

Summary, Update and News

With the 3rd Edition of our Newsletter we are approaching the 2-year mark and we are delighted that GRK 2046 is ever still growing in many respects.

Through our shared scientific interests, regular BPS and retreat meetings our community has grown together, promoting both networking and friendships.

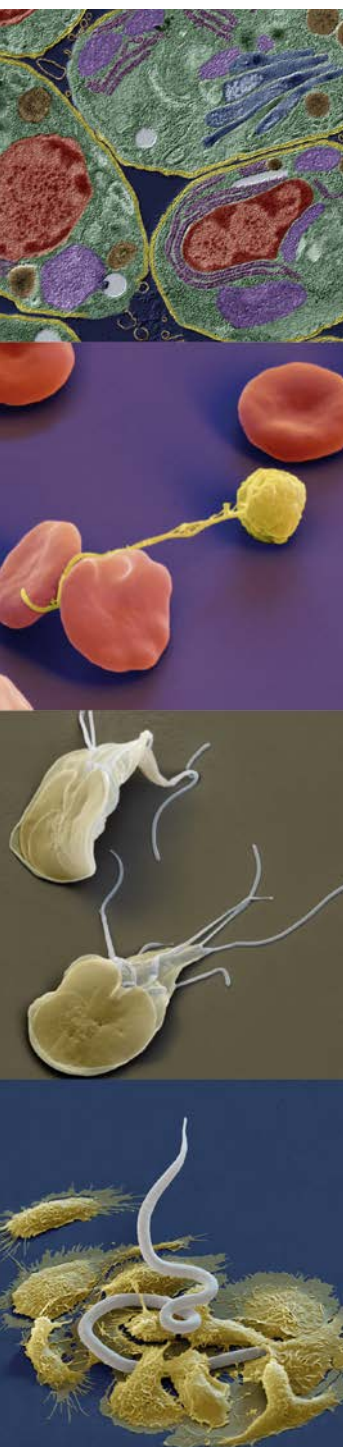
As an international scientific community we have also grown in numbers and these are speaking for themselves. Having set out with 15 PhD students we are now a community of 23 PhD students from 11 nations: Bulgaria, the United Kingdom, Italy, Cameroon, Canada, Kenya, New Zealand, Portugal, Sweden, Serbia and Germany. Finally, through many workshops, lectures and seminars but most importantly curiosity and hard work our individual knowledge and set of skills has grown. For many of us the 3rd and final year is approaching and (besides maturing into independent scientists) many GRK 2046 students are writing their first article. We are also proud to announce that Costanza Tacoli has already published her first article on artemisinin resistance in *Plasmodium falciparum*.

As usually, the newsletter includes four more student profiles some very interesting summaries of the last Berlin Parasitology Seminars and one Role Model Series. This semester we hosted international speakers presenting topics from classical parasitology to host-parasite interactions and drug resistance.

There is also an exciting follow up on the Serengeti session. Furthermore, Ankur Midha visited a conference on alternatives to antibiotics and Nicole Affinass visited the 46th Annual Meeting of the German Society for Immunology which they have summarized for you.

We also have news concerning ZIBI: Henrike Kauer joined the team and supports Juliane Kofer as an assistant coordinator.

Alexander Gerhard
(doctoral researcher)



Student Profiles



Manuela Merling de Chapa

Studied in Germany

Bachelor in Organismal Biology; Master in Biology

PhD topic *"Costs of living in the city - Comparing the evolutionary adjustments of urban and rural goshawks (Accipiter gentilis) to parasites"*

Leibniz Institute for Zoo and Wildlife Research, Dept. 3 Wildlife Diseases, Parasitology

Supervisors: Prof. Dr. Heribert Hofer, Dr. Oliver Krone and Dr. Gábor Á. Czirják

Contact: merling@izw-berlin.de - Phone: +49 (0) 30 5168 250



Hanna Prüter

Studied Veterinary Medicine in Germany

PhD topic *"Endoparasites, immunity and lead burden of native and invasive water birds in Germany"*

