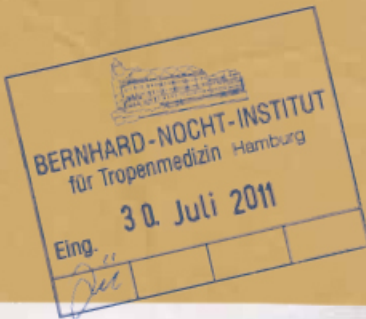
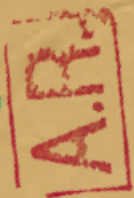


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Bernhard Nocht Institute for Tropical Medicine

Bernhard-Nocht-Strasse 74
20359 Hamburg
Germany

SCIENTIFIC REPORT 2010/2011

BERNHARD NOCHT INSTITUTE FOR TROPICAL MEDICINE

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Preface



Rolf Horstmann

In recent years, the twofold tasks of the Institute have become more evident than before. The main ambition remains the control of tropical diseases in the endemic areas of the tropics. But the second objective is increasingly gaining importance. While previously it addressed prophylactic measures for travellers and occasional disease cases of returnees and migrants, we now, for the first time since many decades, are facing the import of entire epidemics of tropical diseases into Germany. Accordingly, in the present report, the presentation of the Institute's research is structured into „Poverty-Related Diseases“ and „Emerging Infections“.

The development of the Institute in 2010 and 2011 was very favourable. It began with a strong positive statement of the Senate of the Leibniz Association concluding the official evaluation of the Institute in 2009. The statement emphasized, in addition to the scientific achievements, the good working atmosphere and the Strategic Plan for 2011 and 2012. Due to the tight financial limits of extra-budgetary funds for Leibniz institutes, however, additional research groups could not be established, although the representatives of the Hamburg Ministry of Science and Research and the Federal

Ministry of Health strongly supported the Institute. Nevertheless, essential objectives of the Strategic Plan, which envisaged to strengthen in the Institute the translation of laboratory research into practical application, was successfully implemented in three ways.

An entomological research group could be founded because Egbert Tannich acquired the necessary funds through a special scheme of the Leibniz Association which allows the sponsoring of projects selected in a competitive manner.

Furthermore, the inception of a “Medical Service Centre” (MVZ) was pursued decidedly. For the Institute it will secure, in the long run, special laboratory diagnostics in tropical medicine, which essentially contribute to the national recognition, particularly in the medical community. And, only if the Institute performs laboratory tests itself, it can fulfil its responsibilities as the National Reference Centre for the laboratory diagnostics of all tropical pathogens. Now, according to an amendment of the national law, which passed at the end of 2011, only practitioners and accredited non-profit organisations are allowed to launch an MVZ. Yet,

years ago a large accounting firm had classified the Institute as not being non-profit. Only a visit with the head of the tax office clarified the issue in that the Institute – like any public institution – surely is a non-profit organisation. Thereby, the MVZ inception was merely a technical formality, although certain formal issues proved to be more complex than anticipated, such as adaptations of the Institute’s founding documents and a clarification of whether the Institute’s Board of Trustees can also serve as the governing body for an MVZ.

The assessment of being a charitable organisation now enables the Institute to itself accept donations. Thus, the support by the “Association of Friends of the Tropical Institute Hamburg” Inc. can very much concentrate on identifying new sponsors. Conversely, the Institute has to make sure that all legal obligations are being obeyed. The most important one is that gratuities can be accepted as donations only – and set off against tax liability by the donor – if the donor does by no means profit from the donation, neither directly nor indirectly.

The third project related to “translation” also involves laboratory diagnostics. The idea came from Dr. Kathrin Adlkofer being director of “Norgenta”, the Hamburg-Schleswig-Holstein agency for the utilisation of research findings in life sciences. She knew that money of the “European Funds for Regional Development” (EFRE) was available to sponsor public-private partnerships. And she thought of the Institute and Altona Diagnostics Ltd, a small company run by former BNI students around Ulrich Spengler. The many homemade diagnostic procedures of the Institute should be developed into easy-to-perform test kits and, aided by Altona Diagnostics, offered for sale worldwide. The request for reliable tests to diagnose tropical infections already now is enormous and is expected to further grow with increasing prosperity and improved medical care in countries like Brazil, India and China. After a two-years period of application and review, all formalities were finished by the end of 2011, and the project “Tropical Diagnostics” will be sponsored with € 4.5 Mio by EFRE and the City of Hamburg. In the end, a non-profit company will be founded whose revenues will boost the Institute’s budget.

All in all the development of the extension building was also positive. At last, the members of the Immunology and Virology departments moved in one after the other. Still there were several unpleasant surprises but, finally, even the high-security laboratories could be signed up for approval by the Environmental Protection Agency. Thus, compared to other public construction projects, our “erratic block” doesn’t stand there all that poorly.

At this point, our sincere gratitude should be expressed to the Hamburg health authorities. Upon changing the affiliation of the Institute in the Hamburg administration from the Ministry of Social and Family Affairs, Health and Consumer Protection (BSG) to the Ministry of Science and Research (BWF) in 2009, the supervision – and also the costs – of the extension building for practical reasons remained with the health authorities. Ms Esser, Ms Rusgiarto, Mr Wittenburg and, in particular, the head of department, Senate Director Norbert Lettau mastered this painful responsibility with unusual engagement and great sympathy for scientific matters. Mr Lettau retired recently. We owe him a great debt of gratitude for

thirty years of commitment and remarkable identification with the Institute. We will miss him – not the least as a member of the Board of Trustees.

In May 2010, the Federal Ministry of Education and Research issued a call for the foundation of “German Centres for Health Research”, among others a Centre for Infection Research. Not individual universities or institutes were invited to apply but cities or sites. BWF authorised the Institute to coordinate an application of a Hamburg site. In the end, it became an application of the “Hamburg Region” because, besides the Hamburg University, the University Hospital Hamburg-Eppendorf (UKE) and the Heinrich Pette Institute, the University of Lübeck and the Research Center Borstel also took part. They agreed to the title of “Global and Emerging Infections” and, together with six other application sites, were selected from 23 applicants by an international review board. Although the first joint application of the seven filed by selected sites failed in the same review board, they entered the second round with a lot of optimism by the end of 2011. Alone drafting the Hamburg application was of great value because it showed the strength of infection research

in the region, and the scientists got to know each other much better personally. If everything works out, the participation may yield € 3 Mio per year for the Hamburg site and secure for the Institute an entomology department and a substantial strengthening of epidemiology. Thus, the strategic plan 2011/2012 indeed may largely be finalised in the next years.

Meanwhile a Strategic Plan 2013/2014 has been drafted. Under the title “Complex Systems” it sets the goal to, more than before, focus on entire systems instead of individual components. Robots and the enormously accelerated data processing make it possible. For laboratory research, this means, for example, that screening methods may initially be applied to search in a cellular metabolism for the steps that are critical for the defence against a pathogen and to selectively study such steps thereafter. For epidemiology this means to, more than before, include the complex circumstances of environment and society – one may think of infection control in the informal settlements of tropical megacities. This requires major efforts to attract for co-operations specialists like sociologists, communication scientists, urban

developers and many others. Therefore, our ambition to tie up with colleagues of the University of Hamburg is by no means restricted to the natural sciences.

The Board of Directors is grateful to all members of the Hamburg BWF and the Federal Ministry of Health who are responsible for the Institute, in particular to State Secretary Bernd Reinert and his successor, Dr. Kristina Böhlke, who defended the interests of the Institute with great care and sensibility. Our sincere thanks also go to the members of the Scientific Advisory Board, most of all Prof. Klaus Lingelbach, who sacrificed their valuable time to familiarise themselves with our scientific and administrative challenges and gave us competent advice.

Not least we thank our sponsors of the “Association of Friends of the Tropical Institute”. Their chairman, Dr. Günter Bechtler, and his deputy, Prof. Heinz Gretz, resigned from their active engagement in the board. We owe them many thanks for many years of dedicated support. They were followed by Manfred Schüller, one of the most successful advertisers of the country, and

Dr. Lothar Dittmer, Member of the Board of the renowned Körber Foundation. Both bring in many new ideas to attract new members, including public presentations of the Institute through events and promotion campaigns. We are most grateful to them and wish them – not at all unselfish – a lot of success.

Most of all, we are indebted to the members of the Institute for their extraordinary loyalty and corporate feeling and also for their understanding and patience for structural changes. Particular credit goes to those colleagues who have committed themselves to the Institute’s self-administration, for example the works council or one of the many committees.

Rolf Horstmann

Board of Directors, Board of Trustees, Scientific Advisory Board

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Members of the Foundation's Board (from left):
Udo Gawenda, Bernhard Fleischer, Egbert Tannich, Rolf Horstmann

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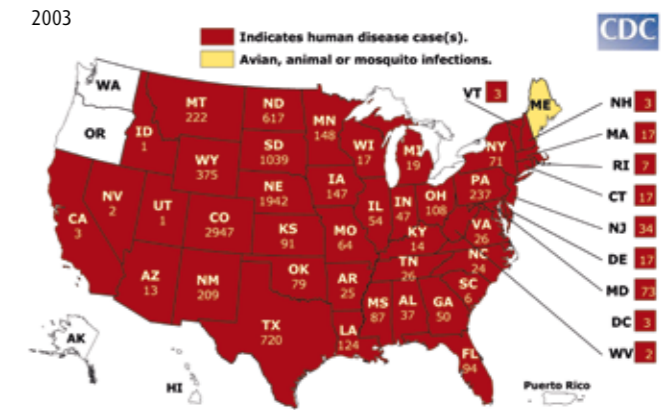
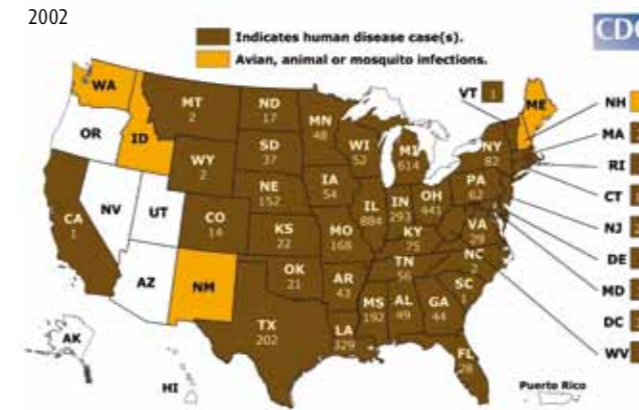
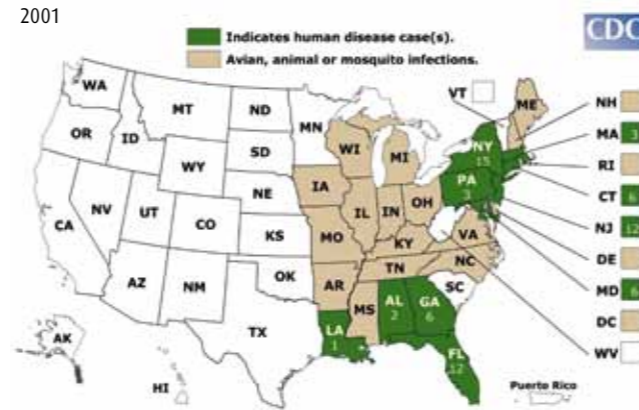
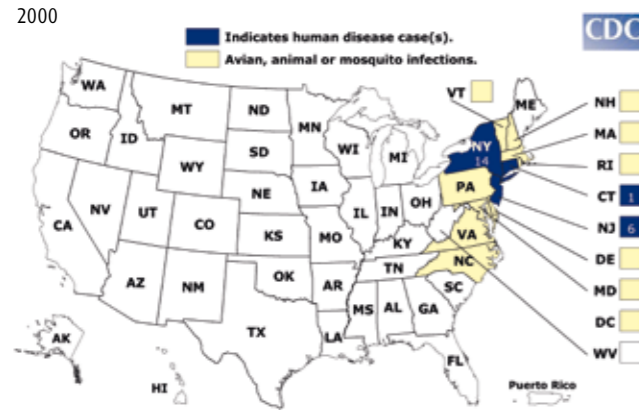
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Research



Emerging Infections – Imported Epidemics

It isn't really new. In the past century malaria and severe Dengue outbreaks still occurred in Europe, and in 1870, thousands died from yellow fever in Barcelona.

And yet, the threat of presumed tropical infections feels unexpected in our climates. In the past years Chikungunya appeared in Northern Italy, and in Southern France and Croatia people got infected with the Dengue virus. A frightening example was the rapid spread of the West Nile virus across the USA – so far claiming more than a thousand fatalities.

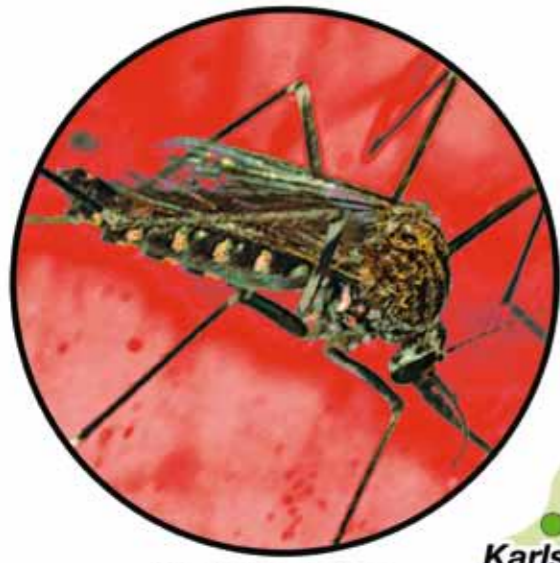
The reason for this development are mosquitoes, first of all the Asian tiger mosquito (*Aedes albopictus*) and the Japanese bush mosquito (*Ochlerotatus japonicus*). They are presently

spreading worldwide, over long distances by the international exchange of goods – preferred vehicles are used tyres and flower pots – and locally by trucks. The Japanese bush mosquito has meanwhile firmly nationalised in Germany, it is unclear though whether the German representatives bite humans. More importantly, the Asian tiger mosquito is on its way, some specimens have recently been seen in the Upper Rhine valley.

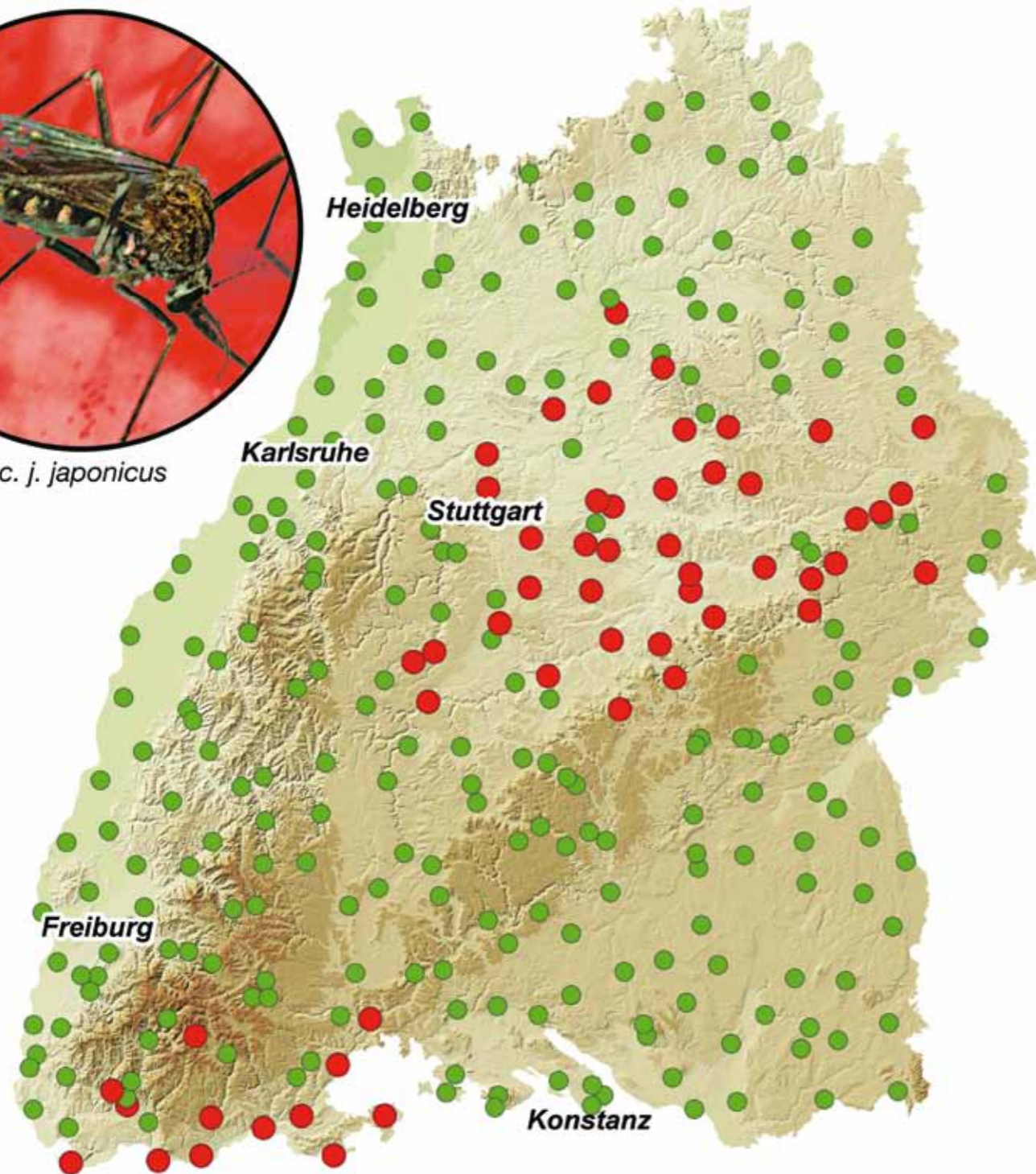
However, mosquitoes on their own don't make an epidemic. Only if, in addition, an infected human enters the scene, transmission can proceed. For example the Italian Chikungunya outbreak. The tiger mosquitoes had already settled in the Po basin around 1990, when in 2007 a businessman who

came from India fell sick with Chikungunya fever in Ravenna and offered Chikungunya viruses in his blood. He was bitten, and the tiger mosquito transmitted the virus to the next human and so on. Nearly 300 Italians came down with Chikungunya fever.

Maps: Spread of West Nile virus in the USA 2000 - 2003
(Centers for Disease Control, Atlanta, GA, USA)



Oc. j. japonicus



Pest and virus dispersers

GERMAN MOSQUITO MAP

It is Norbert Becker to whom we owe the German mosquito map. He is the scientific director of what may be translated into „community action alliance for mosquito control“ (KABS), which each year clears the Upper Rhine and Neckar valleys from annoying mosquitoes. By helicopter or by foot KABS disperses proteins of the bacteria *Bacillus thuringiensis israelensis* (BTI), which are deadly specifically for mosquito larvae. The invasion by the Japanese bush mosquito prompted a systematic surveillance and search for pathogens.

