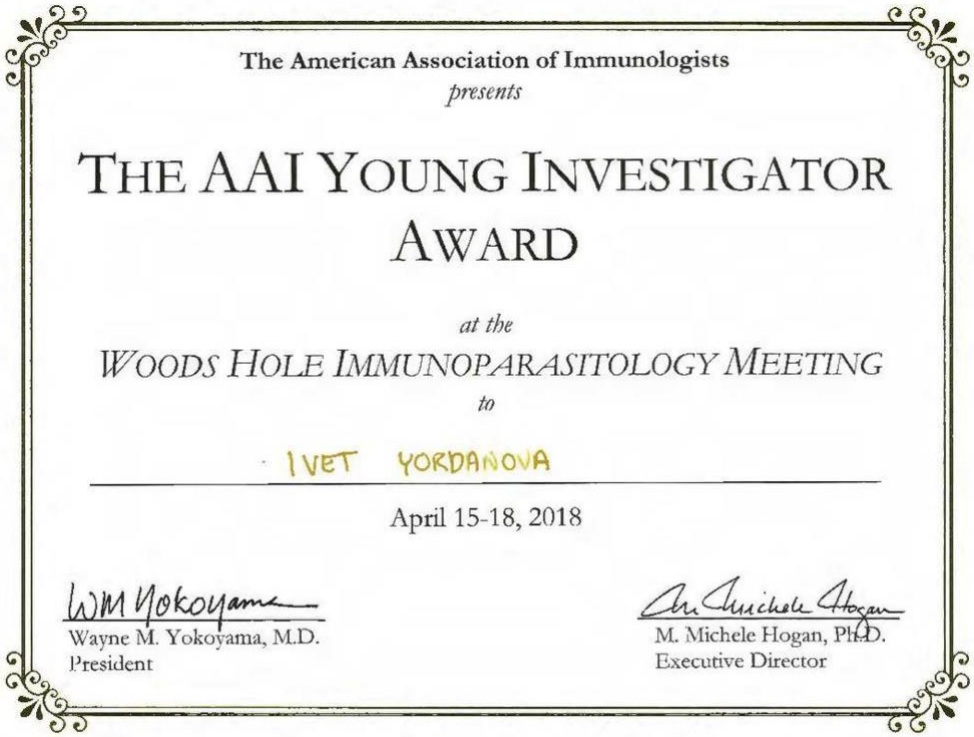
22nd Annual Woods Hole Immunoparasitology Meeting (WHIP)

15-18 April 2018
Woods Hole, MA, USA

Image credit: Ivet Yordanova

This year our GRK 2046-associated PhD student Ivet Yordanova attended the well-renowned Woods Hole Immunoparasitology Meeting (WHIP) at the Marine Biological Laboratory in Woods Hole, MA from the 15th to the 18th April. The tranquil research town, situated on the picturesque Cape Cod, hosts famous annual immunoparasitology and molecular parasitology meetings, as well as the long-established Biology of Parasitism summer course. During WHIP 2018, Ivet presented part of her work on the role of eosinophils in host immunity to *Giardia* infections in mice. The meeting provided an excellent opportunity to network with other PhD students and post-doctoral researchers focusing on eosinophil-mediated immunity against protozoan and helminth infections, as well as fellow Giardia researchers based in the USA. At the closing ceremony of WHIP 2018 Ivet was awarded an American Association of Immunologists (AAI) Young Investigator Award" for her poster presentation titled "Host determinants of immunity to *Giardia muris*".