Leibniz Institute for Zoo and Wildlife Research, Berlin

Supervisors: Prof. Alex D. Greenwood, Dr. Oliver Krone and Dr. Gábor Á. Czirják

Contact: pruerter@izw-berlin.de



Patrycja Schwiertz

Studied in Germany

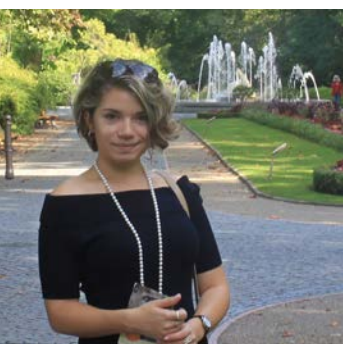
Bachelor and Master in Biochemistry

PhD topic *"Characterization of antigen-specific T cells at mucosal interfaces"*

Freie Universität Berlin, Institute of Immunology

Supervisors: Prof. Dr. Susanne Hartmann and Dr. Friederike Ebner

Contact: p.schwiertz@fu-berlin.de - Phone: +49 (0) 30 838 510 92



Ivet Yordanova

Studied in the United Kingdom and Thailand

Bachelor in Tropical Disease Biology; Master in Biological Sciences

PhD topic *“The role of eosinophils in immune responses against the gastrointestinal parasite Giardia muris”*

Freie Universität Berlin, Institute of Immunology

Supervisors: Prof. Dr. Susanne Hartmann and Dr. Sebastian Rausch

Contact: ivet.yordanova@fu-berlin.de - Phone: +49 (0) 30 838 510 92

2016 Annual GRK2046 Retreat

The annual GRK2046 retreat took place on 19-20th September 2016 at Hotel Döllnsee-Schorfheide. This year, besides all of the students of the graduate program, the retreat welcomed several new students who became associated to the GRK2046 program.

Each of us gave a fifteen-minute presentation with updates on the project since the last meeting in November 2015. The majority of the students have been in their PhD studies for about one year or even longer and we were able to observe a remarkable progress in their research and their scientific thinking. For newly associated students, this retreat was the first chance to introduce their projects to us fellow students and PI's and get an input from the senior colleagues.

Apart from the student talks, we also had three additional sessions; one was a Serengeti session where participants of the Serengeti field trip presented their work in the field, and told the audience about their experience, impressions, and plans for the follow up experiments. The other two were “strategic” sessions; one for PI's and one for the students, where practical matters about the program, obligations and needs were discussed.

We all enjoyed this retreat and benefited from the experience, however we all also agreed that making the event half a day longer, would make everything much more relaxed and would allow more time for fruitful discussions. Let's remember that when planning the next annual retreat!

Suzana Zaković

A Typical Day in the Serengeti

Day Schedule – July 2nd, 2016

06:00 – 09:00: Hyena research project: Like every morning the two cars of the hyena research project leave the lodge before dawn. Today Totta and Frank join Marion and Susana to visit the Isiaka clan, whereas Martin and Susanne go with Sonja

to the Pool clan. The morning highlight at the Pool clan is the finding of the cub 792 dead after maternal abandonment. The carcass is collected and brought to the hyena headquarter for dissection.

06:30 – 08:30: Baboons research project: Thomas -the Tanzanian who guides us in the walking excursions around the lodge- arrives at 06:30. Today Oriana, Christina and Norus will search for olive baboons fecal samples around the kopjes close to the TAWIRI center. Three samples are found. The previous morning they noticed a diseased rock hyrax hiding in the bush close to the hyena headquarter. The animal had the posterior part of the body covered with crusty



Serengeti sunset
© Christina Bredtmann



© Christina Bredtmann

and hairless lesions that made his deambulation difficult. Today they go back to the same spot finding the animal dead. They observe the lesions and attempt a fast diagnosis, evaluating the risk for human transmission. Observations support the hypothesis of an infection with parasitic mites, not dangerous for humans. Therefore, they decide to carefully transport the carcass to the laboratory to perform a necropsy.

08:30 – 13:00: Laboratory work: Richard, Francesca and Suzana reach the laboratory. Suzana collects the mosquito traps positioned around the lodge and the laboratory. By using the magnifying lens she identifies and separates *Anopheles gambiae* -vector for malaria disease- from the other trapped insects and stores them in ethanol 70%. Richard and Francesca perform several fecal flotation of hyrax, Thompson gazelle and zebra samples. At 08:30 we are joined by the baboon research project group carrying the dead hyrax and Christina performs the necropsy of the animal. We collect fecal samples and intestinal worms and we prepare blood and urine smears. At 10:00 Richard leaves to join the Zebra car.