The data called for action (pp 21-25). Supported by the Leibniz Association, BNITM, together with KABS and the Senckenberg German Entomological Institute, started the German mosquito map. From now on, mosquitoes will be caught and characterized at more than a hundred collection sites all over Germany. Furthermore, our scientists in the new

high-security insect lab will study which of our mosquitoes can transmit tropical viruses (vector competence) and which molecular interactions are the crucial ones.

Katrin Huber, Marlies Badusche, Stefanie Müller, Hanna Jöst, Jonas Schmidt-Chanasit, Christina Czajka, Egbert Tannich

External cooperation partners:

Andreas Krüger (Bundeswehr), Norbert Becker (KABS), Christian Melaun, Sven Klimpel (Senckenberg)

Figure: Distribution of the Japanese bush mosquito (*Ochlerotatus j. japonicus*) in Baden-Württemberg. Red dots indicate collection sites positive for Japanese bush mosquitoes, green dots negative ones (Photography bush mosquito: Centers for Diseases Control, Atlanta, GA, USA).



Blackbirds suffer tropical disease

USUTU CAUSES BIRD MORTALITIES IN SOUTHWEST GERMANY

Usutu virus was discovered in South Africa in 1959. It infects birds and humans and is transmitted by mosquitoes. In humans it causes febrile diseases, in bad cases encephalitis. In birds the infection may be fatal.

In July and particularly in August 2011 a disappearance of blackbirds was noticed in southwest Germany. We examined 223 bird corpses and found Usutu viruses in 86 of them. Ornithologists say that approximately 100,000 birds died from the infection.

One year before we had detected Usutu viruses in mosquitoes from the Upper Rhine valley. This shows that outbreaks like these must not necessarily strike us unprepared and that screenings of mosquitoes may be of great value. What needs to be done is to develop sophisticated

strategies to forecast outbreaks and to design targeted prevention measures.

Becker N. et al., PLoS One 2012

Hanna Jöst, Stephan Günther, Jonas Schmidt-Chanasit and external cooperation partners
(see publikation)

Figure: Blackbird found dead (Image: Stefan Bosch)



In humans at last

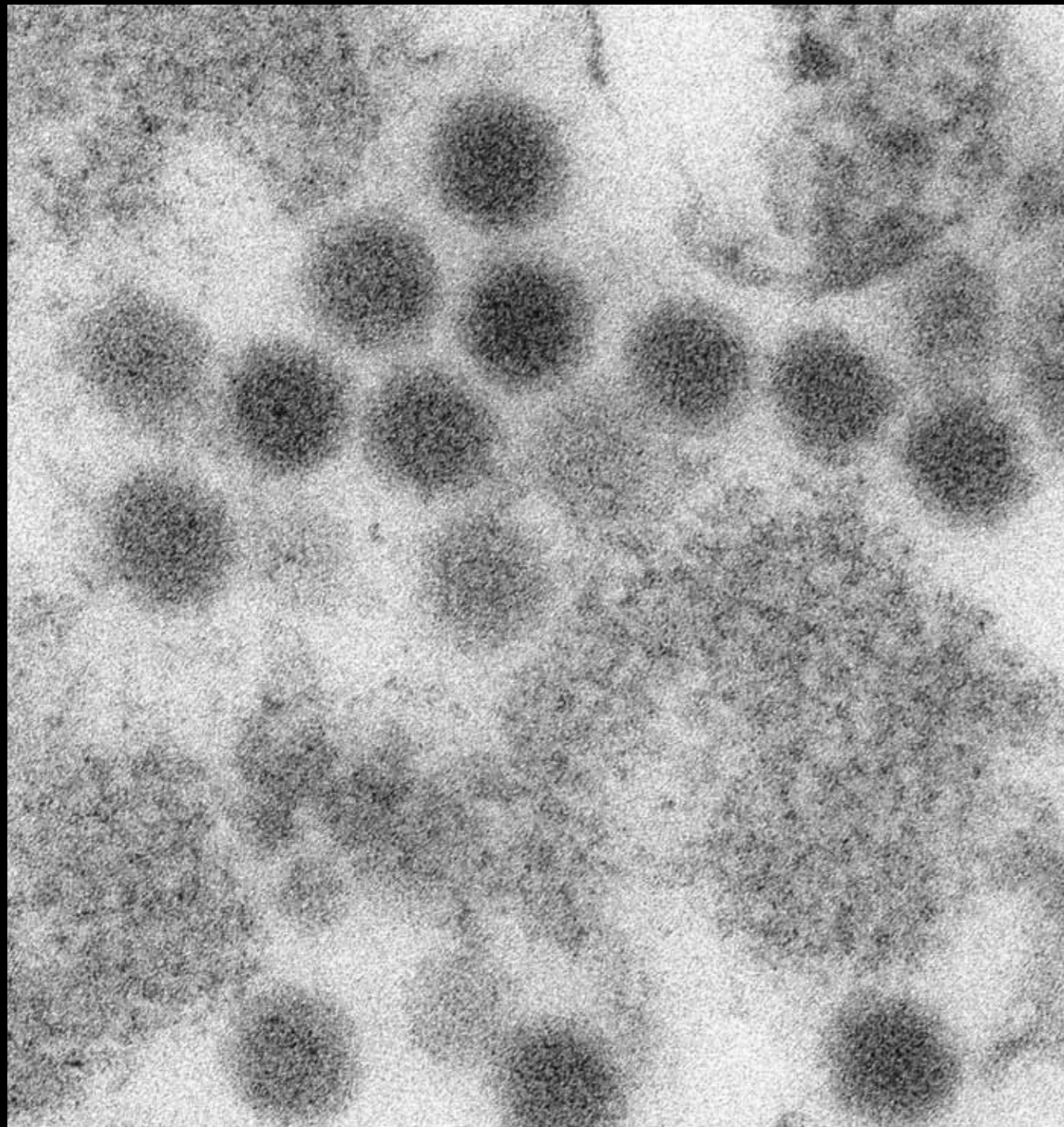
ANTIBODIES TO SINDBIS VIRUS IN GERMAN BLOOD DONORS

Sindbis viruses were detected in Africa in the 1950ies, later also in Europe where they occur in Sweden and Finland. They are transmitted by mosquitoes and may in humans cause febrile diseases, which are often accompanied by joint inflammations and may therefore resemble rheumatic diseases. In 2009, we for the first time found Sindbis viruses in mosquitoes in Germany. To find out whether they had already been transmitted to humans, we in 2010 and 2011 studied 355 samples from patients with febrile diseases and from 3389 blood donors. As we could not expect to still find viruses in the blood we searched for antibodies because these may persist for months or years after an infection. None of the patients were positive but four samples from blood donors. All of them originate from the city of Weinheim in Baden-Württemberg, where in 2009 we had found the virus in mosquitoes.

Jöst H. et al., J Clin Virol 2011, 52:278– 279

Hanna Jöst, Stephan Günther, Jonas Schmidt-Chanasit and external cooperation partners (see publication)

Figure: The mosquito *Culex pipiens* is known as the vector of Sindbis virus, which in 2009 was for the first time detected in Germany (Image: Andreas Krüger).



100 nm

Gracious cattle

ASIAN BATAI VIRUS IN MOSQUITOES AND CATTLE FROM SOUTHWEST GERMANY

Batai virus was discovered in Malaysia near Kuala Lumpur in 1955. It can cause febrile illness in humans and also in cattle and sheep. We found the virus in *Anopheles* mosquitoes from Southwest Germany in 2009. In 2010, we examined 195 serum samples from cattle of the region and found antibodies to Batai virus in two cases. The positive samples originated exactly from the area where before we had detected the virus in mosquitoes.

Jöst H. et al., Am J Trop Med Hyg 2011, 84:241-243

Hanna Jöst, Stephan Günther, Jonas Schmidt-Chanasit and external cooperation partners
(see publication)

Figure: Electron micrograph of Batai viruses isolated from mosquitoes in Germany.

Poverty-related diseases

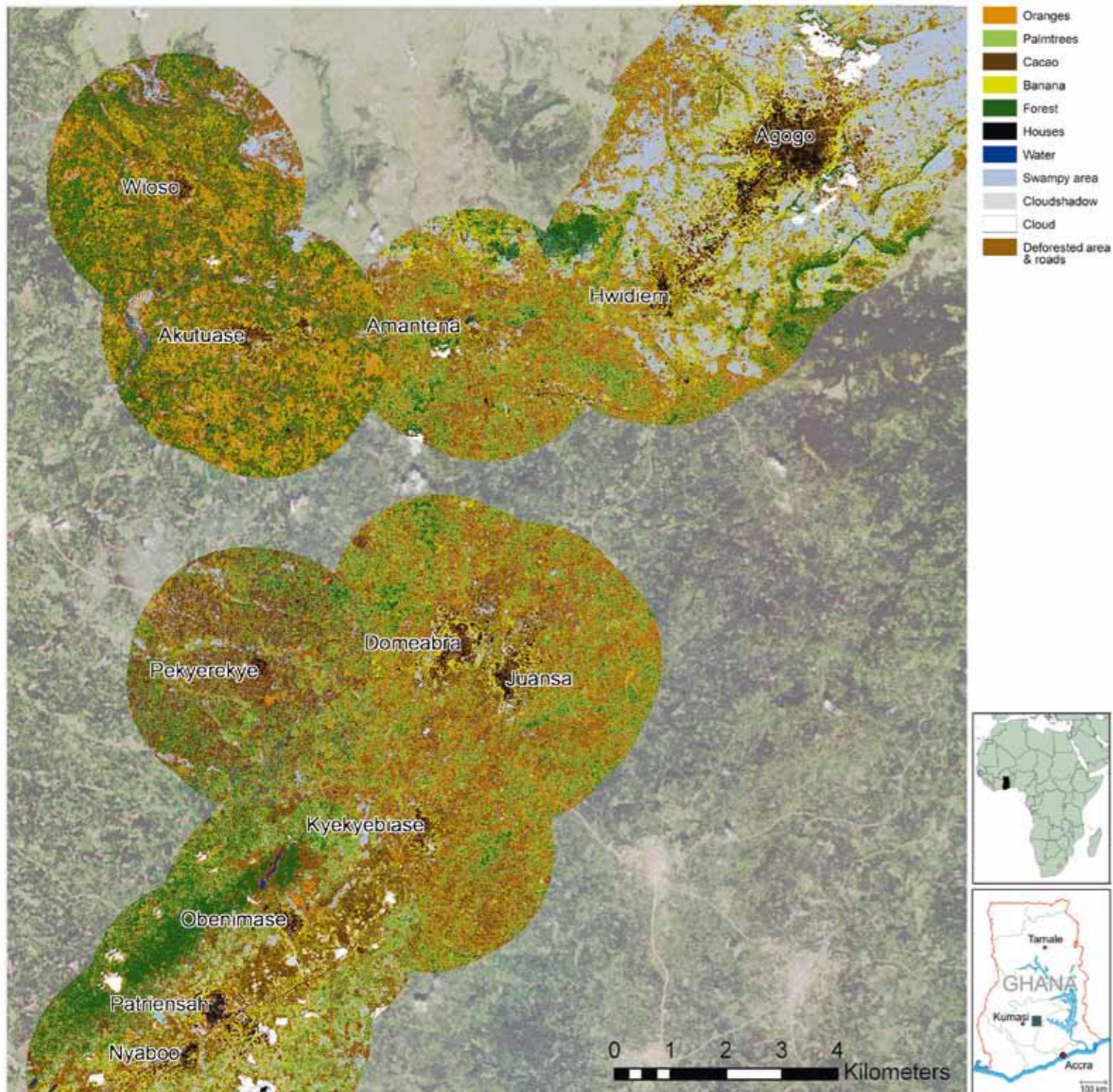
Nowadays tropical diseases largely are infectious diseases that can be prevented, be it by vaccination, sanitation, water treatment or efficient control of mosquitoes and other disease-transmitting arthropods. That they continue to prevail in the tropics is less due to climate conditions than to the poverty of societies. The term “poverty-related diseases” hits the point. It might be sensible to also replace the term “tropical medicine” in the meaning of “poverty-related medicine”.





MALARIA

Recently it was reported that the World Health Organisation WHO in its official communications substantially underestimates the number of malaria fatalities. These were not 655,000 per year as noted by WHO but 1.2 million instead. Unfortunately, misjudgements of this kind is in the nature of things: In regions where children die from malaria health care is poor, otherwise they would be treated in time and not die. Accordingly, there are no reliable estimates of fatalities in these parts of the world, and one should be very cautious as to the accuracy of such numbers. Anyway, they are disturbingly high and once again confirm the urgent need to develop efficient control measures.



Beware of bananas

LAND USAGE AND MALARIA RISK

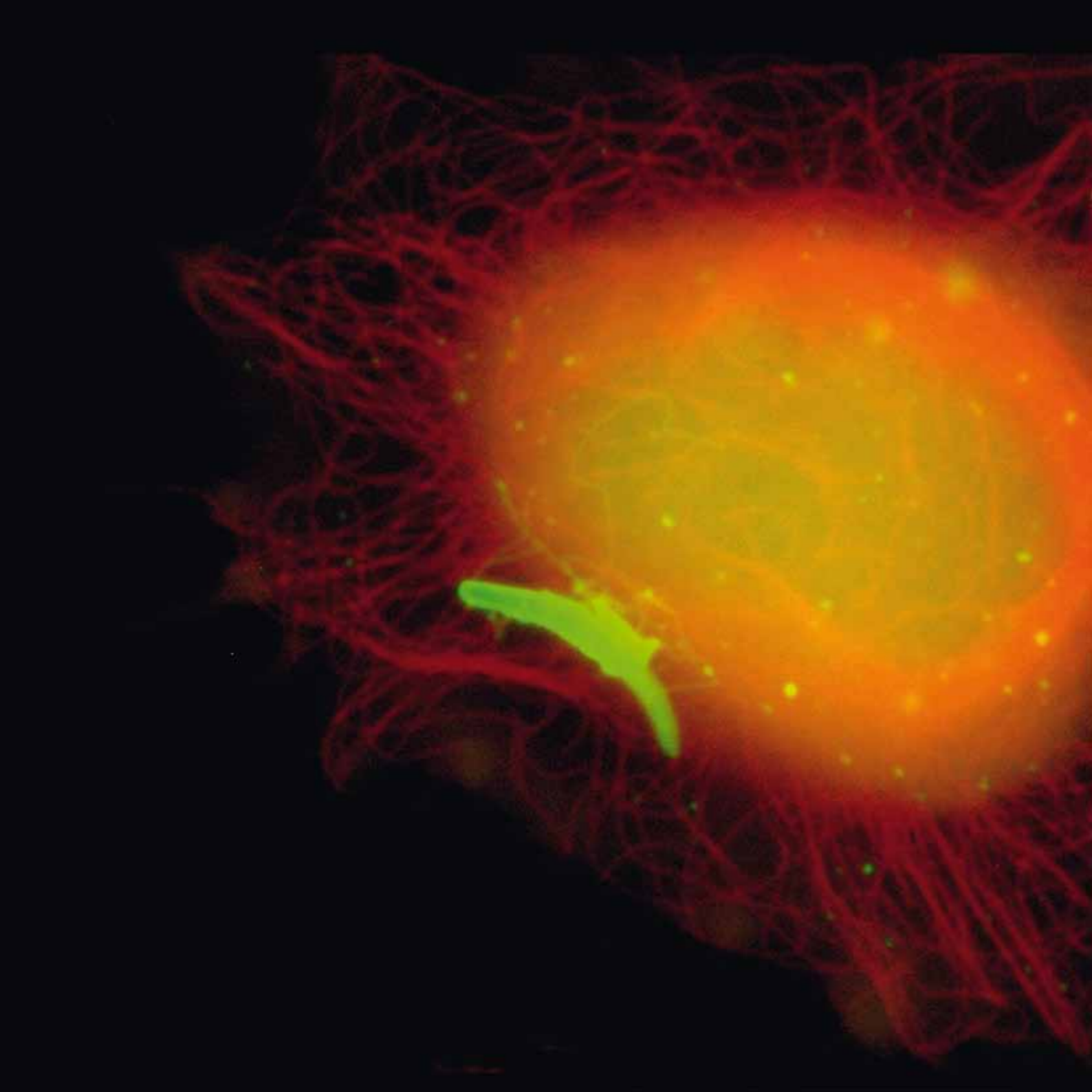
Malaria is transmitted by female Anopheles mosquitoes, and thus nearby breeding sites for these mosquitoes greatly increase the risk of malaria transmission. Certain landscapes favour mosquito breeding, others don't. In a rural area of Ghana we have studied the relationship between land usage and the incidence of malaria. Taking advantage of high-resolution satellite mapping (Ikonos), land usage was assessed in a 2-km radius around 12 villages and correlated to new malaria infections among villagers.

The result: The numbers of malaria infections correlated positively with surrounding swamps and banana farming; conversely, they decreased with nearby forests. These data allow more detailed studies on mosquitoes and larvae in risk areas and may pave the way for targeted control measures.