The American Association of Immunologists
presents

THE AAI YOUNG INVESTIGATOR AWARD

at the

WOODS HOLE IMMUNOPARASITOLOGY MEETING

to

IVET YORDANOVA

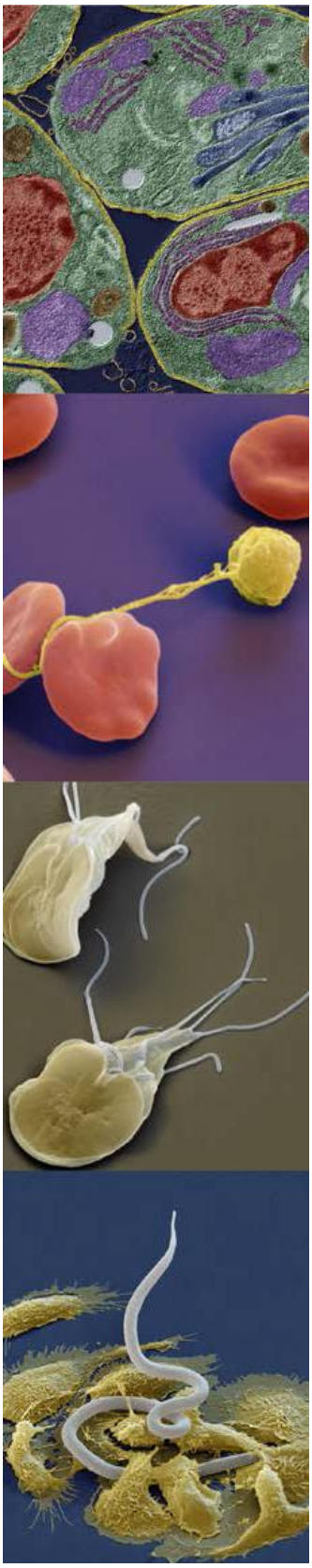
April 15-18, 2018

WM Yokoyama
Wayne M. Yokoyama, M.D.
President

M. Michele Hogan
M. Michele Hogan, Ph.D.
Executive Director

Image credit: Ivet Yordanova

– Ivet Yordanova

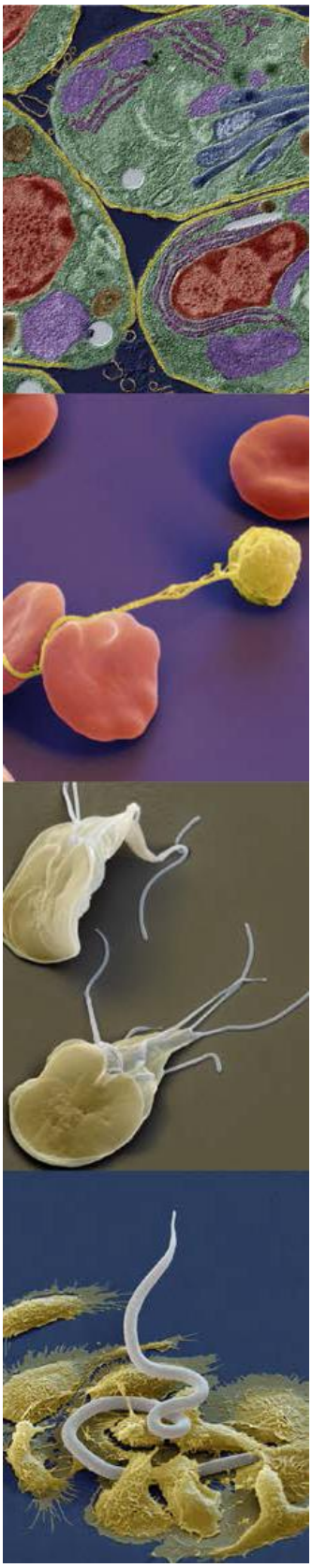


ECI 2018: 5th European Congress of Immunology

2nd - 5th September 2018
Amsterdam, Netherlands

Image credit: Nicole Affinass

The European Congress of Immunology (ECI) is held every three years and attracts around 3000 participants each time. The special focus of the 5th ECI was ‘Building Bridges’ and took place in the beautiful city Amsterdam. ECI covers all fields of modern immunology, including tissue specific regulation of T and B cell differentiation, resident memory T cells, mucosal immunity, innate immune response and immune signaling. The Late Breaking Hot Topic Sessions with the keynote speaker including Judi Allen and Erika Pearce made this conference to a great success. Moreover, I enjoyed and learned a lot during the hands-on training workshops ranging from advanced flow cytometry courses to unsupervised analyses of big data sets. Another highlight of this conference was the workshop “An Expert Guide to Publishing” in which four editors of different journals gave insights about strategies how to prepare a manuscript, mastering the peer review process and increasing the possibility for people to actually find your paper after publishing. Overall, ECI 2018 was a great meeting and I can recommend this



conference to everyone wanting to learn more about the immune system and its regulation.

Image credit: Nicole Affinass

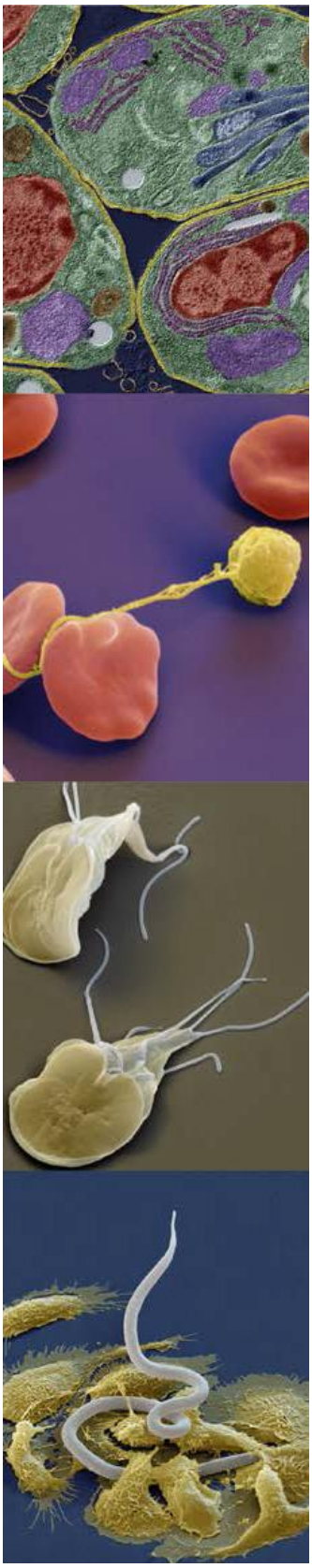
– Nicole Affinass

Physics of Parasitism networking meeting

24.09.2018
Würzburg, Germany

A highly multidisciplinary group of researchers came together at this meeting to seek opportunities for joining forces to better understand parasitism and parasites. For me, presenting a project which addresses the fundamental question of how a parasite is able to get to the area of infection, I received interesting comments, as well as helpful criticism from researchers in various disciplines of natural sciences.