10:00 – 13:00: Zebra research project: Richard, Oriana, Norus and Svenja go together with Peter to collect zebra fecal samples. They successfully collect six samples, of which half particularly precious from pregnant or lactating females.

13:00 – 14:00: Lunch: Everybody is back from their work and we enjoy lunch together on the veranda.

14:30 – 19:30: Laboratory work: We reach again the laboratory where we analyze the blood smears from the impala of the previous day and from the dead

hyrax. The bad quality of the impala sample –probably due to the bad status of the carcass when collected- makes it difficult to interpret. However, despite the suboptimal staining, we exclude parasitic and bacterial blood infections in these samples. Interestingly, despite the finding of cestodes in the hyrax intestine, we don't observe eggs by fecal flotation and sedimentation. By looking at the proglottis of the worm under the magnifying lens Richard makes an exciting discovery: they contain eggs that resemble the one observed in the feces of other hyraxes the previous days. Therefore there is a connection between the worm and the respective eggs and we start speculating on the species.



16:30 – 18:00: Baboons research project: Oriana and Thomas go out again to search for more samples. Unfortunately, no samples are found.

Participants of the Serengeti Trip (from left to right): Marion East, Susanne Hartmann, Frank Seeber, Norus Ahmed, Martin Kraft, Robert Fyumagwa, George (back row), Svenja Steinfelder, Totta Kasemo, Christina Bredtmann, Oriana Kreutzfeld, Suzana Zakovic, Francesca Torelli, Martin Kraft (middle row), Richard Lucius (front) © Heribert Hofer

16:45 – 20:00: Hyena research project: At sunset Suzana and Ulrich join Marion and Susana's car driving towards the Isiaka clan. Svenja, Martin, Francesca and Sonja go to the Pool clan. We notice five juveniles resting in one den and the hyena Victory trying to feed her own cubs in the other, but no samples are collected.



20:00 – 21:30: Dinner: After a long day of work we enjoy the delicious meal in the veranda. Sitting around the table each of us report what happened during the day with the samples collected and results achieved. Together we plan the schedule for the following day.

22:00 – 00:30: We cannot miss the social event of the year: Euro2016 football match Germany – Italy! George and other people from the village make everything possible from paying the television bill to organizing a generator to keep the bar of the village open longer than usually, making it a very enjoyable event for us; Tanzanians and Europeans staring at a tiny screen together in the middle of the savannah watching an event that was happening 10.000 km away- it is indeed a surreal experience! Surreal as the result of the match (Italian-speaking-wise)!

Francesca Torelli

Berlin Parasitology Seminar Series

August 22 nd : Tara Sutherland	Ankur Midha
September 6 th : Amy Pederson	Francesca Torelli
October 4 th : Dan Nussey	Ulrich Sternberg
November 7 th : Steve Paterson	Francesca Torelli
November 8 th : Warwick Grant	Alexander Gerhard
December 6 th : Sheila Donnely	Ankur Midha
January 10 th : Staffan Svärd	Totta Kasemo
January 12 th : Alfons Renz	Alexander Gerhard



Tara Sutherland (*University of Manchester*)

August 22nd

Dr. Tara Sutherland from the University of Manchester presented her work on innate and adaptive immune regulation by chitinase-like proteins. In particular, her talk highlighted efforts examining the role of IL-17, neutrophils, and mixed immune responses in allergic airway inflammation and remodeling. In addition to presenting novel findings, she also forged collaborations with Prof. Susanne Hartmann's group and shared her thoughts on various ongoing projects at the Institute of Immunology, Freie Universität Berlin.

tara.sutherland@manchester.ac.uk

Ankur Midha

Amy Pedersen (*University of Edinburgh*) & Steve Paterson (*University of Liverpool*)

September 6th (Amy Pedersen); November 7th (Steve Paterson)