Krefis A.C. et al., *PLoS ONE* 2011, 6(3):e17905.
doi:10.1371

Denise Dekker, Elina Fechtner, Julius Fobil, Mirko Girmann, Anna Jaeger, Anne C. Krefis, Ralf Krumkamp, Wibke Loag, Oumou Maiga Askoféré, Maja Nielsen, Enusa Ramani, Nimako Sarpong, Norbert Schwarz, Peter Sothmann, Thalea Tamminga, Christof Vinnemeier, Julia Vohwinkel, Jürgen May and external cooperation partners
(see publication)

Figure: Land usage (see legend) within a radius of 2 km around the centres of villages in the Ashanti Region, Ghana (Ikonos satellite image)



Play with fire

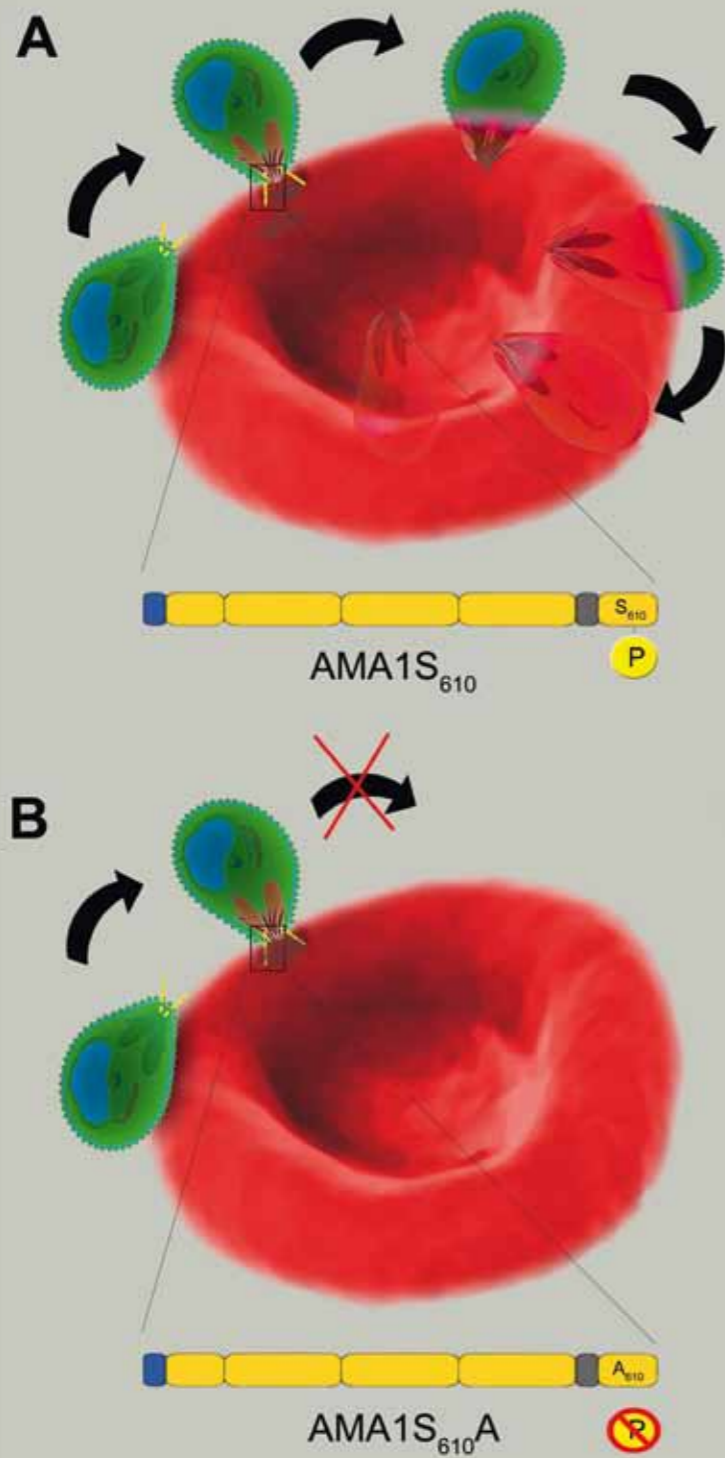
MALARIA PARASITES USE DEFENCE REACTIONS OF LIVER CELLS

... for their own reproduction but many get lost. After the bite of an infected mosquito, malaria parasites first reach the liver with the blood stream. Like other cells of higher organisms, liver cells can destroy invading pathogens simply by surrounding them with a membrane and digesting them. Some malaria parasites, however, manage to escape this attack – the liver cells digest themselves instead. The nutrients released are being used by the parasites for their rapid production of thousands of daughter cells. For this strategy they pay a high toll, however, because a large number of parasites are indeed being digested and destroyed.

Graewe S. et al., FEMS Microb Rev 2011, epub

Monica Prado, Nina Eickel, Stefanie Graewe, Ulrike Fröhlke, Volker Heussler and external cooperation partners (see publication)

Figure: Malaria parasite, „sporozoite“ stage (green), after invasion into a liver cell is being surrounded by a membrane (light green) and by structural fibres (red).



A phosphate for starter

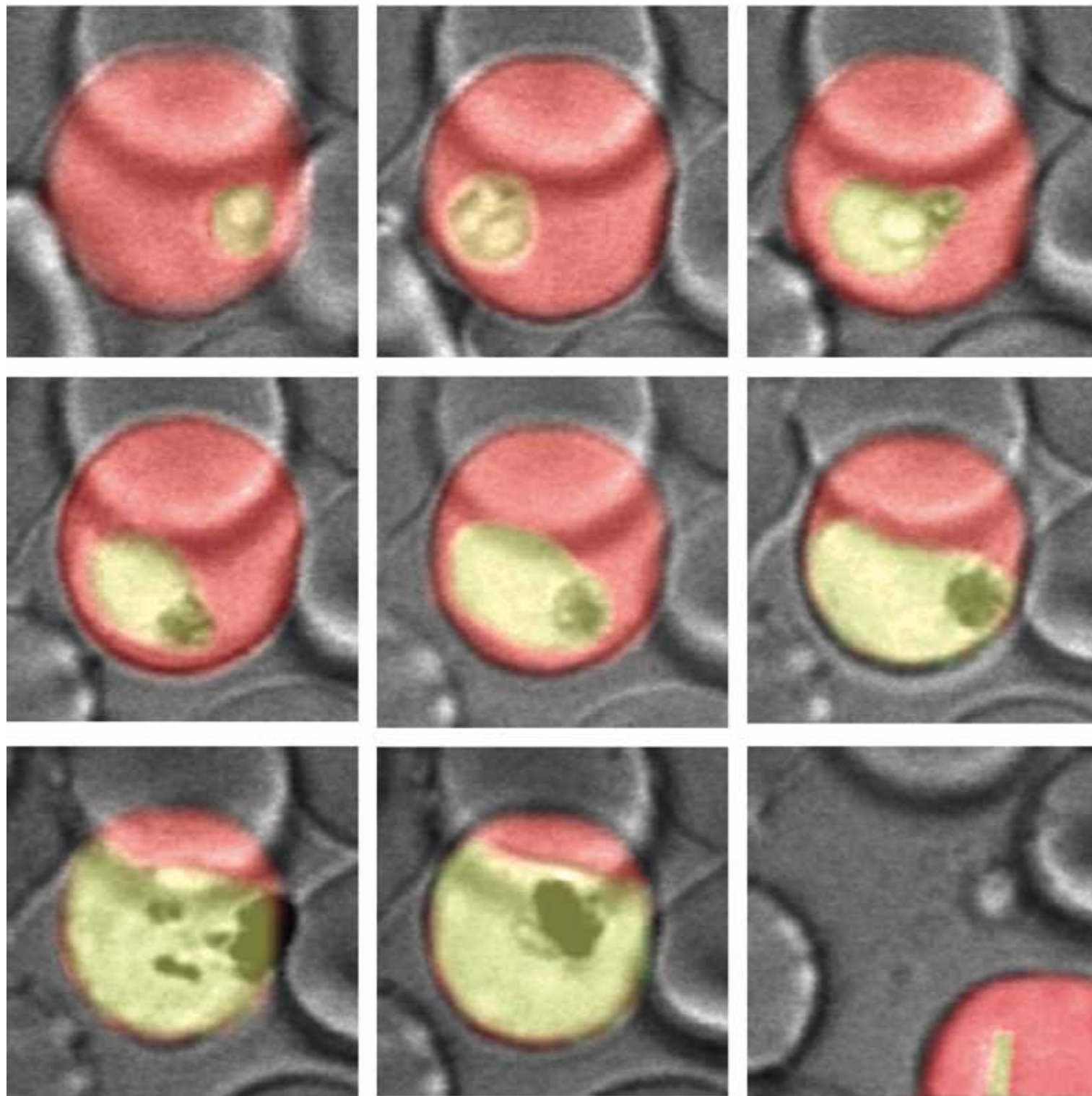
SIGNAL FOR THE INVASION OF MALARIA PARASITES INTO RED BLOOD CELLS

The invasion of malaria parasites into red blood cells marks the onset of the parasites' stage that cause disease. In co-operation with scientists of the Burnet Institute in Australia an important step in the activation of the invasion machinery was revealed: First the parasites insert own proteins into the red cell membrane, kind of docking points for a protein named AMA1, which stands out from the parasite's surface. AMA1 also extends into the inside of the parasite. We have now shown that, to start invasion, the parasites must place a phosphate group at the inner part of AMA1. Such activated AMA1 then outside attaches to its docking points on the red blood cell and inside it starts the invasion machinery of the parasite.

Leykauf K. et al., PLoS Pathog 2010, 6:e100094

Moritz Treeck, Boris Prinz, Klemens Engelberg, Tim Gilberger and external cooperation partners (see publication)

Figure: A single mutation blocks invasion. (A) A malaria parasite (green) enters a red blood cell (red). It uses a number of surface structures of the red cell in a key-lock manner. This process depends on the activation of a single structure of the parasite protein AMA1 (orange), namely the attachment of a phosphate group (P) to the amino acid serine at position 610 of AMA1. (B) If this serine is replaced by an artificial mutation of the AMA1 gene, the phosphate cannot be attached, and the invasion is stopped.



In the movies

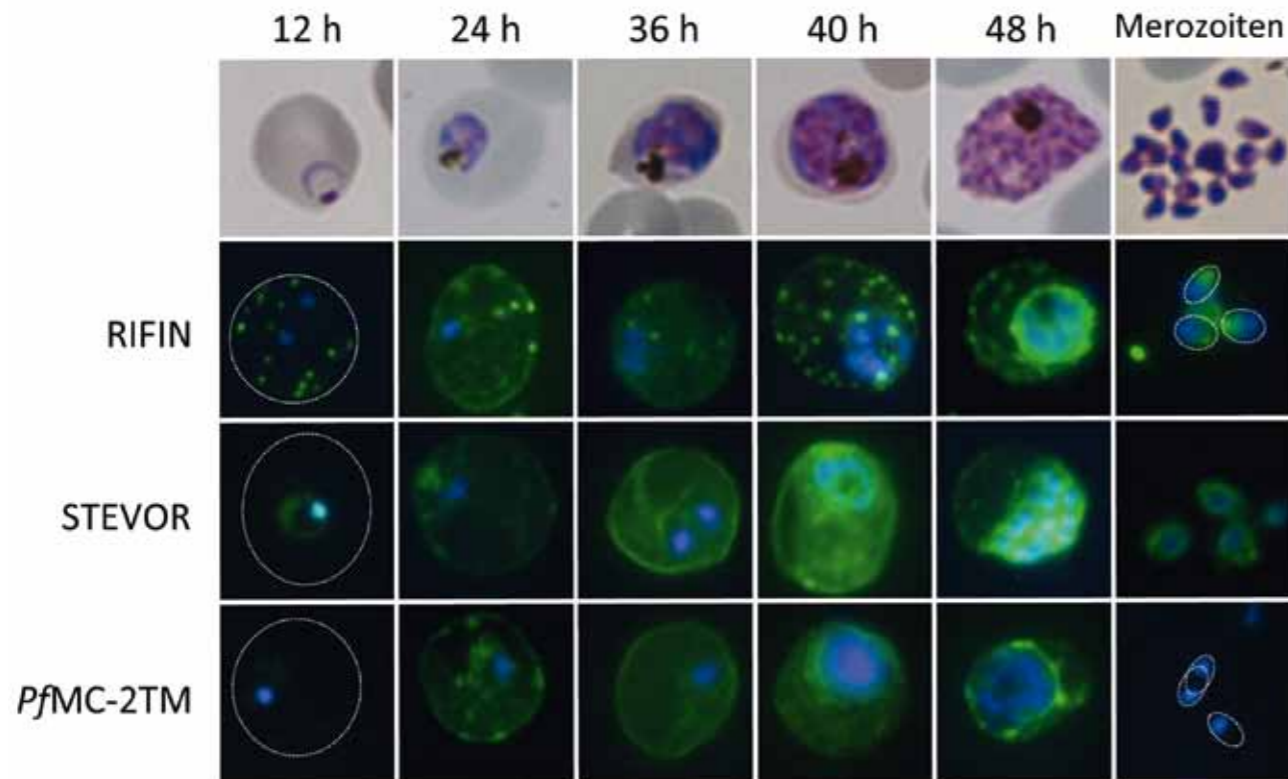
MALARIA PARASITE FILMED IN 3D

Although it is believed for more than a century, one couldn't be sure. Now we succeeded to film a malaria parasite inside a red blood cell in 3D. So far, its development could only be composed from many single snapshots. The movie confirms certain prejudices, others are abandoned. For example, the food vacuole of the parasite is not formed by a single large invagination of the outer cell membrane, and parasite proteins are not secreted into the surrounding red cell as packs inserted into a membrane but one by one entering preformed membranes already present inside the red cell.

Grüning C. et al., Nat Commun 2011, 2:165

Christof Grüning, Arlett Heiber, Florian Kruse,
Johanna Ungefehr, Tim-Wolf Gilberger,
Tobias Spielmann (see publication)

Figure: Within two days a malaria parasite (green) grows inside a red blood cell (red) until it takes over the entire host cell. It produces daughter parasites, which infect new red blood cells (last image).



In real life

ONLY IN HUMANS, NOT IN TEST TUBES

Malaria parasites transport certain proteins onto the surface of red blood cells they infect, and make these bind to the walls of small blood vessels. Infected red cells thereby get stuck and avoid being with the circulation pumped through the spleen and being filtered out there - and the parasites survive. At the same time the binding to vessel walls may in the human cause life-threatening organ damage by disturbing the microcirculation.

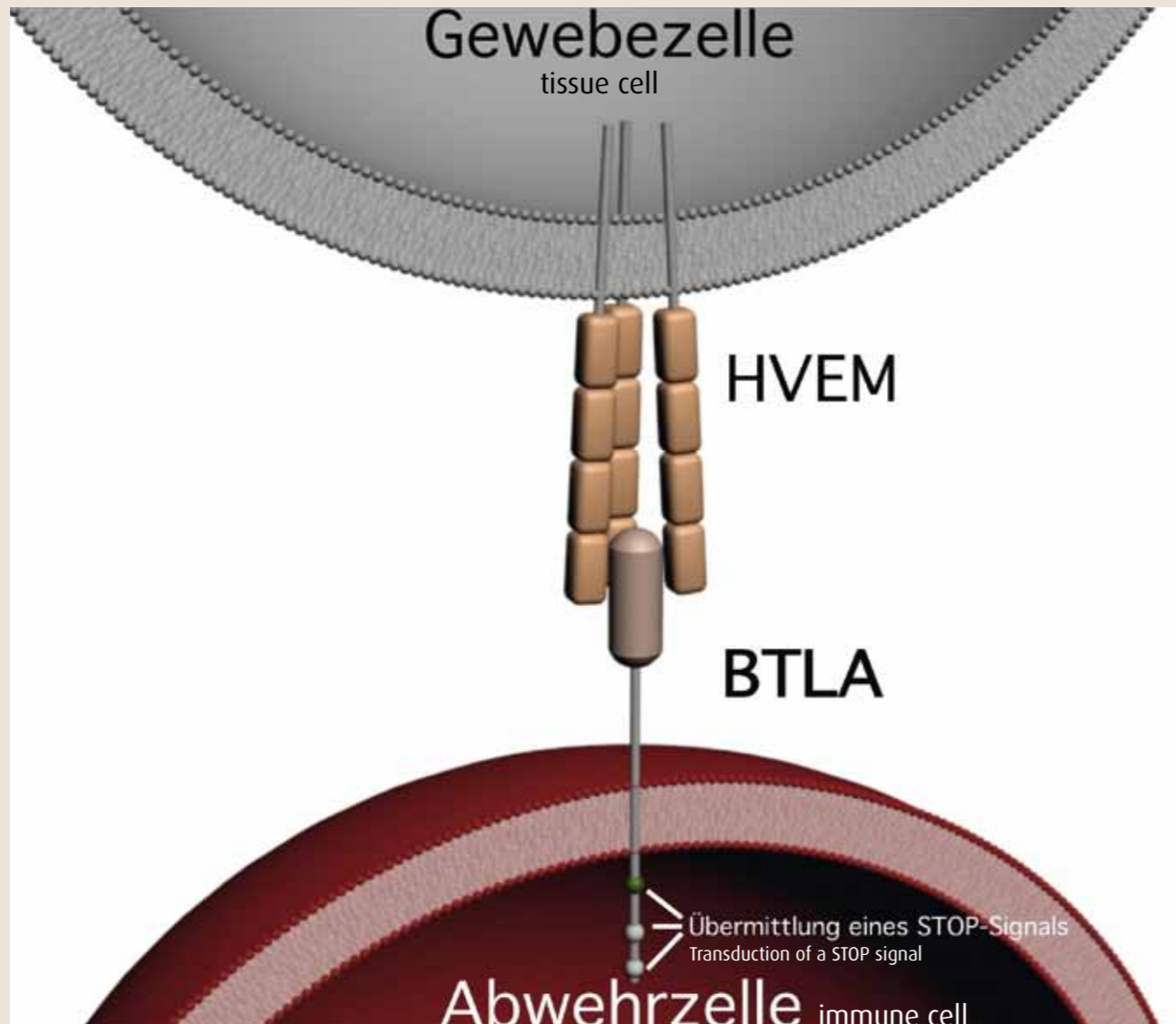
For our studies we used malaria parasites freshly isolated from patients. We could show that the proteins involved in the binding to vessel walls are being produced at very different time points during parasite maturation. On one hand they were transported to the red blood cell surface, on the other hand they appeared in the daughter parasites, the merozoites. Their functions obviously are manifold. This

could not be found using malaria parasites grown in the test tube. For further studies, therefore, we depend on the help of malaria patients and some small blood donations from them.

Bachmann A. et al., Cell Microbiol 2011, 13:1397-1409

Anna Bachmann, Ann-Kathrin Tilly, Susann Ofori, Egbert Tannich, Iris Bruchhaus and external cooperation partners (see publication)

Figure: Localisation of the protein families RIFIN, STEVOR and PfMC-2TM of the malaria parasite during its development inside a red blood cell.



Immune brake

IMMUNODEFICIENCY IN MALARIA

The human body can weaken the immune response to infection in order to prevent organ damage by fierce inflammatory reactions. The molecule BTLA has such a function. Unlike similar molecules, which are found on certain immune cells only, BTLA is present on virtually all immune cells. In the course of malaria BTLA is produced at an increased rate thereby reducing the immune responses to the parasites. Mice in which BTLA has been deleted genetically have fewer parasites in their blood. Apparently they combat the parasites more efficiently because their immune system is less weakened.

It is unclear whether it is the parasites, which use the immune brake to protect themselves, or whether the human body itself interferes trying to avoid organ damage by strong inflammatory reactions.

Adler G. et al., J Immunol 2011, 187:5310-9

Guido Adler, Christiane Steeg, Nina Lapke, Bernhard Fleischer, Thomas Jacobs and external cooperation partners (see publication)

Figure: Tissue cells use the molecule HVEM to block immune cells through BTLA.



Hard to get

INFLAMMATION DESTROYS RED BLOOD CELLS

To be honest scientists don't have the faintest idea about what is happening although it presumably is the most frequent single cause of death for infants worldwide – severe malaria anaemia. It is the major malaria complication in areas with intense malaria transmission, and it is long known that it cannot be explained simply by direct destruction of red blood cells by invading parasites. The disease largely withdraws from being studied because, when infants being severely anaemic see a doctor, it has happened already, and there is no appropriate animal model – despite contrary statements.