– Totta Ehret Kasemo



Female Travel Award 2018

Costanza Tacoli - Butare, Rwanda

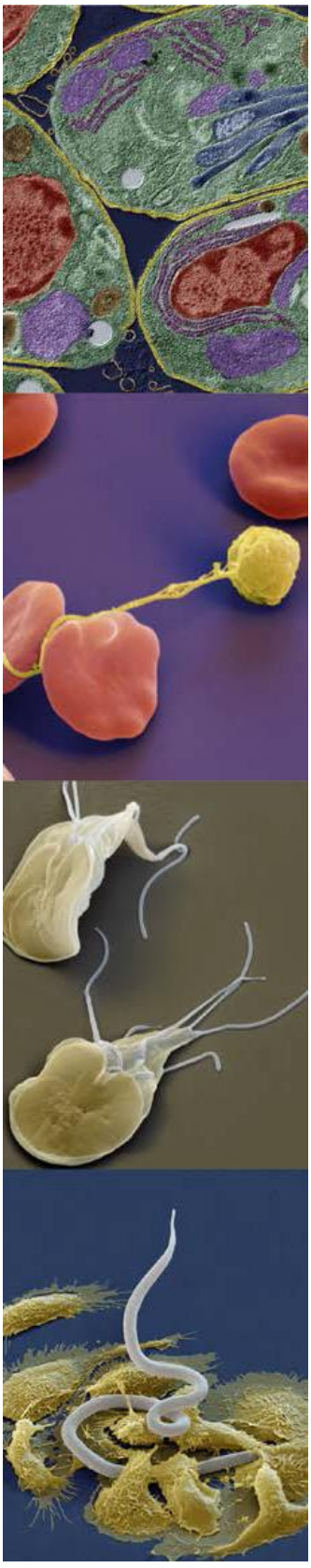
Image credit: Costanza Tacoli

Image credit: GRK 2046

Between March and May 2018, the Female Travel Award has supported my participation to an observational, non-interventional study in Butare, Huye district, Rwanda.

In my PhD, I aim at obtaining a snapshot of the global extent of antimalarial drugs resistance in *Plasmodium spp.,* with a special focus on *P. falciparum* resistance to artemisinin derivatives (ART).

In my prior work on *P. falciparum* isolates collected between 2010 and 2015 in the Huye district in southern Rwanda, five single nucleotide polymorphisms in *kelch13* gene (molecular marker of ART resistance) were identified, two of which associated with ART resistance in Southeast Asia. This suggested the presence of ART tolerance or resistance in the Huye district.

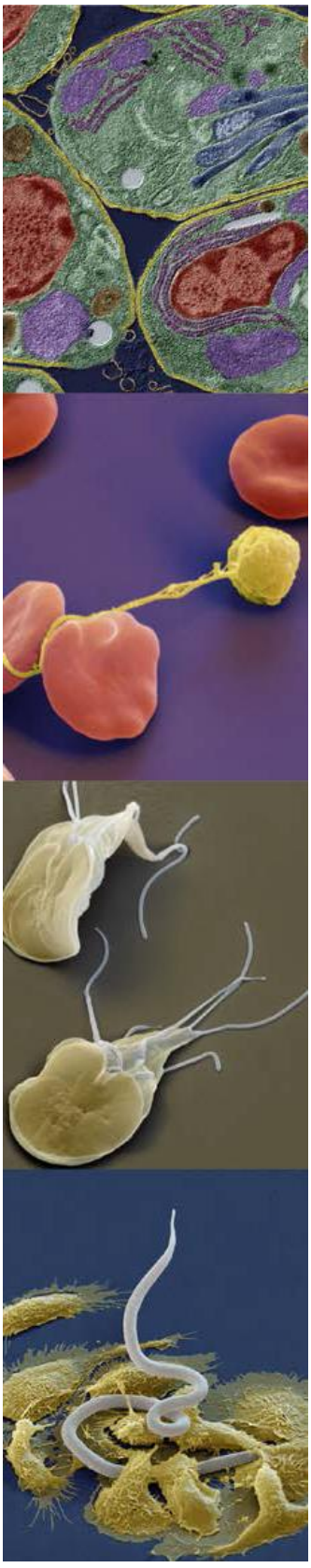


The objective of the current field project was to confirm or refute the presence of resistance to ART in the study area. For doing so, whole-blood samples have been collected from over 200 patients either attending out-patient health care at the local health center with uncomplicated malaria or in-patients hospitalized at the District Hospital in Butare. For each parasite isolates, I performed ex-vivo ring stage survival assays to assess the susceptibility of *P. falciparum* to dihydroartemisinin, the active metabolite of ART. In addition, the parasites will be culture-adapted at the Institute of Tropical medicine of the Charité in Berlin, and standard in-vitro sensitivity testing will be performed. Moreover, parasite isolates are being genotyped for molecular markers of drug resistance.