The importance of the animal model has been a deeply studied subject in the past autumn by GRK2046 students. We had the pleasure to host Dr. Amy Pedersen from the University of Edinburgh and Prof. Steve Paterson from the University of Liverpool who sensitized the public on this topic both proposing wild rodents as an excellent model in parasitological studies. Their talks provided the audience with a complete overview on the subject by covering different aspects. Dr. Pedersen with her talk "Wild immunology and infection: insights from a wild mouse system" focused on how to study naturally infected hosts in their own environment and to decipher the complex dynamics of co-infections. Likewise Prof. Paterson, as an ex-



pert geneticist, explained in the talk “Wild rodents as a natural laboratory to study genomics and immunity” why wild rodents represent such a precious resource to study immunity-related genes and how this contributes to our knowledge about host-pathogen interplay. Both seminars indicated studies in natural systems as a way to get closer to the real situation and moving away from artificial laboratory settings.

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s.paterson@liv.ac.uk

Francesca Torelli

Dan Nussey (*University of Edinburgh*)

October 4th

Dr. Daniel Nussey from the Institute of Evolutionary Biology at the University of Edinburgh spoke about his research on the interactions of immunity and parasite infections in a wild sheep population. His work is part of a long-term research project which, for more than 25 years, investigates a feral population of soay sheep. During his talk, Dr. Nussey focused on the interactions with and fitness consequences of nematode infections and the various types of immune responses of the sheep. He also gave insights as to how the St Kilda Sheep Project was organised methodologically, thereby giving an inspiring example of a successful long term-field study.

Dan.nuessey@ed.ac.uk

Ulrich Sternberg



Warwick Grant (*La Trobe University, Melbourne*)

November 8th

Drug resistance in nematodes is a global challenge and with Dr. Warwick Grant we had the pleasure of hosting an expert on the field, sharing his findings and experience gained in years of work. In his talk 'Mapping of drug resistance associated genes in *Teladorsagia circumcincta*' he critically presented his approach to identify the relevant genes for anthelmintic resistance and more specifically, showed how resistance to different anthelmintic classes is conferred by different independent mechanisms. This interesting talk was followed by a lively discussion and subsequently, the opportunity to informally talk to our guest.

W.Grant@latrobe.edu.au

Alexander Gerhard

Sheila Donnelly (*University of Technology Sydney*)

December 6th

Dr. Sheila Donnelly from the University of Technology Sydney in Australia presented her work concerning host immunomodulation by helminth parasites. In particular, her group has identified antimicrobial-like peptides from the parasitic trematode *Fasciola hepatica* which lack antimicrobial activity but have potent immune-modulating properties. Dr. Donnelly presented newer findings concerning the application of host-immunomodulation strategies by *F. hepatica* as novel therapeutics for the treatment of autoimmune disease. Her talk was followed by a lively discussion over Christmas treats and Glühwein.

Sheila.Donnelly@uts.edu.au

Ankur Midha

Alfons Renz (*Universität Tübingen, Germany*)

January 12th

As an extra BPS session we hosted Dr. Alfons Renz giving a talk with the title “Can onchocerciasis be eradicated?” who was visiting Berlin with his family and agreed to drop by. Dr. Alfons Renz has had the exceptional opportunity and tenacity on focusing most of his efforts on understanding and fighting one parasite. For a long time he has been working in northern Cameroon where he has also set up a researching facility and is educating young local scientist. In his talk he presented the knowledge of a lifetimes work in a very exciting BPS session. After his talk he invited us to visit him at his facility in Cameroon where they always have a place for motivated young researchers!

Alfons.Renz@uni-tuebingen.de

Alexander Gerhard

Staffan Svärd (*Uppsala University and SciLifeLab, Sweden*)

January 10th

On the January edition of the Berlin Parasitology Seminar, the GRK2046 students had the pleasure to listen to Prof. Staffan Svärd from Uppsala University and SciLifeLab, Sweden. As a professor of eukaryotic microbiology, he has specialized in the protozoan (diplomonad) *Giardia duodenalis* (syn. *G. lamblia* / *G. intestinalis*). In his talk in Berlin, Prof. Svärd presented generous amounts of unpublished data on RNA-seq transcriptomes and genomic data from different assemblages (genotypes) of the parasite. Based on his group’s research and others, he proposed that



host responses are upregulated at the RNA level, but less so on the protein level. These data were suggested to be a result of parasite secreted molecules with the capacity to degrade, e.g., chemokines from the host, of which some appear to be assemblage unique