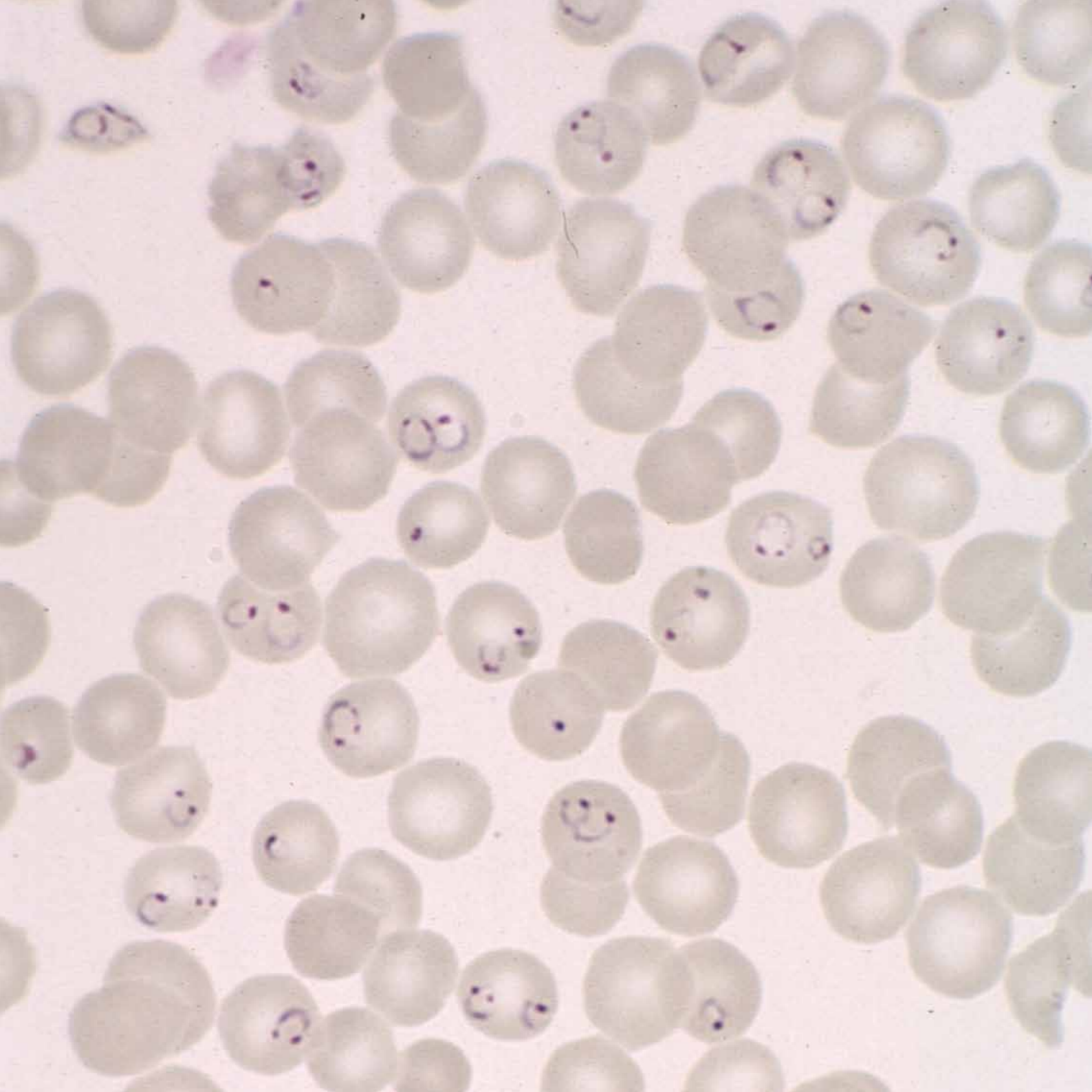
Our genetic studies have now shown that a surface moiety on defence cells which binds inflammatory factors from serum occurs in children with severe malaria anaemia significantly more frequently than in children with other forms of severe malaria.

Thus, one way or another the inflammatory reaction in serum has something to do with the acute disappearance of red blood cells – a first hint at least. Apparently, braking of the inflammatory response does not always work perfectly in malaria.

Schuldt K. et al., J Med Genet 2010, 47:471-5

Kathrin Schuldt, Christian Timmann, Jennifer Evans, Jürgen May, Claudia Esser, Christa Ehmen, Wibke Loag, Rolf Horstmann and external co-operation partners (see publication)

Figure: Infant with life-threatening malaria at Komfo Anokye Teaching Hospital, Kumasi, Ghana.



Faint circulation

IMPAIRED CARDIAC FUNCTION IN UNCOMPLICATED MALARIA

Patients with malaria often are dehydrated and require infusions. The reasons are several fold. Through profuse sweating and often also vomiting and diarrhoea they loose water. Furthermore, there is a serious risk in malaria that fluids leak from blood vessels into the organs, which is particularly dangerous in the brain and the lungs. Thus, although infusions are needed they may be hazardous. Additional cardiac impairment therefore bears the risk that fluids given by infusions may not all be pumped through the circulation but may aggravate leakage into organs. We have carefully studied the heart function of 28 adult travellers returning with *Plasmodium-falciparum* malaria. A new, riskless method was applied which uses breathing air. We found that, also in uncomplicated malaria, cardiac function is reduced by approximately 20%. Thus, the circulation of malaria patients treated with infusions must be monitored carefully.

Herr J. et al., *Malar J* 2011, 10:160

Jakob Cramer, Johanna Fischer-Herr, Gerd-Dieter Burchard and external cooperation partners (see publication)

Figure: Malaria parasites (*Plasmodium falciparum*) in thin blood films. Round greyish structures are single red blood cells. Inside them, malaria parasites appear as faint dark blue rings, the nuclei of which form dots – a characteristic „signet ring“ image.



Rich in vitamins

SEARCH FOR MALARIA DRUGS

In contrast to humans malaria parasites are able to synthesise a number of vitamins themselves, for instance vitamin B6, which are vitally important for them as well. They use metabolic pathways which humans don't have and which, therefore, can be blocked without being afraid of causing side effects on the human metabolism.

In a cooperation with the European ScreeningPort in Hamburg we used a high-throughput procedure to screen 250,000 substances for their activities to inhibit the vitamin B6 synthesis in malaria parasites. More than 2,500 compounds had some activity.

Ten of them blocked the growth of malaria parasites in the test tube at very low concentrations such that it is worthwhile to work on their chemical structures to search for derivatives, which are active at even lower concentrations und should be tested for their usefulness as medicinal drugs.

Knöckel J. et al., Biochem J 2012, 443:397-405

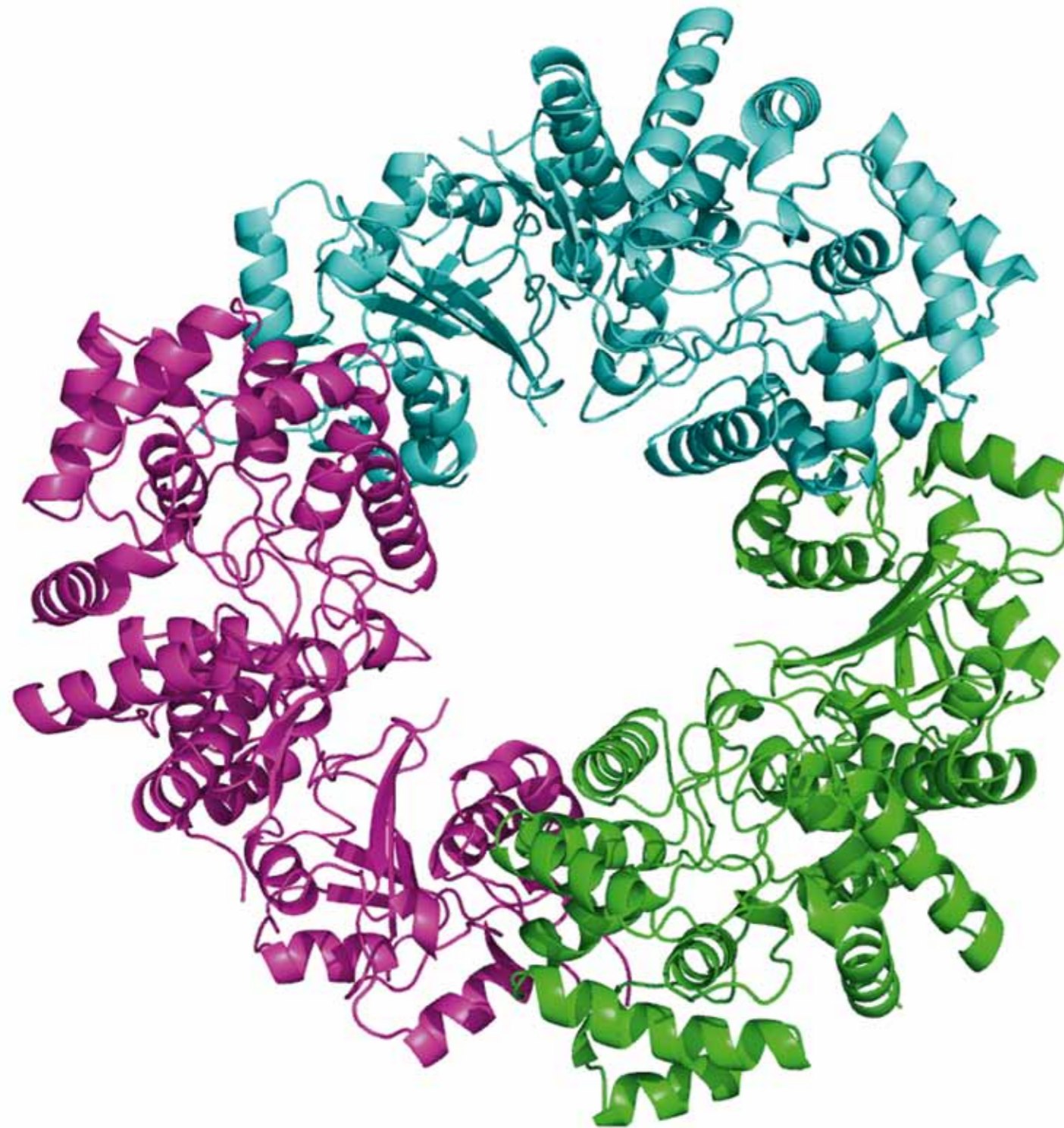
Bärbel Bergmann, Sabine Butzloff, Julia Drebes, Kamila Meissner, Ingrid Müller and external cooperation partners (see publication)

Figure: High-throughput screening for new malaria drugs. Using robots more than 250,000 compounds have been tested at the European ScreeningPort for inhibition of the vitamin B6 synthesis by malaria parasites



LASSA

Lassa viruses belong to the pathogens that can only be grown and studied under highest safety conditions – in biosafety level 4 (BSL4) laboratories. The reason is the haemorrhagic form of Lassa fever, which ends fatal in one third of the cases.



Guardian of the Lassa virus

X-RAY CRYSTALLOGRAPHY OF LASSA NUCLEOPROTEIN

Haemorrhagic Lassa fever occurs if Lassa viruses can replicate very rapidly in the human body. To this end, a virus protein called nucleoprotein is of great importance. The viruses produce it to protect their DNA against attacks of the human defence system. Together with colleagues from the European Molecular Biology Laboratory (EMBL) at DESY we have analysed the spatial structure of this nucleoprotein. Using gene technology, we produced large amounts of the protein in high purity. Only then the protein forms crystals. Crystals deviate X-ray beams in a highly specific manner such that from the pattern on the X-ray film one can deduce the structure of the protein down to the location of individual atoms. In addition, 6,000 electron micrographs of the protein were assembled to a single image. Together the findings show that each three nucleoproteins assemble to form symmetrical

rings, which can sheath the genetic material of the virus. These structural details may allow to specifically tailor anti-viral drugs, for example, to prevent the reproduction of the virus by blocking the assembly of the nucleoproteins or the sheathing of viral DNA.

Brunotte L. et al., J Biol Chem 2011, 286:38748-38756

Linda Brunotte, Romy Kerber, Meike Hass, Martin Gabriel, Michaela Lelke, Carola Busch, Stephan Günther and external cooperation partners (see publication)

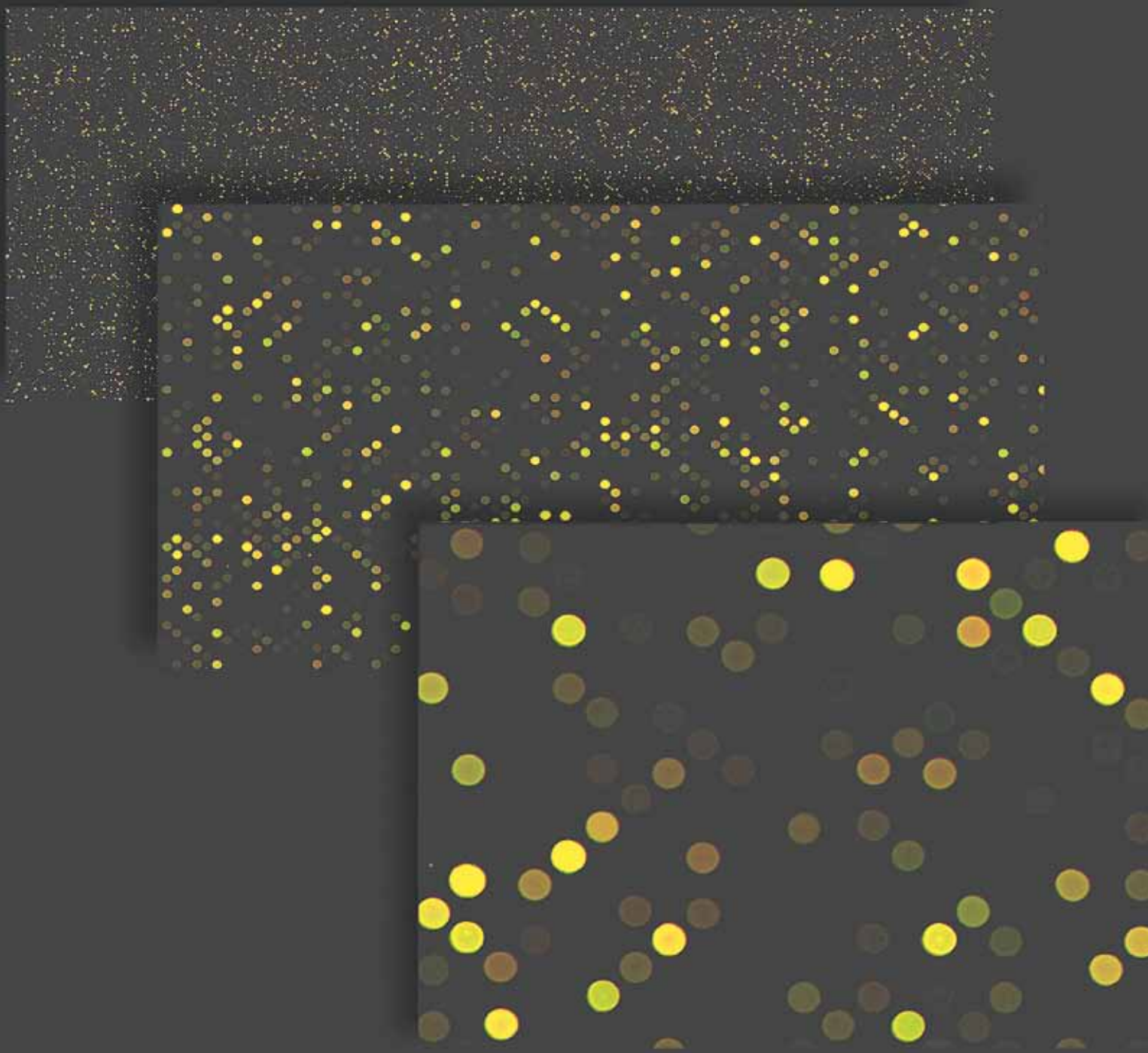
Figure: Crystal structure of the nucleoprotein of Lassa virus: Three protein molecules combine and form a symmetrical ring.



TUBERCULOSIS

As increasing drug resistance makes tuberculosis (TB) ever more threatening, the need for an efficient vaccine is urgent. Most humans naturally possess powerful defence reactions against TB bacteria, which protect them against the disease. Numerous findings have indicated that a certain type of immune cells, CD⁴⁺ T lymphocytes, play an essential role, which mostly is the basis for vaccine development. These immune cells learn to react to certain structural motives of the bacteria. Surprisingly it was now found that these structural motives are strikingly similar in TB bacteria from all over the world. Thus, the recognition by CD⁴⁺ T lymphocytes appears not to be dangerous for TB bacteria since, obviously, no selective pressure is exerted on the bacteria to change the essential structural motives. Therefore it becomes even more urgent to solve the question of how to design a

vaccine that instructs the immune system to kill TB bacteria in all humans – an apt example for the need of disease-oriented basic research.



Exhausted immune cells

LYMPHOCYTES WEAKENED IN TUBERCULOSIS

It is still unclear why only one out of ten infected persons develop tuberculosis whereas the others prevent or control the infection. So-called T lymphocytes are considered crucial for protection against tuberculosis. But why do they fail to protect certain persons?

We have compared tuberculosis patients and healthy persons regarding all genes activated in T lymphocytes isolated from blood. The gene that encodes a protein called SOCS3 was clearly more strongly activated in tuberculosis patients than in healthy persons who controlled the infection. If we artificially increased the SOCS3 level in CD⁴⁺ T lymphocytes, the cells could not any more multiply as before and became exhausted. In addition, their defence functions were altered. It is tempting to speculate that T-cell exhaustion plays an important role in the susceptibility to tuberculosis.

Jacobsen M. et al., Clin Microbiol Infect. 2011, 17:1323-31.

Katja Kleinsteuber, Kerrin Heesch, Stefanie Schattling, Claudia Sander-Jülch, Bernhard Fleischer, Marc Jacobsen and external cooperation partners (see publication)

Figure: On a „microarray“, defined DNA molecules representing all human genes are spotted on tiny dots. The more matching DNA strands bind to a given dot if lysed cells are added, the brighter yellow the dot and the stronger the corresponding gene had been switched on in the cell (Image: Agilent Technologies, Santa Clara, CA, USA).

Selection

DEFECTIVE SERUM PROTEIN PROTECTS AGAINST AFRICAN TUBERCULOSIS

Mannose-binding protein (MBP) belongs to a group of serum proteins that help immune cells to recognize pathogens. MBP binds to the carbohydrate mannose and causes bacteria with mannose at their surface to be easily taken up by defence cells. Now there are pathogens that profit from being taken up by defence cells because they can survive in the digestive vacuole of these cells. Tuberculosis bacteria are one of them.