This study will provide a characterization of the malaria parasite population in Huye district with respect to ART susceptibility and, thereby, help the development and update of artemisinin-based combination therapy (ACT) guidelines currently in force in Rwanda.

Image credit: Costanza Tacoli

– Costanza Tacoli



Natalie Jakobs – Edinburgh, United Kingdom

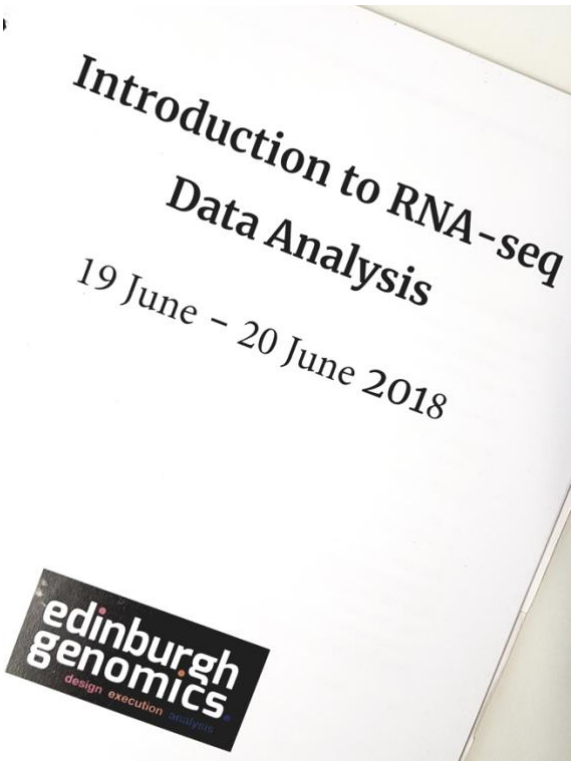
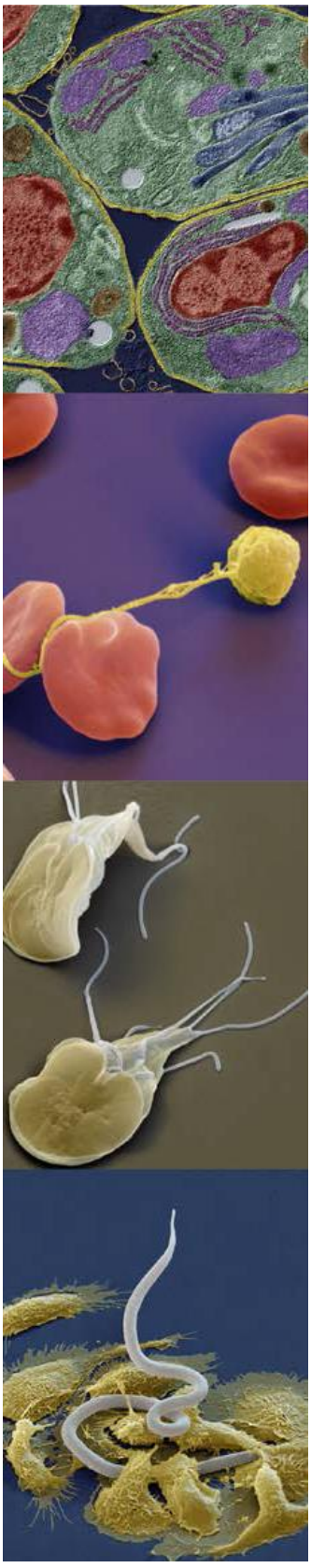


Image credit: Natalie Jakobs

Image credit: Natalie Jakobs

Analysing drug resistance mechanisms against macrocyclic lactones (MLs) in *Cooperia oncophora* needs the quantification of specific gene expression in response to those drugs. Regarding to this, RNA sequencing is very important tool, that needs knowledge about the technique as well as output data analysis. Within my PhD project I need to analyse RNA-seq data to identify upregulated genes in *C. oncophora* upon drug stimulation. Therefore I participated in the course "Introduction to RNA-seq Data Analysis" in Edinburgh, learning a lot about pre-data processing, mapping RNA-seq data to a reference genome and expression analysis via R. This work is fundamental for my project and would not be possible without nominating me for the Female Travel Award. I want to thank the GRK2046 as well as DFG for funding this exciting workshop and journey.

– Natalie Jakobs



Female Travel Award 2019

2019 again, we will award 1-2 female PhD students with a financial travel support of up to 1.500 € each. If you want to apply, just state a brief description of where you want to go and why it is important for your scientific career. If possible, please include a rough cost calculation. Send your application to marko.janke@fu-berlin.de by February 28, 2019.