Staffan.Svard@icm.uu.se

Totta Kasemo

Role Model Seminar Series

Nicola Harris (*Laboratory of Intestinal Immunology, Ecole polytechnique fédérale de Lausanne*)

Nicola Harris joined us in November for the final Role Models lecture of 2016. Nicola presented her work on diverse roles for B cells in anti-helminth immunity. It was a very interesting talk focusing on immunology with very beautiful microscopy work. After her talk all the students had the opportunity to speak to her about science and her experiences during a career briefing session.

nicola.harris@epfl.ch

Norus Ahmed



To Do List

As requested by some students, we provide little To Do lists. This way you can check whether or not you are on the right track.

Have you already...

1st year:

- ... sent your project proposal (that was approved by your supervisor)?
- ... put together your thesis advisory committee (tac)?
- ... scheduled your first tac meeting?
- ... put together your supervision agreement?
- ... taken a good scientific practice course?
- ... handed in your certificates of attendances to keep your transcript up to date?
- ... planned your traveling for 2017 (and notified your supervisor and Juliane)?
- ... pondered about if you want to be responsible for the next newsletter?

2nd year:

- ... attended an introductory course introducing biostatistical analysis and experimental design?
- ... attended an introductory course on bioinformatics?
- ... taken a good scientific practice course?
- ... attended a time and self-management workshop?
- ... written your biannual progress report?
- ... scheduled your next tac meeting?
- ... handed in your certificates of attendances to keep your transcript up to date?
- ... planned your traveling for 2017 (and notified your supervisor and Juliane)?
- ... pondered about if you want to be responsible for the next newsletter?



Admin

Corporate Identity

When you are attending a conference, please keep in mind corporate identity. We do not enforce a corporate design, as you first have to make sure to follow the corporate rules of your institute. If there is none, we are happy to provide a template. Always acknowledge funding (us and/or where applicable other funding sources) and scientific/technical support. If you haven't saved a high-resolution file of the GRK logo yet, we are happy to provide it once again. Lastly, if you want a GRK button, please contact Juliane.

Hosting a Guest Speaker

Rules and Regulations for Eating Out

When you are hosting a guest speaker, you have the privilege to invite her/him to dinner. Keep in mind that you are dining on tax money and reducing the overall GRK budget, so don't splurge. Here are the figures that we deem appropriate: up to five people including the speaker (preferably GRK students!) for up to 25€ per person = max. 125€ in total.

Travel: Rules and Regulations

Before checking any travel options you have to discuss with your supervisor whether this travel furthers your scientific development and what to present. After consent contact the coordination office to enquire whether the travel can be covered through GRK 2046 funding. Every time your travel or parts of your travel are paid by the GRK 2046, you have to follow the rules and regulations of BRKG. Here is a short German summary about this law: http://www.rund-ums-geld-im-oeffentlichen-dienst.de/reisekosten_rug



Once the trip draws near, you have to fill out an application for approval of travel. EVERY TIME! EVEN IF WE PAY EVERYTHING IN ADVANCE! Please find the instructions below. Read carefully through the approval document. Usually you are able to fill out more than you actually do.

(a) For travels outside of Berlin, it is crucial for you to fill out an (1) application for approval of travel at least three weeks in advance and to send it to us (Düppel office!). You will find the form along with all other documents on our GRK2046 website henceforth: http://www.vetmed.fu-berlin.de/en/einrichtungen/sonstige/grk2046/contact_service/Useful-Documents/index.html.

Cheat Sheet:

- page 1: only fill out #2 (leave employed as empty, tick other relationship - fellow GRK 2046) and #3-#7, sign at the bottom (of page 1)
- page 2: ask your supervisor to sign the supervisor statement approving your travel

Please act on common sense: when arranging your travel, consider the principles of cost effectiveness and thrift. One example: try to find an accommodation that doesn't exceed 60€ per night in Germany. If this is not possible, make sure to document that your choice is the cheapest available option within reasonable travel time to the venue. Try to arrange bookings with the coordination office. This way you don't have to cover your travel expenses upfront and won't have to fret about getting reimbursed fully.