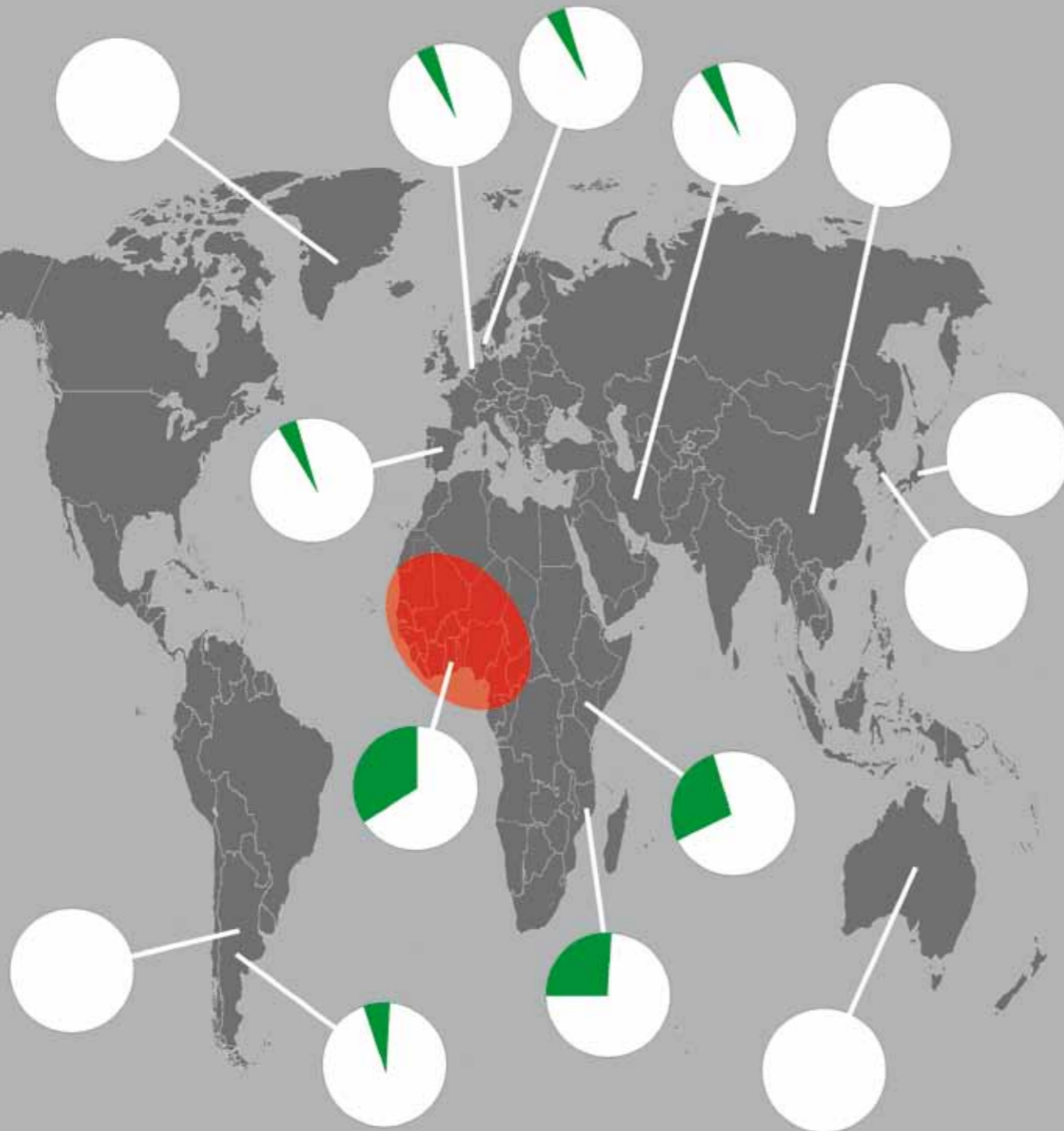
Some humans have a gene mutation causing that MBP cannot exert its normal function. We have found that this mutation in Africa protects against tuberculosis – but only against an African variant of tuberculosis, which is caused by the so-called *Mycobacterium africanum*. This makes sense because the African tuberculosis bacteria carried substantially more mannose at their surface than the common tuberculosis bacteria. They seem

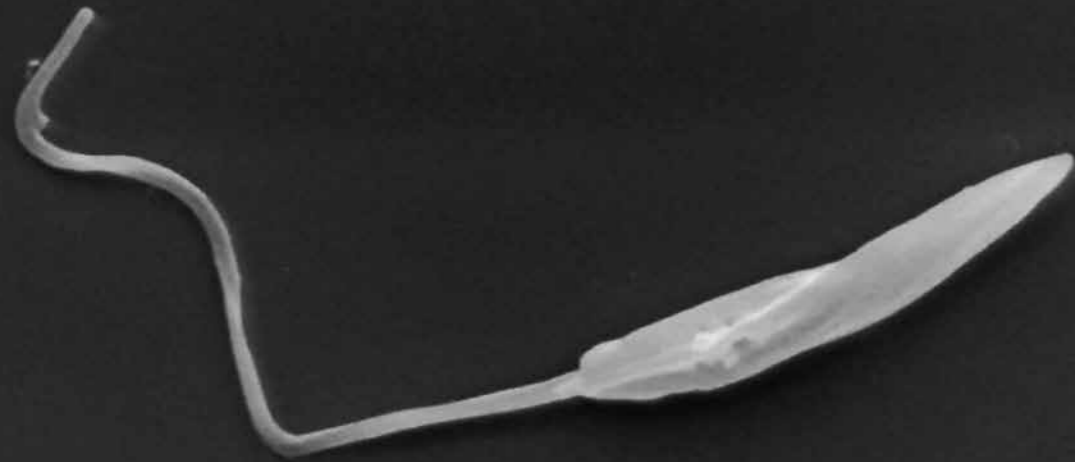
to substantially more depend on MBP for being taken up by immune cells. Interestingly, the mutation of MBP that protects against African tuberculosis bacteria is found much more frequently in Africans than in other people. It looks, therefore, as if a selective pressure by the African tuberculosis bacteria would have caused the mutation of MBP to be particularly well conserved in the African population.

Thye T. et al., *PLoS One* 2011, 6:e20908

Thorsten Thye, Christopher Intemann, Ellis Owusu-Dabo, Rolf Horstmann, Christian Meyer and external cooperation partners (see publication)

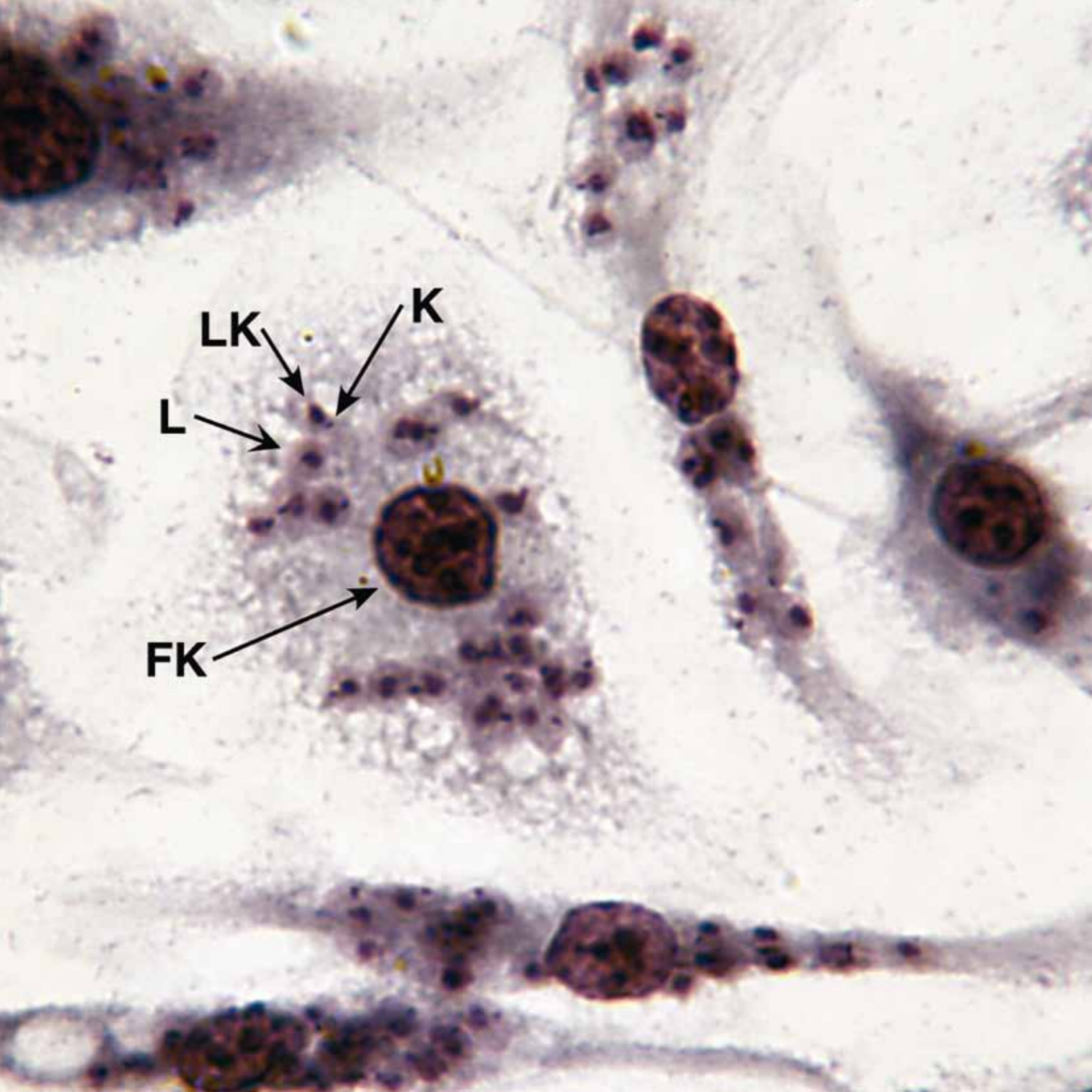
Figure: Prevalence of an African form of tuberculosis (red oval) and the frequency of a mutation that destroys the function of the mannose-binding protein (size of green segments in white circles).





LEISHMANIASIS

Apart from Dengue fever, leishmaniasis presumably is the most important of the „neglected diseases“. In the past years, WHO made particular efforts to negotiate with the pharmaceutical industry price reductions for the most needed drugs. Of concern is the increasing drug resistance of leishmania.



A matter of dosage

DRUG RESISTANCE BY GENE MULTIPLICATION

As in almost all infectious diseases drug resistances cause increasing problems in the treatment of leishmaniasis. Leishmania are either killed too slowly or not completely by common chemotherapy. Comparisons between the genome sequences of susceptible and resistant isolates have not yielded any clues.

We have introduced into leishmania additional fragments of their genomes and have grown these leishmania in the test tube in the presence of the common drugs. Those leishmania that survived were found to have several copies of a certain additional fragment and of a certain additional gene, the function of which is unknown at present. In drug-resistant leishmania from Peru we found an amplification of the same gene. This finding will now be confirmed in drug-resistant leishmania from India and other countries. And of course we are curious about the function of that gene.

Choudhury et al., Int J Parasitol 2008, 38:1411

Carola Schäfer, Andrea Nühs, Joachim Clos and external cooperation partners (see publication)

Figure: Leishmania infected immune cells. Leishmania (L), engulfed in immune cells besides the dark-coloured nuclei of the immune cells (FK), have much smaller, round nuclei (LK) and extra bar-shaped dark-coloured structures (K).



WORMS

Under the title „Hygiene Hypothesis“ many scientists ascribe the dramatic increase in allergies and autoimmune diseases in industrialized countries to substantial changes in the colonization of our bodies with harmless microorganisms and, in particular, to the radical elimination of worm infections. Remarkably, the critical US Food and Drug Administration meanwhile approved artificial infections with intestinal worms for the treatment of inflammatory bowel disease.



Worming out of immunity

STRONGYLOIDES RATTI ACTIVATES INHIBITORY IMMUNE CELLS

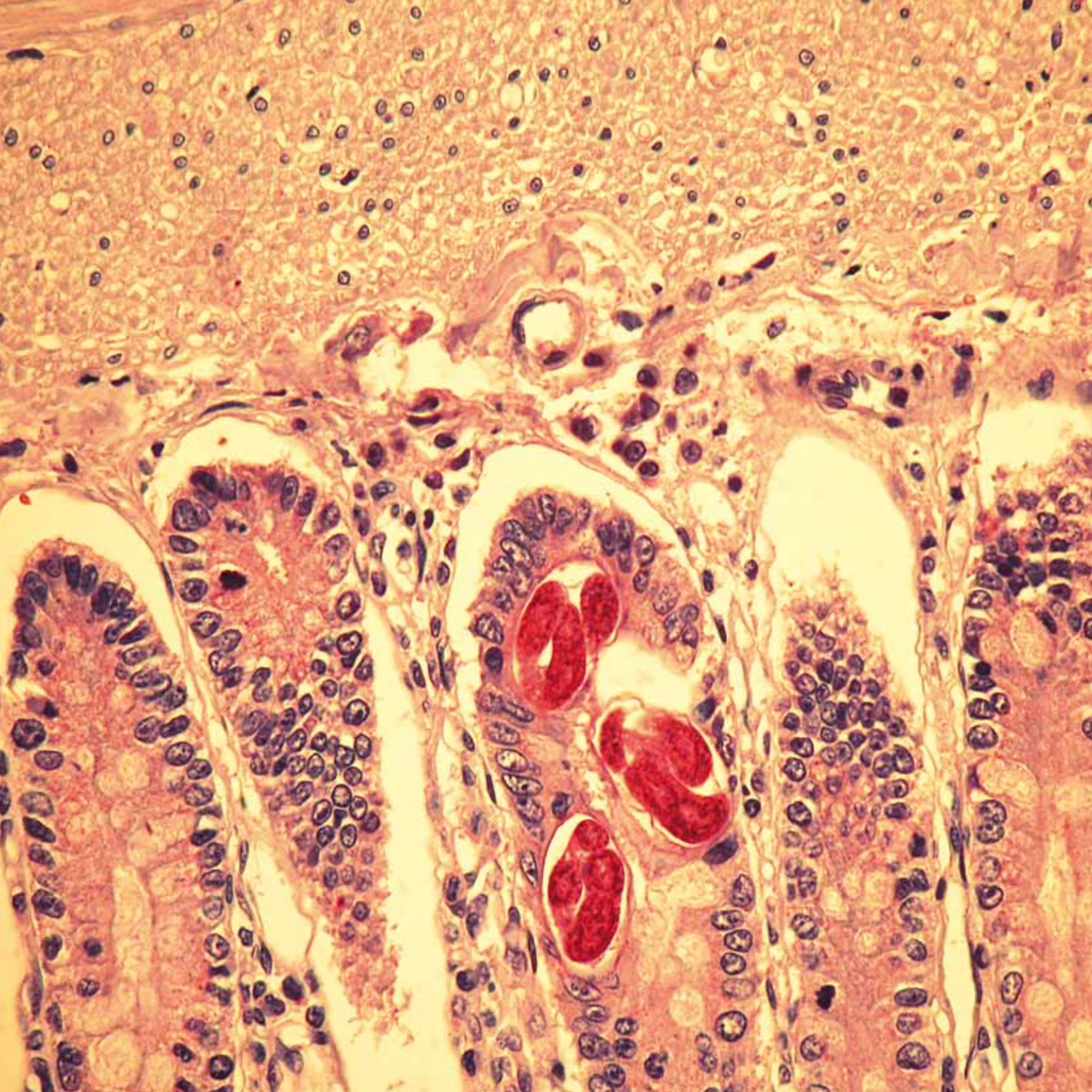
The few millimeter long larvae of the roundworm *Strongyloides ratti* penetrate the skin of rats or mice and migrate through their bodies for two days before they reach the small intestine. Once there, they live embedded in the mucosa for two weeks and reproduce. To survive in the gut, the worms have to avoid expulsion by the host's immune system. To this end, *Strongyloides* provokes a multiplication of inhibitory defence cells, the regulatory T cells. If we artificially remove those regulatory lymphocytes from the animals during the initial days of infection, mast cells become activated in the intestine. Mast cells are innate immune cells with multiple partly still enigmatic functions. They essentially contribute to the defence against worms in the intestine by releasing toxic compounds and by increasing peristaltic and mucus production. In the absence of regulatory T cells, mast cells release these

compounds nearly one week earlier and in much larger quantities. Therefore, without protection by its host's regulatory T cells, the worm is unable to settle in the intestine and is rapidly expelled.

Blankenhaus B. et al., J Immunol 2011, 86: 4295-4305

Marie-Luise Eschbach, Birte Blankenhaus, Nadia Ben Nouir, Minka Breloer and external cooperation partners (see publication)

Figure: Female Strongyloides ratti from the small intestine of a mouse.



Tranquilizer

WORM PRODUCTS BIND TO CELLS OF THE INTESTINAL WALL

We characterize compounds used by worms to dampen our immune system. In an experimental model of a natural *Strongyloides ratti* infection, we found 79 proteins specifically released by female worms living inside the intestinal wall. Some of them we produced by genetic engineering and found that they bound to cells of the intestinal mucosa but not to other cell types including lymphocytes. We hope to be able to derive from such compounds new drugs for the treatment of Crohn's disease and other inflammatory bowel diseases.

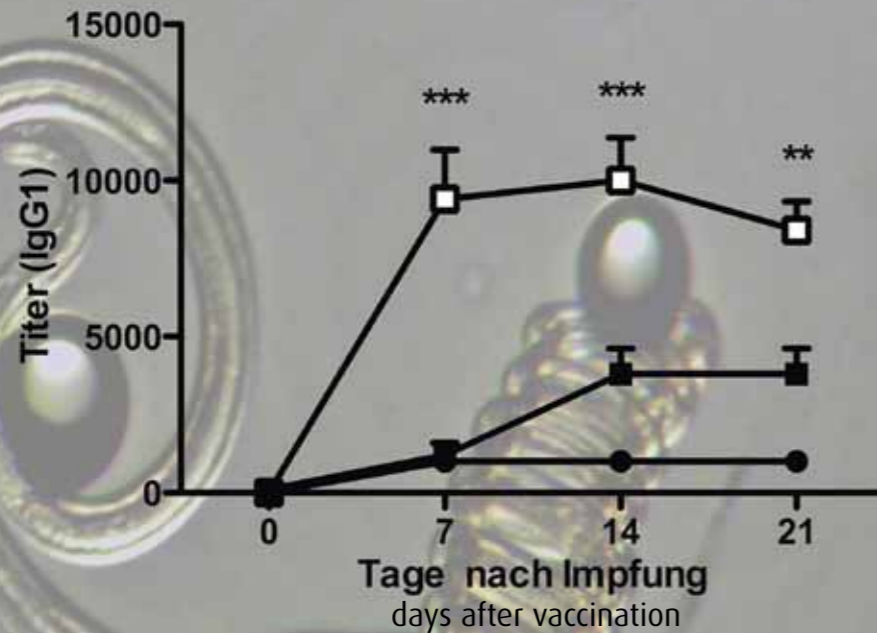
Soblik H. et al., *Mol Cell Proteomics* 2011, 10(12):M111.010157

Hanns Soblik, Abuelhassan Elshazly Younis, Louise Reher, Inga Toborg, Frank Geisinger, Silke van Hoorn, Klaus Erttmann, Norbert Brattig and external cooperation partners (see publication)

Figure: The midgut roundworm *Strongyloides ratti* (red) in the intestinal wall of a rat. Finger-shaped intestinal villi, which serve the enlargement of the mucosal surface to better resorb nutrients, appear as cones. The nuclei of the mucosal cells are stained in dark blue.