– Marko Janke

Publications

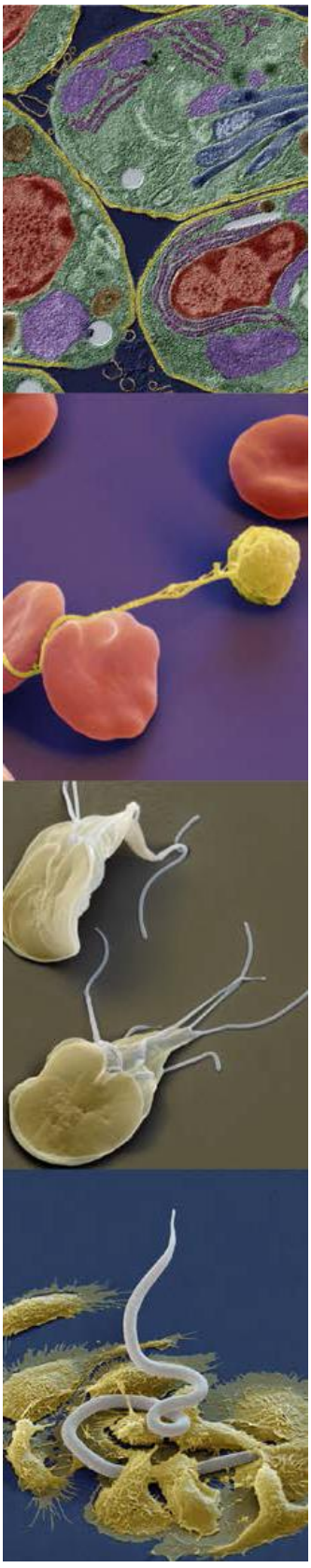
Micromanaging Immunity in the Murine Host vs. the Mosquito Vector: Microbiota-Dependent Immune Responses to Intestinal Parasites.

Ivet A. Yordanova, Suzana Zakovic, Sebastian Rausch, Giulia Costa, Elena Levashina and Susanne Hartmann, 2018.

Frontiers in Cellular and Infection Microbiology, 8, 308.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6129580/pdf/fcimb-08-00308.pdf

The digestive tract plays a central role in nutrient acquisition and harbors a vast and intricate community of bacteria, fungi, viruses and parasites, collectively known as the microbiota. In recent years, there has been increasing recognition of the complex and highly contextual involvement of this microbiota in the induction and education of host innate and adaptive immune responses under homeostasis, during infection and inflammation. The gut passage and colonization by unicellular and multicellular parasite species present an immense challenge to the host immune system and to the microbial communities that provide vital support for its proper functioning. In mammals, parasitic nematodes induce distinct shifts in the intestinal microbial composition. Vice versa, the commensal microbiota has been shown to serve as a molecular adjuvant and immunomodulator during intestinal parasite infections. Moreover, similar interactions occur within insect vectors of deadly human pathogens. The gut microbiota has emerged as a crucial factor affecting vector competence in *Anopheles* mosquitoes, where it modulates outcomes of infections with malaria parasites. In this review, we discuss currently known involvements of the host microbiota in the instruction, support or suppression of host immune responses to



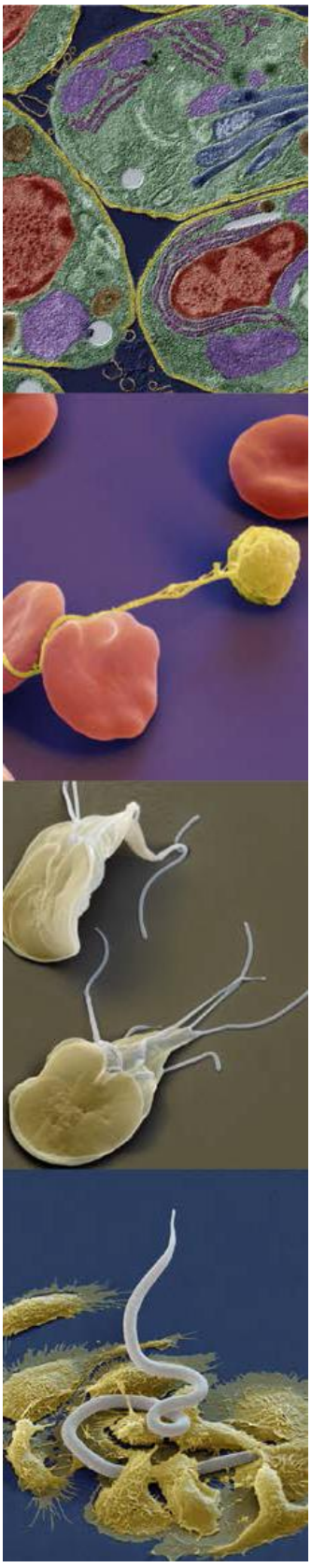
gastrointestinal nematodes and protozoan parasites in mice, as well as in the malaria mosquito vector. A deeper understanding of the mechanisms underlying microbiota-dependent modulation of host and vector immunity against parasites in mammals and mosquitoes is key to a better understanding of the host-parasite relationships and the identification of more efficient approaches for intervention and treatment of parasite infections of both clinical and veterinary importance.