Once you (or we) have received the approval of travel from our Dean's Office and the travel has been carried out, please fill out the **(2) Travel Expense Statement**

which you will also find if you follow the link above. Please send us everything as a harcopy and please do not forget to sign, include the original paper receipts and bank statements for every transaction that was not carried out cash.

Please do not include any receipts related to food. According to BRKG we will pay a daily allowance instead (actual amount depends on the country, e.g. for travels in Germany 24€ for every full day away from Berlin).

IMPORTANT: In order to proceed your travel expense statement, it has to reach us five months after the trip the latest.

(b) For reimbursement for workshops/conferences within Berlin, please fill out our Excel sheet for reimbursement after your attendance. The Excel file is also included above. If you have trouble filling it out, please check our instructions guiding you through this form.

Female Travel Award

If you would like to travel to a special place in order to take your PhD project further you should apply for the female travel award! Hand in a short application of approx. 150 words stating where you want to go and – of course most important – why you should be the one to win up to 1,500 € for your scientific journey! Send your application to juliane.kofer@fu-berlin.de by April 1st, 2017.



Publications

Title: Artemisinin resistance-associated *Plasmodium falciparum* K13 polymorphisms in Rwanda, 2010-2015

Emerging resistance of *Plasmodium falciparum* to artemisinin derivatives (ART) is a serious threat to global malaria control.

Assessing ART-resistance has been facilitated by the discovery of the *P. falciparum* kelch protein K13, mutations of which have been associated with ART resistance and thus constitute molecular markers for its detection and monitoring.

In this study, we identified five K13 non-synonymous single nucleotide polymorphisms in 222 *P. falciparum* isolates collected between 2010 and 2015 in the Huye district of southern Rwanda, two of which are associated with ART resistance in Southeast Asia.

This suggests the presence of ART tolerance or resistance in the Huye district. Further studies on the malaria parasite population of the area with respect to ART susceptibility are required in order to help the development and update of ACTs guidelines currently in force in Rwanda.

Here you can find the full article:

<https://www.ncbi.nlm.nih.gov/pubmed/27573632>

Costanza Tacoli

Student Conferences 2016

Conference – Alternatives to Antibiotics

2nd International Symposium on Alternatives to Antibiotics

12th – 15th December, 2016, Paris



Arc de Triomphe de l'Étoile
© Ankur Midha

Organized by the United States Department of Agriculture with the support of, and hosted by, the Organisation mondiale de la santé animale (World Organisation for Animal Health) in Paris, this symposium addressed Challenges and Solutions in Animal Production. Representatives and stakeholders from industry, academia, clinical veterinary practice, as well as policy makers contributed to a thought-provoking atmosphere featuring prominent speakers and at times highly contentious panel discussions. Key topics included vaccine development, microbial-derived products, phytochemicals, immune-related products, innovative chemicals, and regulatory pathways. With this broad agenda, the symposium delivered on its goal of highlighting the latest scientific breakthroughs and technologies in the field. Much of this work may provide new options and alternative strategies for the prevention and treatment of infectious diseases in animals, while reducing the use of clinically important antibiotics in agriculture.

Ankur Midha

46th Annual Meeting of the German Society for Immunology

27th – 30th September, 2016, Hamburg

The 46th Meeting of the DGfI took place in the Congress Center Hamburg. The Congress Center Hamburg is well located in the middle of Hamburg and near the beautiful Japanese garden which was a lovely place to rest between the sessions. During the 4 days I listened to a lot of talks and met many interesting people. But the most memorable presentations for me were the one of the first day in the Satellite Symposium AKNEI: Lifestyle matters even in an Animal's Cage. In this Symposium they talked about the circadian effects of the immune function in mice and that sleep, for example, is important to maintain the antimicrobial activity of monocytes. Furthermore, one of the speaker talked about the problems he had after moving his laboratory to a different working site and thereby also changing the animal facility. They needed more than a year to get their experiments running again as the conditions in the new animal facility were quite different compared to the old one. The impact of these factors on these experiments was so high that they could not see the same disease phenotype in their mice anymore. One parameter they found was the extended light cycle and that the mice need around six weeks to adapt to a shortened night cycle. Overall, it was interesting to learn about the impact on the immune system by a little change of environmental factors.