Antikörper-Antwort auf die Impfung

Antibody response to vaccination



- gesund und geimpft / healthy and vaccinated
- wurminfiziert und geimpft / worm infected and vaccinated
- wurminfiziert und nicht geimpft / worm infected and unvaccinated

Keep cool

WORMS SLOW DOWN HELPER AND KILLER CELLS

Chronic worm infections induce changes in the immune system that can impair vaccination efficacy. The production of protective antibodies in response to vaccination, for instance, is dramatically reduced in mice that are also infected with the roundworm *Litomosoides sigmodontis*. The concurrent worm infection does not suppress the antibody-producing B cells themselves but targets T helper cells that are central providers of help for the B cells. In order to achieve this suppression, *Litomosoides* induces the production of the inhibitory messenger interleukin-10. Interleukin-10 impedes the replication of T helper cells and converts some of them to become regulatory T cells that counteract inflammatory reactions. Following malaria vaccination, worms also suppress the induction of killer T cells that could detect and kill malaria-infected cells. Currently, we try to design vaccines that induce

protective responses despite pre-existing worm infections.

Hartmann W. et al., *J. Immunol* 2011, 187:4088

Marie-Luise Eschbach, Wiebke Hartmann, Julia Kolbaum, Irma Haben, Minka Breloer and external cooperation partners (see publication)

Figure: Comparison of antibody responses to a vaccination in healthy and worm-infected mice

What really interests people

The death of the young pharaoh

In 2010 the former Egyptian „Secretary General of the Supreme Council of Antiquities“ Zahi Hawass together with some scientists published a study on the cause of death of pharaoh Tutankhamun (-1332-1323 BC) in a renowned medical journal. They had found in the mummy DNA of the malaria parasite *Plasmodium falciparum* and concluded that Tutankhamun had died from malaria. X-ray studies in addition showed bone lesions, which were interpreted as signs of a rare bone disease called „Köhler II“.

Reading the article it appeared that the findings presented, in conjunction with the family history of the pharaoh, much better fit the interpretation that Tutankhamun had died from sickle-cell anaemia. Sickle-cell anaemia or sickle-cell disease is caused by an abnormal genetic variant of the oxygen-transporting protein haemoglobin of red blood cells. The abnormal haemoglobin makes the red blood cells obstruct capillaries, and this results in tissue damage including bone lesions, which in the X-ray may resemble „Köhler II“.

A person suffers from sickle-cell disease only if he has inherited the abnormal haemoglobin from both parents, i.e. if both genes we have for haemoglobin are abnormal. Persons that have only one abnormal gene are healthy and even protected from fatal malaria – this is why the sickle-cell haemoglobin occurs in malaria areas only. This had to apply to Tutankhamun’s parents. At least from his presumed father Akhenaten it is known that he became 50 years or older and thus could have been protected against fatal malaria.

Our interpretation of Tutankhamun’s death appeared convincing to many experts and caused a surprising echo in the public – probably the cheapest public relations campaign the Institute ever experienced.

Timmann, C. and Meyer C.G., JAMA 2010, 303: 2473

Christian Timmann and Christian Meyer





KCCR Report 2010-2011



The Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR), a joint venture and platform for research of the Ghanaian Ministry of Health, the Bernhard Nocht Institute for Tropical Medicine (BNITM) and Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, hosted projects from overseas partners and their Ghanaian counterparts. KCCR serves as the biomedical research outfit of KNUST and in 2011 was awarded Centre of Excellence for Applied Biomedical Research under the auspices of the African Network for Drug Discovery and Diagnostics (ANDI)/WHO/TDR.

KCCR boosted its laboratory capacity in getting a safety level three (BSL 3) laboratory operational and a microbiology unit to fit its purpose to investigate environmental and human samples. KCCR hosted and supported projects receiving funds among others from the European Union, Volkswagen Foundation, German Research Council (DFG), Malaria Vaccine Initiative (MVI), German Ministry of Education and Research and the European

Mosquito Research Association. There are long term projects running in collaboration with several departments at KNUST. KCCR continued its onchocerciasis and elephantiasis research programs which are running since its inception in 1997. The continued success of these projects is based on applied approaches at research goals to serve the communities affected. To this end, they are oriented in the most refined antibiotic treatment for both helminth infections, tackling Ivermectin resistance in onchocerciasis and also putting on the research agenda the alleviation of the often underestimated suffering of elephantiasis patients. Further funds towards these goals have been secured for the future. A novel approach to alleviate the disease burden aims at the identification of vaccine candidates to be used in future clinical trials. Research on tuberculosis with its aim to identify human genetic variants involved in protecting individuals from the disease started in 2000 and has found several phases of extension towards advanced



methods in characterization of mycobacterial strains for antibiotic resistance.

The success of Buruli ulcer research, which started in 2003, is based on novel molecular methods introduced into routine diagnostics in centres as KCCR but also to be standardized for dissemination in the district hospitals of endemic areas. Recent research advances revolutionized the treatment of mostly young children by administering antibiotic treatment prior to surgical intervention. Another aim of the projects is to identify vaccine candidates. This applied biomedical research again underscores KCCR's capabilities to ensure that research benefits those affected, achievements that resulted in the earlier nomination of KCCR as a reference centre for Buruli ulcer.

KCCR's partnering of the RTS's vaccine study since its inception in 2006 has supported the program's phase 3, which revealed promising results of 58% protection from childhood malaria. The continuation of the phase 3 trial taking

place in 5 more African countries will pave the way for better understanding of when vaccines will be made available to the entire population at risk, to lower the impact of infection.

The Clinical Department of BNITM has several projects, mainly with partners from the Komfo Anokye Teaching Hospital (KATH), Kumasi. The Child Development Study (CDS) is to look into the impact of infectious diseases, e.g. malaria and worm infestations, in affecting child development. Other programs centred on co-infections of HIV positive patients. The ESTHER (Ensemble pour une Solidarité Therapeutique Hospitalière – En Reseau) partnership between KATH and BNITM and the University Medical Centre Hamburg-Eppendorf aims at the improvement of medical care for patients with HIV and tuberculosis.

The Typhoid in sub-Saharan Africa Project (TSAP) aims to characterize potential causes of febrile illness other than malaria in children with the aim of quantifying the effect of a typhoid vaccine in the popula-

tion under study. The International Vaccine Initiative (IVI) is co-ordinating and sponsoring this programme.

Virus research investigating respiratory infections in infants under 5 years started at KCCR by introducing real time PCR and cell biological methods in collaboration with the University of Bonn. This research was in the framework of a Neglected Tropical Diseases program investigating febrile illness with emphasis on bacterial and viral infections of patients at the Presbyterian Hospital of Agogo. A further project started to investigate the ecology of virus infections of humans and bats, a novel research program at KCCR which included wildlife to look into zoonotic aspects of common-cold virus and related zoonoses.

KCCR is committed to graduate training and is currently training a total of 10 Master's and 3 PhD students. Students took part in workshops of immunology, cell biology, molecular biology (PCR technology) and ecology (bat ecology) held at KCCR in cooperation with



the Department of Biochemistry, Allied Health Sciences, Department of Wildlife and Range Management and other international organisations.

In the last year, several workshops were conducted at KCCR to facilitate student participation in research, including but not limited to that organised by the Volkswagen young scholar initiative and that by the American Society of Cell Biology (ASCB).

Dr. Ellis Owusu-Dabo, Scientific Director, KCCR

Courses

„At a glance“

- Daily lectures from 9:00 am to 4:30 / 5:15 pm
- More than 300 lessons
- Approximately 40 hours of practical exercises
- German reference library for literature on tropical medicine
- Certified by the German Federal Board of Physicians to be part of the official training programme for physicians to specialize in tropical medicine; certified by the American Society of Tropical Medicine and Hygiene
- Credit points awarded by the Hamburg Board of Physicians; 387 credit points in 2011



Historical photograph: Lecture hall

Diploma Course on

TROPICAL MEDICINE

The objective of the Diploma Course on Tropical Medicine is to prepare physicians for professional missions in tropical and subtropical countries and to enable them to preventively care for visitors of warm climates and to diagnose and to treat tropical diseases.

The central topics of the Diploma Course are human diseases characteristic for warm climates. Teaching focuses on the pathogenesis, diagnosis, clinical presentation, treatment, epidemiology and prophylaxis of parasitological, bacterial, viral and non-communicable tropical diseases. At the same time, the biology, epidemiology, as well as measures to control infectious agents, vectors and reservoirs are addressed. Further topics include the characteristics of the various clinical disciplines in tropical environments, problems of health care in poor countries and structures and performance of developmental cooperation and disaster missions.

The curriculum is divided into twelve sections of one week each. Differential diagnosis is the major guideline for the

curriculum. Taxonomy is an additional criterion in order to facilitate systematic learning. Entomology is considered in its relation to the etiology and transmission of disease and therefore follows clinical classifications. Malaria, tuberculosis and HIV/AIDS, because of their outstanding relevance, are regarded as separate topics.

- **Scientific coordinator:**
Prof. Christian G. Meyer



Diploma Course 2011

- Week 1:** ■ **Introductions and essentials:**
incl. immunology, haematology, tutorials
- Week 2:** ■ **Systemic infections 1:**
Malaria incl. entomology, principles in epidemiology, laboratory methods, tutorials
- Week 3:** ■ **Systemic infections 2:**
Viral and bacterial infections incl. entomology, laboratory methods, tutorials
- Week 4:** ■ **Systemic infections 3:**
Protozoal infections and systemic mycoses
- Week 5:** ■ **Intestinal diseases**
by viruses, bacteria and protozoa incl. laboratory methods, tutorials
- Week 6:** ■ **Helminth infections**
incl. laboratory methods, tutorials
- Week 7:** ■ **Skin and venereal diseases, mycobacteriology, ophthalmology**
- Week 8:** ■ **Tuberculosis, HIV infection/AIDS**
- Week 9:** ■ **Specific problems in certain disciplines**
incl. paediatrics, neurology, surgery, gynaecology, psychiatry, malnutrition, environmental medicine, haematology and malignancies in the tropics, poisonous animals
- Week 10:** ■ **Public Health, planning, financing**
and implementation of health projects, essential drugs, international co-operation
- Week 11:** ■ **Epidemiology and disease control**
travel medicine, mother-child-care, reproductive health, vaccination programmes, disaster management, hospital hygiene
- Week 12:** ■ **Differential diagnosis and repetitions**
- Week 13:** ■ **Repetitions, final examination (practical and theoretical)**

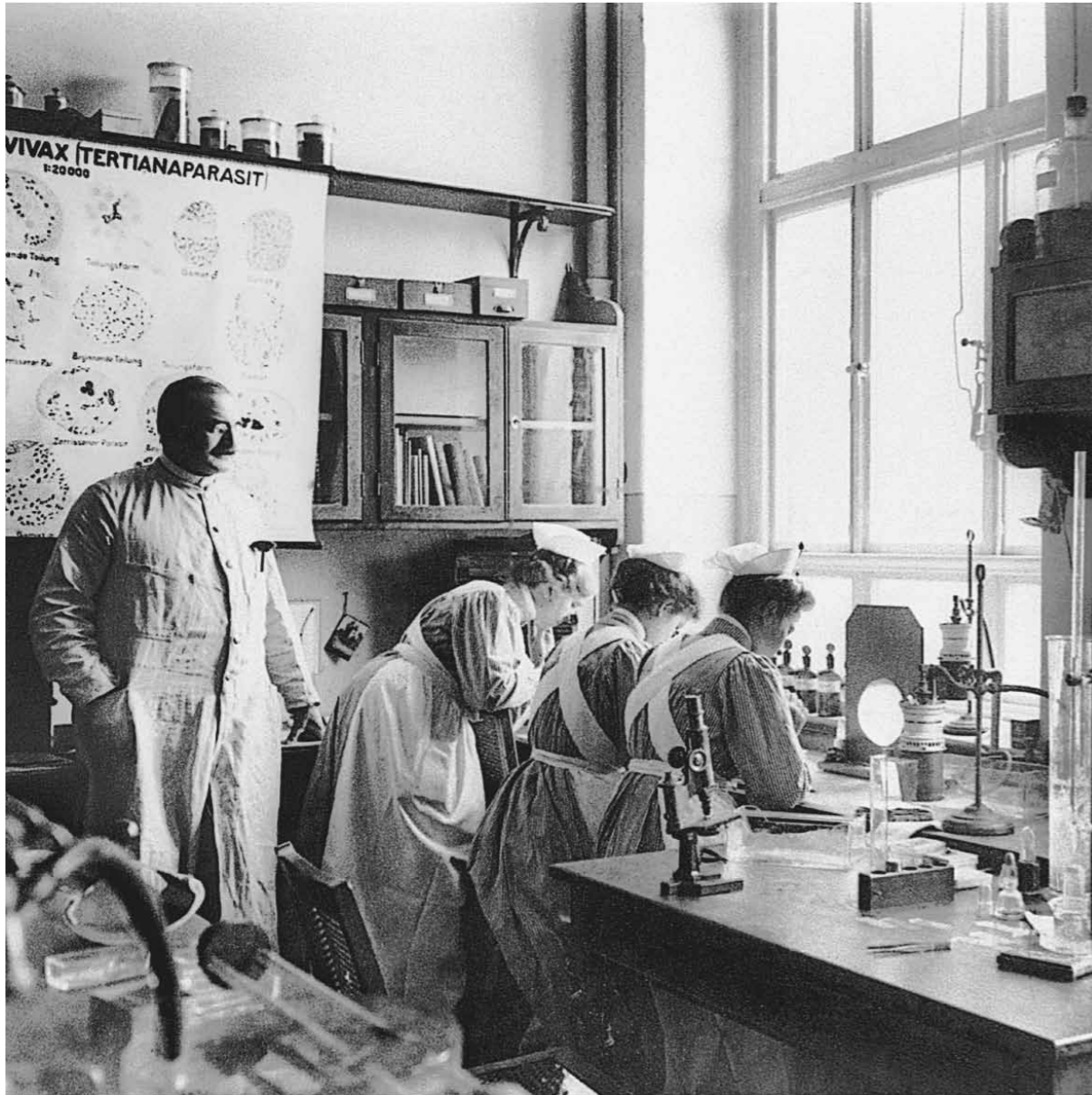
Institute Lecturers / External Lecturers

LECTURERS OF THE DIPLOMA COURSE ON TROPICAL MEDICINE

INSIUTE FACULTY PD Dr. Norbert Brattig; Prof. Dr. Iris Bruchhaus; Prof. Dr. Gerd D. Burchard; Dr. Jakob Cramer; Dr. Stephan Ehrhardt; Dr. Torsten Feldt; Prof. Dr. Bernhard Fleischer; Prof. Dr. Rolf Garms; Prof. Dr. Stephan Günther; Prof. Dr. Rolf Horstmann; Dr. Christian Keller; Prof. Dr. Jürgen May; Prof. Dr. Christian G. Meyer; Dr. Sven Poppert; Prof. Dr. Paul Racz; Dr. Jonas Schmidt-Chanasit; Prof. Dr. Herbert Schmitz; Prof. Dr. Justus Schottelius; Dr. Michael Schreiber; Prof. Dr. Egbert Tannich; Dr. Klara Tenner-Racz; Dr. Christian Timmann

GUEST FACULTY Christl Ahrens Projekt Podoconiosis, Addis Abeba Äthiopien; PD Dr. Keikawus Arastéh Vivantes Auguste-Viktoria-Klinikum, Berlin; Dr. Matthias Brockstedt Zentraleinrichtung für Datenverarbeitung, Freie Universität Berlin; Dr. Michael Bahrdt Gynäkologie/Tropenmedizin, Dr. Christoph Dehnert Universitätsklinikum Ulm; Prof. Dr. Christian Drosten Institut für Virologie, Universitätsklinikum Bonn; Dr. Karl-Peter Faesecke Taucherärztliche Untersuchungsstelle, Hamburg; Dr. Thomas Fenner Fenner Laboratorium, Hamburg; Dr. Marcellus Fischer Bundeswehrkrankenhaus, Hamburg; Dr. Roland Garve Zahnarzt/Tropenmedizin, Lüneburg; Dr. Matthias Grade Christliches Krankenhaus Quakenbrück, Quakenbrück; Prof. Dr. Wolfgang Graninger Universitätsklinik, Wien; Prof. Dr. Hartmut Graßl Max-Planck-Institut für Meteorologie, Hamburg; Dr. Gunnar Günther Forschungszentrum Borstel, Borstel; Prof. Dr. Volker Heussler Institut für Zellbiologie, Bern; Prof. Dr. Klaus Hoffmann Zentrum für Psychiatrie, Landeskrankenhaus, Reichenau; Dr. Frank Hüniger Klinikum Dortmund, Dortmund; Prof. Dr. Volker Klauß Augenklinik der Universität München, München; Prof. Dr. Michael Krawinkel Institut für Ernährungswissenschaft, Gießen; PD Dr. Andreas Krüger Bundeswehrkrankenhaus, Hamburg; PD Dr. Christoph Lange Forschungszentrum Borstel, Borstel; Prof. Dr. Michael Leichsenring Kinderklinik des Universitätsklinikums Ulm, Ulm; Dr. Ute Lippert G&S Gesundheit und Sicherheit für Betriebe GmbH, Hamburg; Prof. Dr. Thomas Löscher Ludwig-Maximilians-

Universität, München; Prof. Dr. Michael Leichsenring Universitätskinderklinik Ulm, Ulm; Prof. Dr. Stefan Lüth Universitätsklinikum Hamburg-Eppendorf, Hamburg; Dr. Florian Marks Impfspezialist, Südkorea; Prof. Dr. Dieter Mebs Institut für Rechtsmedizin, Frankfurt; Dr. Andreas Meyer Arzt für Allgemeinmedizin/Tropenmedizin, Hamburg; Dr. Henning Mothes Klinik für Allgemein-, Viszeral- und Gefäßchirurgie, Universitätsklinikum, Jena; Dr. Rico Müller Zentralinstitut der Bundeswehr Kiel, Berlin; Dr. Matthias von Müllmann Medizinischer Dienst der Lufthansa AG i. R., Lensahn; Dr. Ellis Owusu-Dabo KCCR, Ghana; Prof. Dr. Klaus Püschel Institut für Rechtsmedizin, Hamburg; Prof. Dr. Utz Reichard Institut für Medizinische Mikrobiologie, Universitätsklinik, Göttingen; Dr. Dieter Reinel Dermatologe, Hamburg; Dr. Mathias Rotenhan Bremen; Dr. Sabine Rüscher-Gerdes Forschungszentrum Borstel, Borstel; Prof. Genevieve Scarisbrick Obernzell; Dr. Johannes Schäfer Tropenklinik, Paul-Lechler-Krankenhaus, Tübingen; Salvatore Schmidt Bundeswehrkrankenhaus, Berlin; Dr. Stefan Schmiedel Universitätsklinikum Hamburg-Eppendorf, Hamburg; Prof. Dr. Erich Schmutzhard Universitätsklinik für Neurologie, Innsbruck; Prof. Dr. Walter Sigge Universitätsklinikum Schleswig-Holstein, Campus Lübeck; Maria Speckbacher Missionsärztliches Institut, Würzburg; Prof. Dr. August Stich Missionsärztliche Klinik, Würzburg; Dr. Tankred Stöbe Ärzte ohne Grenzen, Berlin; Lars Timm Regio-Klinikum, Elmshorn; Cord Vermold Glandorf; Dr. med. Klaus J. Volkmer Centrum für Reisemedizin, Düsseldorf; Waltraut Wernhart Missionsärztliches Institut, Würzburg; Dr. Matthias von Müllmann Medizinischer Dienst der Lufthansa AG, Frankfurt; Dr. Dominic Wichmann Universitätsklinikum Hamburg-Eppendorf, Hamburg; Dr. Urs Wiget Uitikon, Schweiz; Dr. Gunther von Laer Auswärtiges Amt/Gesundheitsdienst, Berlin



Course for medical support staff

MEDICINE IN THE TROPICS

The course provides basic knowledge and skills in tropical medicine and explicitly addresses the topics of Public Health and health care management. The courses of the years 2010 and 2011 were both held in February.