Molecular evidence for *Plasmodium falciparum* resistance to sulfadoxine-pyrimethamine but absence of K13 mutations in Mangaluru, southwestern India

Jakob Wedam, Costanza Tacoli, Prabhanjan P. Gai, Konrad Siegert, Suyamindra S. Kulkarni, Rashmi Rasalkar, Archith Boloor, Animesh Jain, Chakrapani Mahabala, Shantaram Baliga, Damodara Shenoy, Rajeshwari Devi, Pramod Gai and Frank P. Mockenhaupt, 2018.

American Journal of Tropical Medicine & Hygiene, in press.

In most of India, sulfadoxine-pyrimethamine *plus* artesunate serves as first-line treatment for uncomplicated falciparum malaria. In 112 clinical *Plasmodium falciparum* isolates from Mangaluru, southwestern India, we sequenced molecular markers associated with resistance to sulfadoxine-pyrimethamine, lumefantrine and artemisinin (*pfdhfr*, *pfdhps*, *pfmdr1*, *K13*). The *pfdhfr* double mutation 59R-108N combined with the *dhps* 437G mutation occurred in 39.3%, and the *pfdhfr* double mutation *plus* the *pfdhps* double mutation 437G-540E in additional 24.1%. As for *pfmdr1*, the allele combination N86-184F-D1246 dominated (98.2%). *K13* variants were absent. No evidence for artemisinin resistance was seen. However, the antifolate resistance alleles compromise the current first-line antimalarial sulfadoxine-pyrimethamine *plus* artesunate, which may facilitate the emergence of artemisinin resistance. Artemether-lumefantrine, introduced in northeastern parts of the country, in the study area faces the predominant *pfmdr1* NFD genotype, known to impair lumefantrine efficacy. Further monitoring of resistance alleles as well as treatment trials on alternative artemisinin-based combination therapies are required.



Prevalence of the *Pfdhfr* and *Pfdhps* mutations among asymptomatic pregnant women in Southeast Nigeria

Ekpereonne Esu, Costanza Tacoli, Prabhanjan Gai, Nicole Berens-Riha, Michael Pritsch, Thomas Loescher and Martin Meremikwu, 2018.

Parasitology Research, 117, 801-807.

https://link.springer.com/content/pdf/10.1007%2Fs00436-018-5754-5.pdf

Sulfadoxine-pyrimethamine (SP) is the recommended drug for intermittent preventive treatment of malaria in pregnancy in most of sub-Saharan Africa. Resistance to SP is related to mutations in the *dhfr* and *dhps* gene of *Plasmodium falciparum*. This study determined the prevalence of *Pfdhfr* and *Pfdhps* polymorphisms found in asymptomatic pregnant women attending antenatal care in Calabar, Nigeria. From October 2013 to November 2014, asymptomatic pregnant women attending antenatal care clinics were enrolled after obtaining informed consent. Malaria diagnosis testing was done using thick and thin smears. Dried blood spot filter papers were collected. Parasite DNA was extracted from the filter papers using a chelex extraction. Extraction was followed by nested PCR and restriction enzyme digestion. *P. falciparum* infection was detected by microscopy in 7% (32/459) participants. Twenty-eight *P. falciparum* isolates were successfully genotyped. In the *Pfdhfr* gene, the triple mutation was almost fixed; S108N mutation was (100%), N51I (93%) and C59R mutations (93%), whereas the I164L mutation was absent. The prevalence of *Pfdhps* S436A, A437G, A581G and A613S mutations was 82.1% (23/28), 96.4% (27/28), 71.4% (20/28) and 71.4% (20/28) respectively. The K540E mutation was absent. The prevalence of the *Pfdhfr* triple mutation IRNI was 92.9% (26/28). The efficacy of SP as IPTp in Southeast Nigeria may be severely threatened. The continuous monitoring of SP molecular markers of resistance is required to assess thresholds. The evaluation of alternative preventive treatment strategies and drug options for preventing malaria in pregnancy may be necessary.

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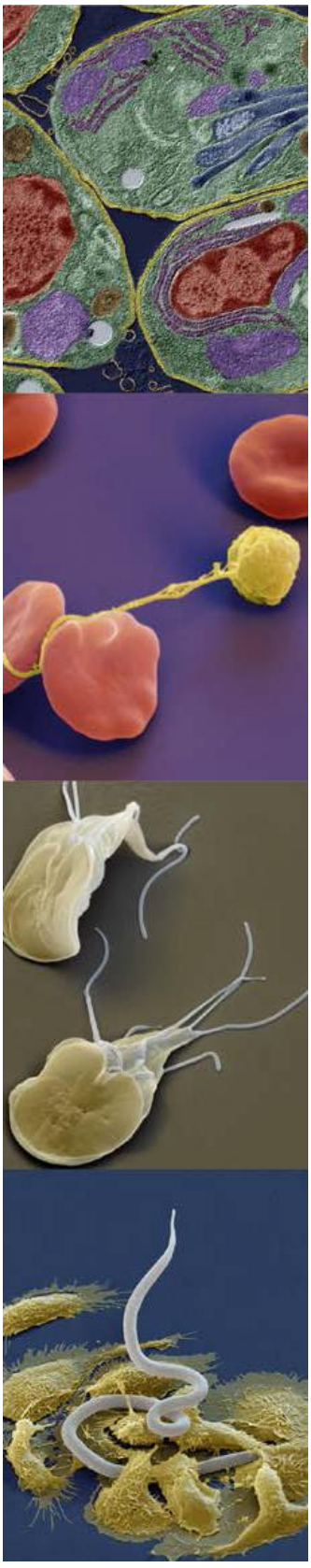