Nicole Affinass

Magdeburg Cooperation

Prof. Dr. Ildiko Dunay at the Otto-von-Guericke-Universität in Magdeburg is an expert in the field of Toxoplasma immunology. This co-operation provides me with a lot of support and expertise for my project on co-infections with both *H.polygyrus* and *T.gondii*. On experiment days, I travel to Magdeburg to pick up samples from AG Dunay. I also provide Prof. Ildiko Dunay with *H.polygyrus* worms for our upcoming co-infection studies. This co-operation has the advantage that both sides of the co-infection are compared allowing for a better understanding of what is occurring.

Norus Ahmed

Outlook 2017 & Announcements

DRS Nematode Course

For everyone working with and on nematodes this course offers the unique opportunity to understand the biology of your nematode more deeply and will help you tackle and refine your questions, views and approach of your work. The course “Molecular, biochemical and physiological peculiarities of nematodes with particular emphasis on parasitic groups” will be taught by Dr. Jürgen Krücken from the Institute of Parasitology and Tropical Veterinary Medicine on the 3rd and 4th April.

Alexander Gerhard

Edinburgh Cooperation

As mentioned in the last issue, the Edinburgh workshop aims to establish collaborations with the University of Edinburgh and its Centre of Immunity, Infection and Evolution (CIIE, <http://ciie.bio.ed.ac.uk/>) which will benefit from exchange training



Nematode Course:
Strongylus Equinus oral
cavity
© K. Seidl, Institut für
Parasitologie und Tropen-
veterinärmedizin



visits between members of the Berlin and Edinburgh parasitology groups. To do that an organization team was set up last year. Recently, the meeting date was determined to discuss future collaborations and planning the exchange visits between the respective groups. The meeting will take place in Edinburgh at the beginning of March 2017.

Nicole Affinass

ZIBI Graduate School Annual Retreat

16th-17th March, 2017 at the Hotel Landgut Stober

The time for the annual ZIBI Graduate School Retreat 2017 is now approaching fast. This year, the event will be held at the Landgut Stober Hotel, on the beautiful coast of the Gross Behnitzer See, located 1 hour west of Berlin.

Among the key highlights of the retreat will be a special ZIBI Alumni Session where current and past ZIBI students will have the opportunity to exchange both personal and professional experiences, ideas and impressions of life after a PhD. Student talk sessions and poster sessions across the 2 days of the event will include a diverse set of topics ranging from characterization of toxin/antitoxin systems in *Streptococcus pyogenes*, to polyreactive B cells in autoimmune disease and *Anopheles gambiae* oenocyte development among many others. The ZIBI Retreat Organizing Committee is also currently in the process of planning a number of short keynote lecture talks given by PIs which we are all particularly looking forward to. On 16th March we will also have fun social activities after the retreat dinner where students, alumni and PIs can all join in for a fun evening of games and quizzes away from the lab!

Ivet Yordanova



Conferences

There are three conferences we would like to draw your attention to!

I. 21st Annual Woods Hole Immunoparasitology Meeting

Date: April 2 – 5th, 2017

Registration Deadline: March 2th, 2017

Travel Award Deadline: March 2th, 2017

Abstract Deadline: March 6th, 2017

Direct link: <https://immunoparasitology.org/2016/07/01/whip-2017-april-2-5-2017/>

II. ZIBI Summer Symposium Ecology of Infectious Diseases

Date: June 26th/27th, 2017

The meeting is designed to address the ecology and evolution of bacteria, viruses, fungi and parasites and the potential health outcomes that are a consequence of the complex adaptations of pathogens to their environmental niches. By bringing together high-profile scientists from different fields we hope to have an open and informative exchange of information and ideas. The sessions will focus on evolutionary ecology of (a) viruses, (b) bacteria, (c) parasites and (d) fungi.

Direct link: www.zibi-summer-symposium.de

III. Molecular and Cellular Biology of Helminth Parasites

Date: September 3rd - 8th, 2017

Registration will open in February 2017 and close at the end of March

Direct link: <http://hydra.bio.ed.ac.uk/>