TARGET GROUPS:

Medical staff (nurses, technical assistants, midwives, health economists) preparing for professional assignments in warm-climate countries; in addition medical staff wanting to acquire or deepen tropical medicine skills.



Course for medical support staff 2011

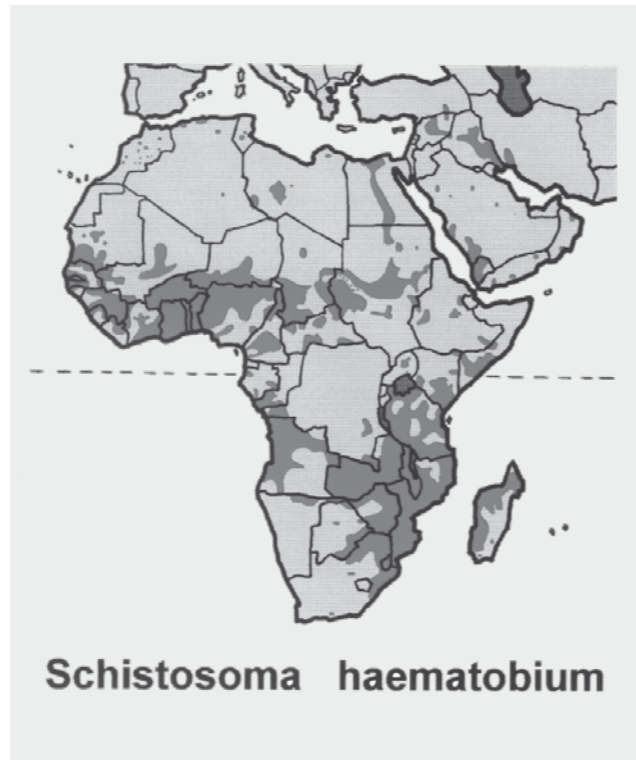
Contents

- Tropical infectious diseases: malaria, leprosy, tuberculosis, schistosomiasis and other helminth diseases, viral infections
- Insects as vectors
- Malnutrition
- Basic epidemiology
- General aspects: obstetrics, family planning, paediatrics venereal diseases, dermatology, HIV/AIDS, travel medicine etc.
- Physical examination of patients, laboratory techniques microscopy
- Socio-cultural comparison of health systems
- Intercultural competence
- Hygiene, drinking water
- Nursing practice in the tropics
- NGOs
- Information systems, literature and internet search
- Teamwork

■ **Scientific coordinator:**
Prof. Christian G. Meyer

„At a glance“

- 32 hours at two weekends (2011 in November)
- Topics of tropical, travel and occupational medicine
- Approved by the DTG with a certificate „Arbeitsaufenthalt in den Tropen“
- Credit points awarded by the Hamburg Board of Physicians: 36 credit points in 2011



Course for physicians in occupational medicine

WORKING IN THE TROPICS

The regulation on occupational health care (ArbMedVV) includes an obligatory examination of employees when activities in the tropics, subtropics and abroad are executed and associated with climatic stresses and risk for infectious diseases. This examination is required for all employees who are working at least three months per year in these areas. The German Society for Tropical Medicine and International Health (DTG) has developed a curriculum „Occupational Medicine in the Tropics“ which is the basis of the course curriculum. The main objective of the course is to provide physicians of occupational medicine without prior knowledge of tropical and travel medicine with the necessary tools.

■ Scientific coordinator:

Prof. Gerd D. Burchard, Dr. Helmut Jäger

Course Topics

- Epidemiology of imported diseases
- Global Surveillance Networks
- Important tropical diseases (viruses)
- Important tropical diseases (parasites)
- Microscopic exercises (two hours)
- Generally recommended vaccinations
- Other indications vaccinations
- Air travel suitability
- Altitude Medicine
- Malaria and Malaria prophylaxis (long stay)
- General preventive measures
- Diarrhea
- Tuberculosis
- GF and JE vaccination
- Skin Diseases
- Vaccinations (Generally indicated)
- Case presentations
- Legal Basis (Health Regulations, Maritime)
- Post-exposure prophylaxis
- Quality of care abroad
- Environmental Medicine
- Chronic diseases in travelers (neuro., diabetes, heart, ...)
- Intercultural Communication
- Health and military service (Bundeswehr)
- Tropical Medicine Laboratory
- Health and relief workers
- Medical Evacuation
- Health Service AA and companies,
- Occupational health care, case reports, case presentations and quizzes

Facts and Figures

STAFF

236 including 99 scientists (2011)

FUNDING

	2010	2011
	Mio. EUR	Mio. EUR
Public core funding	11.1	12.2
Public funding of investments	1.1	0.7
Third-party funding	3.5	3.8
Third-party funding forwarded to cooperation partners	3.4	1.6
Other income	1.3	1.5

Third-party funding has been received from the following organizations:

(public funding from DFG, federal, state / country and EU funding from foundations, private donors and other research funding as well as other income from orders, economic cooperation, services, licenses)

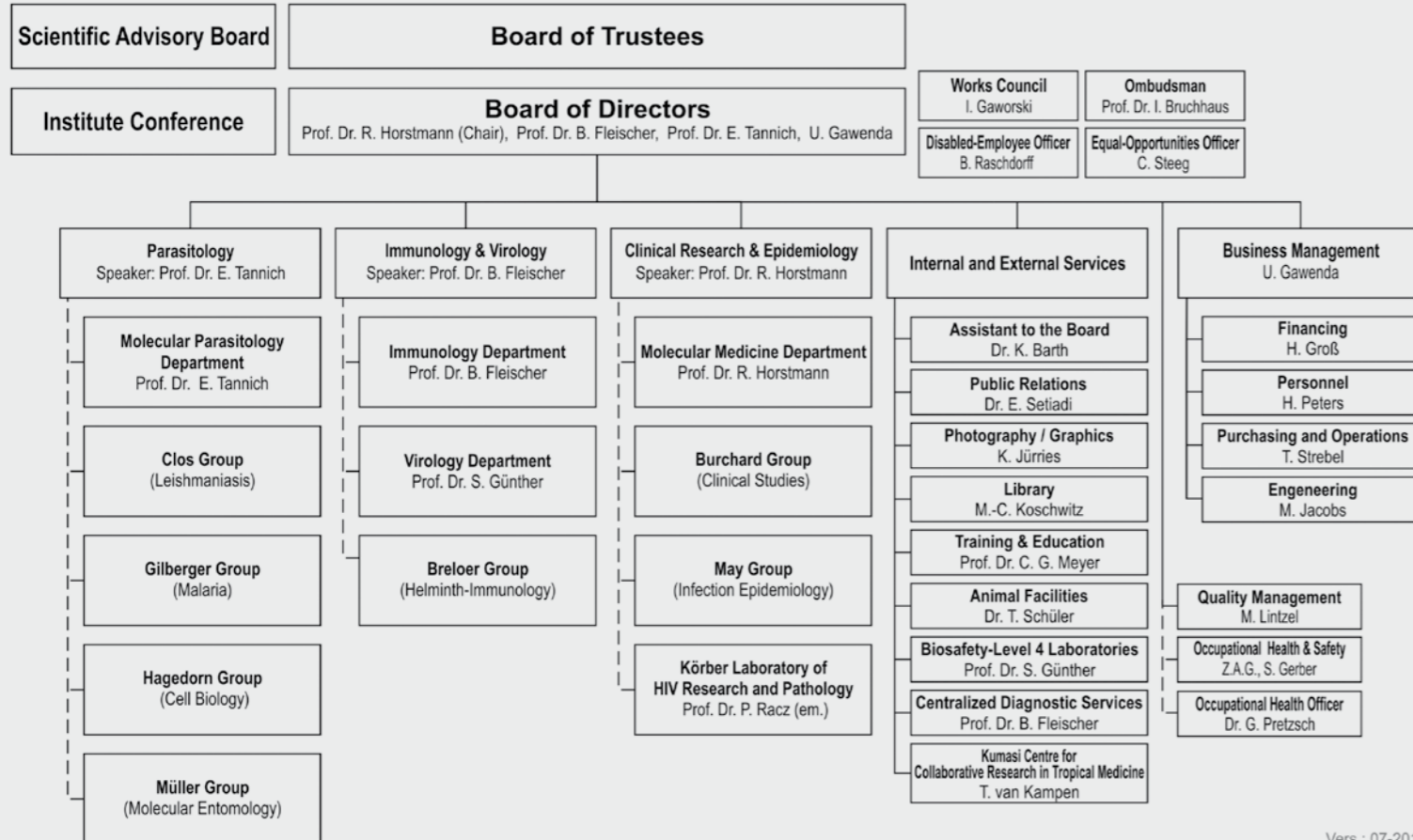
Alexander v. Humboldt-Stiftung, Bill & Melinda Gates Foundation (BMGF), Bundesministerium für Bildung und Forschung (BMBF) / Deutsches Zentrum für Luft- und Raumfahrt (DLR), Bundesministerium für Wissenschaft und Forschung (BWF), Universität Hamburg (UHH), Deutsche Forschungsgemeinschaft (DFG), Deutscher Akademischer Auswahldienst (DAAD), Deutsche Lepra- und Tuberkulosehilfe (DAHW), Deutschen Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Universitätsklinikum Hamburg-Eppendorf (UKE), Else-Kröner-Fresenius-Stiftung, Europäische Union (EU), European and Developing Countries Clinical Trials Partnership (EDCTP), European Federation of Immunological Societies, Foundation for the National Institutes of Health, GeoSentinel-Netzwerk, Health Focus GmbH, Helmholtz-Zentrum für Infektionsforschung (DZIF) GmbH, Instand e.V., International Vaccine Institute, Leibniz-Gemeinschaft, Robert Koch-Institut (RKI), SeaPro Theragnostics International BV, TECHLAB, INC. - Virginia Tech Corporate Research Center, UBS Optimus Foundation, Umweltbundesamt (UBA), Vereinigung der Freunde des Tropeninstituts Hamburg e. V., VolkswagenStiftung, Werner Otto Stiftung

Performance Indicator	2010	2011
Publications	104	99
in peer-reviewed journals	84	84
<i>average impact factor</i>	4.95	3.76
in others	20	15
Qualifications	35	32
Diploma / Master's theses	14	17
Dissertations	10	15
Habilitations	2	0
Teaching, education and training¹		
University (SWS*)	122	138
Education and training events (days)	79	114
Technology transfer (ongoing)		
Patents and licenses	8	10
Inventions	2	1
Laboratory diagnostics²		
Number of cases	20474	21561
Number of tests	58217	47789
Library³		
Inventory	45980	46234
Journals	173	173
Inter-library loan	3439	2832
KCCR⁴		
Total projects at KCCR	14	13
of these external projects	10	7

*Lessons per semester week, **Kumasi Centre for Collaborative Research in Tropical Medicine

Staff

BERNHARD NOCHT INSTITUTE FOR TROPICAL MEDICINE



Vers.: 07-2011

A) SCIENTIFIC STAFF

(* = end of employment during the reporting period)

■ Molecular Parasitology Department

Scientific Staff

Prof. Dr. Egbert Tannich; Dr. Anna Bachmann; Prof. Dr. Iris Bruchhaus; Dr. Thomas Kruppa; PD Dr. Hannelore Lotter; Dr. Sven Poppert*

Doctoral and Graduate Students

Johanna Anige*; Anna Bachmann; Ann-Katrin Bär*; Hannah Bernin (NIH); Christina Czajka (DZIF); Helena Dobbek*; Ghassan Handal* (KAAD); Elena Helk (DFG); Dennis Marien* (Werner-Otto-Stiftg.); Jenny Matthiesen (DFG); Sabine Predehl*; Steffi Renk*; Olga Sphigelman*; Ann-Kathrin Tilly

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Visiting Scientists

Amir Bairami* (Iranischer Staat), Tehran University, Iran; Dr. Nathaniel Christy* (NIH), University of Virginia, USA; Janice Hencke* (NIH), TechLab Inc. Blacksburg, Virginia, USA; Sonja Metzger* (DAAD), MPG; Erik Hasslmeyer*, Fraunhofer Institut, Erlangen; Dr. John Talaat* (INSTAND), Al Shams University, Cairo, Egypt

■ Associated Scientists in the Molecular Parasitology Department

Scientific Staff

Prof. Dr. Rolf Garms

■ Research Group Biochemical Parasitology

(since 2011 associated laboratory in the Molecular Parasitology Department)

Scientific Staff

Prof. Dr. Rolf D. Walter; PD Dr. Carsten Wrenger*; Dr. Ingrid B. Müller

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Sabine Butzloff; Julia Drebes (LEXI-SDI); Julia Knöckel (DFG / TMIH); Kamila Meissner*; Shaun B. Reeksting (DAAD-Sandwich); Anna J. Schiffer-decker

Technical Staff

Bärbel Bergmann

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■ Clös Group (Leishmaniasis)

Scientific Staff

PD Dr. Joachim Clös

Doctoral and Graduate Students

Eugenia Bifeld; Mareike Chrobak*; Antje Hombach; Paulina Kowalski; Sarah Meisel*; Katja Obieglo*; Carola Schäfer; Wai-Lok Yau*(DAAD)

Technical Staff

Andrea Macdonald; Dorothea Zander

Student Trainees

Anja Blüher; Frauke Fuchs*, Linda Hein*; Lea Krampen*; Roxana Pfefferkorn*; Alison Russell*; Stefanie Schmidt*; Frauke Wiggers

Visiting Scientists

Wei-Lok Yau*, Institute Pasteur, Frankreich

■ Gilberger Group (Malaria)

Scientific Staff

PD Dr. Tim Gilberger; Dr. Tobias Spielmann; Dr. Maja Kono;
Dr. S. Struck* (DFG)

Doctoral and Graduate Students

Ana Cabrera*; Klemens Engelberg (Leibniz Graduierten Kolleg);
Sven Flemming (DFG); Ann-Kathrin Gelhaus*; Christof Grüning* (DFG);
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Harvard University, Boston, USA; Takia Sakura, Nagasaki University, Japan;
Jana Schulze, Zoologisches Institut, Hamburg; Divya C. Thomas, National
Institute for Immunology, New Delhi, India; Dr. Kazuhide Yahata, Nagasaki
University, Japan; Zhu Xiatong, Nagasaki University, Japan

Student Trainees

Louisa Wilcke

■ Hagedorn Group (Cell Biology)

Scientific Staff

Dr. Monica Hagedorn; Dr. Lydia Herrmann

Doctoral and Graduate Students

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■ S. Müller Group (Molecular Entomology)

Scientific Staff

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Doctoral and Graduate Students

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Marlies Badusche

Student Trainees

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■ Research Group Malaria I (until 2010)

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■ Immunology Department

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■ Breloer Group (Helminth Immunology)

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■ Molecular Medicine Department

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■ May Group (Infection Epidemiology)

Scientific Staff

Prof. Dr. Jürgen May; Dr. Solomon Amemator* (Schweizer Stiftung); Dr. Julius Fobil* (GETFund); Dr. Oumou Maiga Askoféré (BMGF); Anna Jäger; Dr. Anne Caroline Krefis (EU); Dr. Ralf Krumkamp (BMBF); Wiebke Loag; PD Dr. Birgit Reime; Dr. Nimako Sarpong*; Dr. Norbert Georg Schwarz (EU); Thalea Tamminga (BMBF)

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■ Burchard Group (Clinical Studies)

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■ Körber Laboratory of HIV Research and Pathology

Scientific Staff

Prof. Dr. Paul Racz; Dr. Klara Tenner-Racz (NIH)

Doctoral and Graduate Students

Christine Bartels

Technical Staff

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Visiting Scientists

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■ Electron Microscopy

Scientific Staff

Dr. Monica Hagedorn

Technical Staff

Christel Schmetz*; Silke Retzlaff

■ Central Diagnostic Unit

Scientific Staff

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■ Clinical Laboratory

Scientific Staff

Prof. Dr. Egbert Tannich

Technical Staff

Angela Parczany-Hartmann; Christine Wegner; Iris Zielke; Nicolas Fazenda-Morais* (Bundeswehr); Franziska Gutmann* (Bundeswehr); Rene Lötschke* (Bundeswehr); Robert Otte* (Bundeswehr); Barbara Tietze* (Bundeswehr)

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Dr. Thomas Schüler

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Technical Staff

Kerstin Shand (Head of Laboratories); Esimebia Agbogidi; Richard Larbi

B) SUPPORT STAFF

(* = end of employment during the reporting period)

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Udo Gawenda, Business Manager; Gerd Schlütemann, Chief Administrator*

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Heinrich Peters M.A., Head; Renate Adler*; Anja Götsche; Ulrich Kretschmer; Birgit Maack*; Carsten Schaible

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Cleaning

Maria Collado; Serpil Demir; Monika Dreessen; Maria Fernandes; Fatma Gül; Cevahir Güven; Petra Hartmann; Immuhan Kuscu*; Sandy Mohr; Birgit Mohr-Flügge; Ayse Özcan; Güler Pehlivan*; Claudia Scharloh; Annette Schwarzbach; Corinna Stallbaum; Kudret Sügök; Meral Tezcan; Regina Trimborn*; Kudret Ülger; Gülbahar Ulucan; Türkan Ulucan; Sylvia Zanner

■ Scientific Services and Secretarial Staff

Library

Martina-Christine Koschwitz; Irene Michael

Photography

Klaus Jürries

Scientific Services

Dr. Katja Barth, Assistant to the Board;
Dr. Eleonora Setiadi, Scientific Coordinator / Public Relations

Occupational Safety

Dirk Plähn, Coordinator*; Reinhard Perlick*

Quality Management

Maren Lintzel

Secretarial Staff

Bibiana Kesseböhmer, Clinical Research
Elfriede Musil, Courses
Daniela Schlage, Board of Directors, Tropical Medicine Section
Petra Stanislawsky*, Courses
Elke Werner, Parasitology Section, German Society for Tropical Medicine and International Health
Elke Wrage, Immunology and Virology Section, Assistance, „Association of the Friends of the Institute for Tropical Medicine Hamburg e.V.“

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Corinna Thomé-Bolduan

C) SUPPORT STAFF KCCR, GHANA

Management

Thomas van Kampen (Director); Dr. Ellis Owusu-Dabo (Deputy Director)

Administration

Henrietta Addai (Snr. Admin. Secretary); Gifty Adu-Okae, Receptionist;
Jeffrey Agyemang, Systems Operator; Francis Dorman, Accounting Assistant;
Sebastian Kankam, Accountant; Stephen A. Kwarteng, Logistician;
G. A. Mensah-Agboh, Administrator

Transport

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Robert Acheampong; Kennedy Aboagye Darkwa; Paul Marfo Bekyir;
Philip Frimpong; Emmanuel Laare; Anthony Mensah; Joseph Teye;
Seth Wiredu

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Samuel Apaare; Joshua Asobayere; Francis Ayerakwa; Yaw Dankwa;
Felix Kuukang; Samuel Manu; Evans Mensah; Kwadwo Tweneboah;
Lawrence Yelewal; Thomas Y. Ziba

Field / Cleaning

Helina F. K. Amaning-Caretaker; Eric Baba Amotchaab;
Immaculate Kudimaya; Christopher Tan; Comfort Yamson

Appendix

Bachelor Theses

Kühle O (2010). Prokaryotische Expression des Z-Proteins von Lassa-Virus und lymphozytärem Choriomeningitis-Virus zur Herstellung spezifischer Antikörper in Gallus gallus domesticus. FK 2 Lebenswissenschaften (Biologie). Universität Braunschweig.