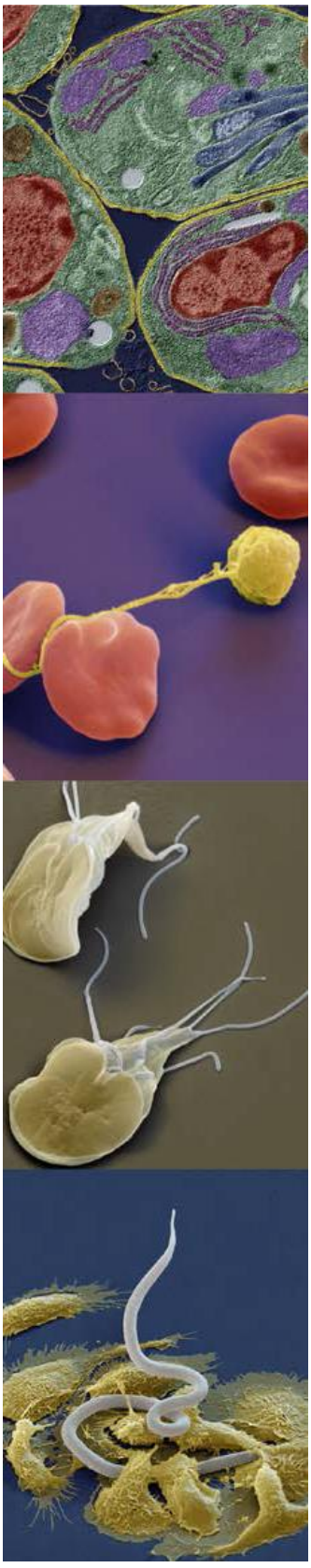
Prolongation

Save the most important date since the day you were born, January 9/10, 2019. The first funding period and the plans for the second funding period of our RTG will be evaluated. Every PhD student will present their project with a poster, and four students will give a talk in addition. We welcome five reviewers, two DFG representatives and one representative of the Senate and Grants Committee on RTGs. We looking forward for this important event and hope we will have a successful evaluation.

– Marko Janke

Some photos from our first prolongation evaluation rehearsal - Robert von Ostertag building, 20th November 2018:

Image credit: Marion Müller



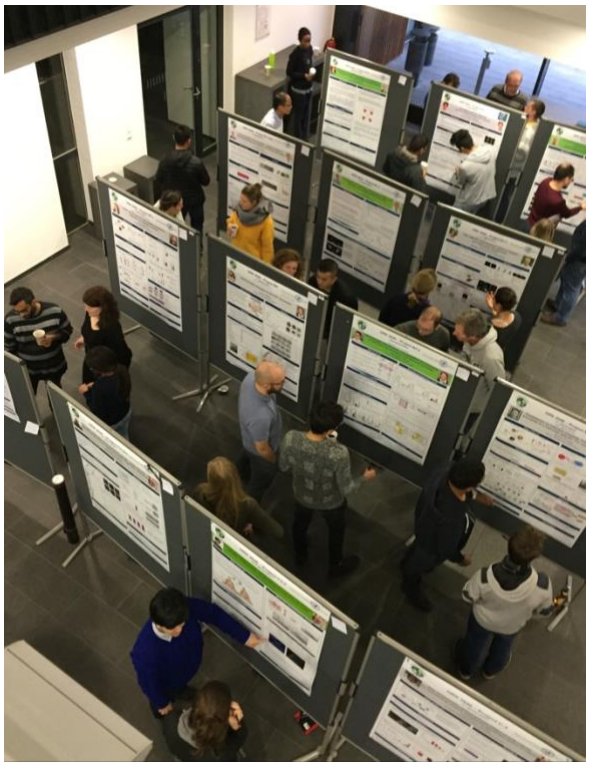


Image credit: Marion Müller

The second rehearsal will take place on the 4th December 2018 at the Veterinarium Progressum.

Parasite Infection Lecture Series

In 2015 we introduced a new lecture series for our parasitology research PhD students, the Parasite Infections Lecture Series. Different aspects of current parasitology topics, focused on our 4 parasite groups, were introduced by our GRK 2046 principal investigators (PIs). Now, we want to continue this successful and well accepted series in 2018/2019 and offer for the second generation PhD students new lectures by all PIs. Please see below for upcoming lectures!

– Marko Janke

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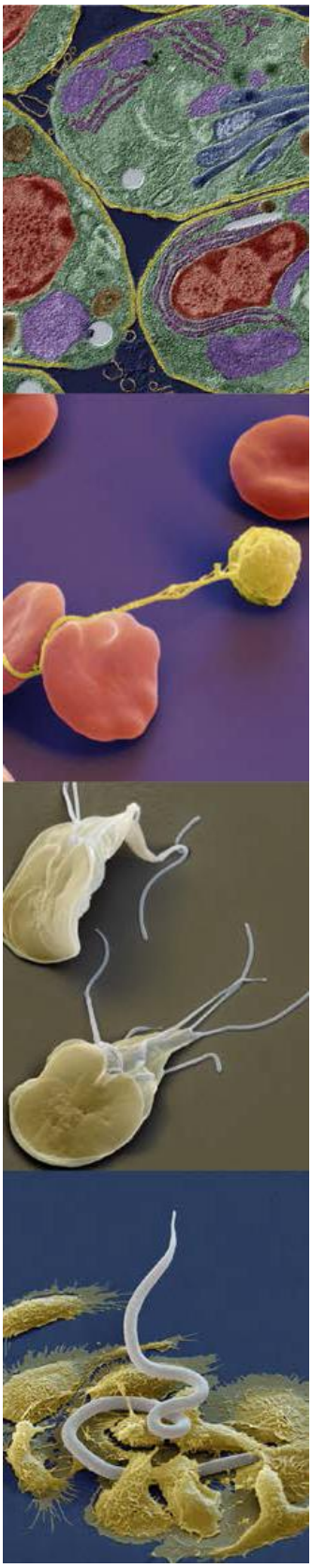

Some second-generation students awaiting an interesting 'Parasite Infections' lecture by Dr. Jürgen Krücken - Robert von Ostertag building, 15th November 2018:

Image credit: Susanne Hartmann

Upcoming Talks – December 2018

Berlin Seminar for Resistance Research (BSfRR)

Speaker: Dr. Erik Anderson (Northwestern University, USA)
Title: "*C. elegans* model to investigate drug susceptibility and the discovery of anthelmintic drug targets"
Date: 11th December 2018, 16:00 – 17:30
Location: Veterinarium Progressum
Host: Prof. Georg von Samson-Himmelstjerna

Berlin Parasitology Seminar (BPS)

Speaker: Dr. Oliver Billker (Sanger Institute, UK)
Title: "Functional profiling of a *Plasmodium* genome"
Date & Time: 11th December 2018, 17:30 – 19:00
Location: Veterinarium Progressum
Host: Victor Hugo Jarquin-Diaz

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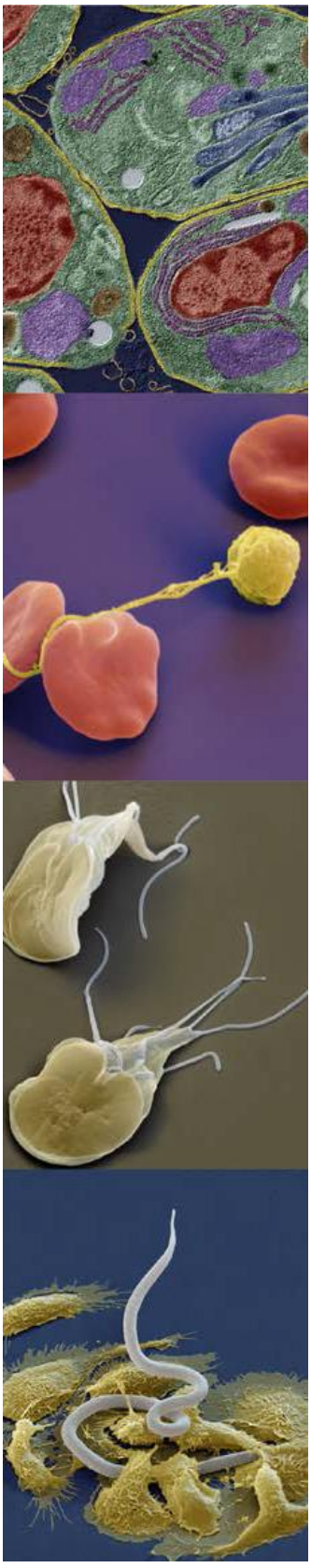

Parasite Infections Lecture Series

Speaker: Prof. Frank Mockenhaupt (Charite)
Title: "Antimalarial drug resistance development"
Date & Time: 6th December 2018, 18:00 – 19:30
Location: Humboldt Graduate School

Speaker: Dr. Christian Klotz (Robert Koch Institute)
Title: "Immune responses at intestinal barriers: *Giardia duodenalis* infection"
Date & Time: 13th December 2018, 18:00 – 19:30
Location: Humboldt Graduate School

Many more exciting talks to come in 2019!