Meyer MA (2010). Herstellung und Charakterisierung von virus-like Partikeln des Lassa-Virus. Bachelorstudiengang Molecular Life Sciences. Universität Hamburg.

Diploma and Master Theses

Adam Nyangasa M (2011). Nutrition status of Ghanaian women with young children - dietary intake, anthropometric and life style data. Life Sciences. Hochschule für Angewandte Wissenschaften Hamburg.

Anige J (2010). Charakterisierung der Bindungseigenschaften ausgewählter Domänen derPIEMP1-Moleküle von Plasmodium falciparum (Welch, 1897) mit Hilfe der Biorec-Technik. Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Bär A-K (2011). Expressionsprofil der Cysteinpeptidasen von Entamoeba histolytica (Schaudinn, 1903) während der Leberabszessbildung im experimentellen Mausmodell (Mus musculus, Linnaeus 1758). Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Berlin H (2011). Die Rolle von neutrophilen Granulozyten und Makrophagen während der Amöbenleberabszessentstehung ausgelöst durch Entamoeba histolytica (Schaudinn, 1903). Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Hamburg, Universität Hamburg.

Butzlöf S (2010). Analyse der Lokalisation und Regulation von PIN1E des humanen Malariaerregers Plasmodium falciparum. Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Dobbeck H (2011). Untersuchung der geschlechtsspezifischen Zytokinsekretion humaner NKT-Zellen in Bezug auf die Amöbiasis des Menschen. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Hamburg, Universität Hamburg.

Flemming S (2011). Identification of the export determinats of the novel PEXEL negative exportes proteins (PNEPs) in the human malaria parasite Plasmodium falciparum. University Medical Center Göttingen, Masterprogram Molecular Medicine. Georg-August-Universität Göttingen.

Gellhau AK (2011). Characterization of a pleckstrin domain containing protein (PF-D0705c) in Plasmodium falciparum. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Haben I (2010). The role of T cell and B cell derived IL-10 in the immune response to Litomosoides sigmodontis. Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Hecht L (2010). Bedeutung organellspezifischer Lipoylierungstoffwechselwege für die Entwicklung exoerythrozytärer Stadien von Plasmodium berghei (Vincke und Lips, 1948). Universität Gießen.

Heincke D (2011). Phoshorylierung von Typ-1 Transmembranproteinen im Malriaereger Plasmodium falciparum. Fakultät Mathematik und Naturwissenschaften, Fachrichtung Biologie. Universität Dresden.

Jäger A (2011). Konzeption und prototypische Implementierung einer Datenbankanwendung zur Verwaltung von Biomaterial. Information und Kommunikation. Fachhochschule Hannover.

Kamper M (2011). Visualisierung von Phosphoinositiden während der Leberphase von Plasmodium berghei (Vincke und Lips, 1948) zur Charakterisierng der subzellulären Lokalisation der mitogen-aktivierten Proteinkinase 1. Fakultät Mathematik und Naturwissenschaften, Fachrichtung Biologie. Universität Dresden.

Küpper C (2011). Investigation on in vitro interactions of the intestinal parasite Strongyloides ratti with intestinal epithelial- and monocyte cell lines. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Mehlhoop U (2011). Nachweis und Differenzierung von Malaria-Erregern mittels real-time-PCR. Entwicklung und Validierung einer in-house-Methode. DIW-MTA Berlin.

Müller N (2010). Entwicklung von Zellkern, Mitochondrium und Apikoplast des Malariaerregers Plasmodium während der Leberphase des Parasiten. Universität Tübingen.

Renk S (2010). Adhärenz Plasmodium falciparum (Welch, 1897) infizierter Erythrozyten an Endothelrezeptoren: Einfluss der in vitro-Kultivierung

Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie Universität Hamburg.

Schifferdecker AJ (2010). Funktionelle Analyse der Aspartat-Aminotransferase im humanen Malariaereger Plasmodium falciparum

Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie Universität Hamburg.

Schmalstieg N (2010). Funktionelle und strukturelle Charakterisierung des L-Proteins und Nukleoproteins der Arenaviren. Biochemie. Universität Hamburg.

Schmuck-Barkmann I (2010). Charakterisierung von zwei IMC assoziierten Proteinen des Malariaerregers Plasmodium falciparum (Welch, 1897). Biologie. Universität Kiel.

Sphigelman O (2011). Identification of the binding domains of PIEMP1 molecules of Plasmodium falciparum (Welch, 1897) to the receptor ICAM-1. Biochemie. Hannover, Medizinische Hochschule Hannover.

Steinkamp E (2010). Interactions of the secretory protein galectin from the parasitic. Biotechnologie. Technische Universität Hamburg-Harburg.

Tilly A-K (2011). Expression und Lokalisation variabler Oberflächenantigene des Malariaerregers Plasmodium falciparum (Welch, 1897) während der erythrozytären Schizogonie. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Hamburg, Universität Hamburg.

Warszta D (2011). Myristoylation and palmitoylation in Plasmodium falciparum (Welch, 1897) - The role of acetylation motifs on subcellular protein localization. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Waschow M (2010). Phosphorylierung von sekretierten Proteinen des Malariaerregers Plasmodium falciparum (Welch, 1897). Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Wierk J (2010). Charakterisierung und Lokalisation der MAPK1 aus Plasmodium berghei (Vincke und Lips, 1948). Universität Gießen.

Dissertations

Bachmann A (2010). Genexpression und Lokalisation variabler Oberflächenproteine des Malariaerregers Plasmodium falciparum (Welch, 1897). Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Branotte L (2010). Expression und biochemische und strukturelle Charakterisierung der RNA-abhängigen RNA-Polymerase des Lassa-Virus. Fachbereich Biologie, Chemie. Universität Bremen.

Cabreia A (2010). Global screening and characterization of Plasmodium falciparum (Welch, 1897) merozoite putative invasion-related proteins. Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg

Fobil J (2011). Spatial urban environmental change and malaria/diarrhoea mortality in Accra,Ghana. Universität Bielefeld.

Graewe S (2010). Alterations of host cell physiology in the late phase of Plasmodium hepaticyle infection. Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Grüning C (2011). Characterization and visualization of protein export in the human malaria parasite Plasmodium falciparum (Welch, 1897). Fachbereich Biologie, Botanik. Universität Hamburg.

Handal G (2010). Regulation of antioxidant enzymes in Entamoeba histolytica (Schaudinn, 1903). Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Heiber A (2011). Identifizierung und Charakterisierung von PEXEL-negativen exportierten Proteinen in Malariaparasiten. Fachbereich Biologie, Botanik. Universität Hamburg.

Helm S (2011). Stadienspezifische Genexpression in Plasmodium-Analyse und Verwendung eines leberphasenspezifischen Promotors. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Intermann C (2011). Assoziation humaner Genvarianten mit dem Auftreten von schwerer Malaria im Kindesalter. Medizinische Fakultät. Georg-August-Universität Göttingen.

Kerber R (2011). Aufbau von Replikationssystemen für Altwelt-Arenaviren und Herstellung rekombinanter Mopeia-Viren. Fachbereich 2, Biologie/Chemie. Universität Bremen.

Kono M (2010). Molekulare Charakterisierung der Invasionsmaschinerie von Plasmodium falciparum (Welch, 1897). Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Kowalsky K (2010). Untersuchungen zur Malaria-assoziierten Anämie mit Fokus auf nicht-infizierte Erythrozyten. Fachbereich Chemie. Universität Hamburg.

Krefis AC (2011). Spatial, temporal, and socioeconomic risk factors of malaria in children from the Ashanti Region, Ghana. Uniklinik Düsseldorf, Public Health. Heinrich-Heine-Universität Düsseldorf.

Lelke M (2010). Identifizierung unbekannter Funktionen im Lassa-Virus L-Protein. Fachbereich biologie, Chemie. Universität Bremen.

Nagel A (2011). Herstellung genetisch attenuierter Plasmodien zur Vakzinierung: Neue Ansätze zur Blockierung der Parasitenentwicklung in der späten Lebensphase. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Neuhoff R (2011). Diagnostik, Prävalenz und Komplexität der Plasmodieninfektion bei drei Monate alten Kindern aus der Ashanti-Region, Ghana. Medizinische Fakultät. Georg-August-Universität Göttingen.

Ölschläger S (2011). Molekulare Diagnostik, Therapie und Epidemiologie von Erregern viraler hämorrhagischer Fieber unter besonderer Berücksichtigung des Lassa-Virus. Fachbereich 2, Biologie/Chemie. Universität Bremen.

Predehl S (2010). Funktionsanalyse der PIEMP1 Proteinfamilie von Plasmodium falciparum (Welch, 1897). Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Rieger T (2011). Etablierung und Charakterisierung von Mausmodellen für Lassa-Fieber. Fachbereich2, Biologie/Chemie. Universität Bremen.

Ruch U (2011). Charakterisierung des Proteintransports im Malariaereger Plasmodium falciparum. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Wiemer D (2010). Entwicklung einer Real-Time multiplex PCR zum Nachweis von Salmonella, Shigella und Yersinia Spezies sowie Campylobacter jejuni im Stuhl. Fachbereich Medizin. Universität Hamburg.

Younis A-HEA (2011). Identification and characterization of secretes stage-related proteins from the nematode Strongyloides ratti with putative relevance for parasite-host relationship: Small heat shock proteins 17 an a homologue of the macrophage migration inhibitory factor. Fakultät für Mathematik, Informatik und Naturwissenschaften. Department Biologie. Universität Hamburg.

Habilitations

Breloer M (2010). Die Regulation von Lymphozyten. Reifung, Aktivierung und Homöostase durch das Transmembranprotein CD83. Fakultät für Mathematik, Informatik und Naturwissenschaften, Department Biologie. Universität Hamburg.

Schmidt-Chanasit J (2010). Genotypisierung und molekulare Epidemiologie von humanpathogenen alpha-Herpesviren. Fachbereich Medizin. Universität Frankfurt.

LECTURES AND SEMINARS OF BNITM STAFF AT THE UNIVERSITY OF HAMBURG

Faculty of Medicine	winter	summer
Elective course: Tropical and travel medicine; 12 weeks* <i>Egbert Tannich, Gerd Burchard</i>	X	X
Introduction into tropical medicine / Basic knowledge on tropical medicine; seminar, 1 hour <i>Rolf Horstmann, Christian Timmann, Jürgen May</i>	X	
Human genetics of infections and other common diseases; seminar, 2 hours <i>Rolf Horstmann, Christian Meyer, Thorsten Thye, Christian Timmann</i>		X
Epidemiology and control of tropical diseases; 2 hours <i>Jürgen May, Norbert Schwarz, Christian Meyer, Christian Timmann, Rolf Horstmann</i>	X	X
Introduction into molecular parasitology; 2 hours <i>Egbert Tannich und MitarbeiterInnen</i>	X	X
Current results of basic research in parasitology; seminar; 2 hours <i>Egbert Tannich und MitarbeiterInnen</i>	X	X
Current problems in virology; seminar, 1 hour <i>Stephan Günther and co-workers</i>	X	
Current problems in immunology; seminar, 1 hour <i>Bernhard Fleischer and co-workers</i>	X	
Introduction into immunology for medical students; lecture, 1 hour <i>Bernhard Fleischer, Marc Jacobsen, Hans-Willi Mittrücker, Friedrich Haag, Stephan Ehrhardt</i>	X	X
Introduction into immunology add-on studytrack molecular biology; seminar, 2 hours <i>Bernhard Fleischer, Friedrich Haag, Thorsten Krieger, Friedrich Nolte</i>	X	
Immunological literature; seminar, 1 hour <i>Bernhard Fleischer and co-workers</i>	X	
Practical course in immunology; 14 days <i>Thomas Jacobs, Minka Breloer, Bernhard Fleischer, Friedrich Nolte, Friedrich Haag, Marc Jacobsen</i>	X	
Immunological aspects of host-pathogen interactions in infectious diseases; 2 hours <i>Paul Racz, Klara Tenner-Racz</i>		X
Cross-disciplinary subject immunology / infectious diseases; 2 hours <i>Bernhard Fleischer , Marc Jacobsen</i>		X
Practical vaccination and travel medicine; course, 2 hours <i>Jakob Cramer</i>		X

Faculty of Biology and Chemistry	WS	SS
Molecular parasitology; lecture, 2 hours <i>Iris Bruchhaus, Hannelore Lotter, Joachim Clos</i>	X	
Molecular parasitology; practical course 6 hours <i>Iris Bruchhaus, Hannelore Lotter, Joachim Clos</i>		X
Molecular biology and protein chemistry of the human malaria parasite <i>Plasmodium falciparum</i> ; practical course., 6 hours <i>Carsten Wrenger, Ingrid B. Müller, Rolf D. Walter</i>		X
Vitamin B6 biosynthesis in <i>Plasmodium falciparum</i> : Molecular biological analysis of the enzyme complexes; practical course, 6 hours, 2 weeks <i>Ingrid B. Müller, Carsten Wrenger, Rolf D. Walter</i>	X	X
Virological course for biochemists; practical course, 2 weeks <i>Stephan Günther and co-workers</i>	X	
Tropical viruses: clinic, diagnostics, pathogenesis and molecular biology; lecture, 2 hours <i>Stephan Günther and co-workers</i>	X	
Immunological course and literature seminar; block seminar, 6 hours, 4 weeks <i>Thomas Jacobs, Minka Breloer, Marc Jacobsen, Bernhard Fleischer</i>	X	
Immunological literature seminar; 1 hour <i>Bernhard Fleischer and co-workers</i>		X
Cellular and molecular immunology; lecture, 2 hours <i>Bernhard Fleischer, Minka Breloer, Thomas Jacobs, Marc Jacobsen</i>		X
Current problems in immunology; seminar, 1 hour <i>Bernhard Fleischer and co-workers</i>		X

*Elective course Tropical and Travel Medicine

for medical students at the University of Hamburg

Tutors

Prof. Dr. Gerd-Dieter Burchard
(clinical tropical medicine)

Prof. Dr. Egbert Tannich
(theoretical tropical medicine)

Elective Course Tropical and Travel Medicine

This course provides students who show a special interest in tropical and travel medicine the opportunity to focus their course work. Therefore, this option has been offered for several years in cooperation with the University Medical Center for a maximum of six selected medical students. The subject of tropical and travel medicine is particularly suited for an interdisciplinary lesson because:
– it is not related to one organ; tropical diseases generally affect many organ systems,

- tropical medicine is a typical cross-disciplinary subject, which includes not only internal medicine training but also theoretical, diagnostic, surgical and microbiological aspects.
- it addresses not only aspects of curative medicine but also of public health.

The course runs over 12 weeks and takes place twice a year starting in October and January.

SEMINARS

Prof. M.-J. Gubbels

Department of Biology, Boston College, Boston, USA
"Cell division of *Toxoplasma*: two buns in the oven" (12.01.2010)

PD Dr. Holger Rohde

UKE, Hamburg
"Pathogenesis of implant-associated infections: importance of *Staphylococcus epidermidis* biofilm formation" (19.01.2010)

Oliver Billker, PhD

The Wellcome Trust Sanger Institute, Hinxton Cambridge, UK
"Signalling the cycle? Functions for parasite protein kinases in regulating the malaria life cycle" (25.01.2010)

Dr. Taco W.A. Kooij

Max Planck Institut, Berlin
"Snapshots from the *Plasmodium* gene family album" (15.02.2010)

Dr. Matthew R. Groves

EMBL-Outstation, Hamburg
"Making Light Work of Malarial Structural Biology" (23.02.2010)

Sylvia Münter, PhD

Department of Parasitology, University School of Medicine, Heidelberg
"The secrets of *Plasmodium* parasite motility" (02.03.2010)

Dr. Ahmed Aly

Seattle Biomedical Research Institute, Seattle, USA
"Exploiting the weaknesses of *Plasmodium* throughout its life cycle" (03.03.2010)

Dr. Dirk Repsilber

Leibniz Institute for Farm Animal Biology, Dummerstorf
"Screening for biosignatures in OMICS datasets - with focus on heterogeneous tissues" (08.03.2010)

Anavaj Sakuntabhai

Institut Pasteur, Paris, France
"Family-based genetic study of clinical malaria in Senegal and Thailand" (16.03.2010)

Prof. Brigitte Autran, MD

Université Paris VI, Pierre et Marie Curie, Paris, France
"The Quest for Immune Correlates of protection against HIV" (23.03.2010)

Prof. Matthias Gunzer

Magdeburg
"Investigating Neutrophils at Work: Mobilization, NET formation and autoimmune attack" (11.05.2010)

Michaela Petter, PhD

University of Melbourne, Royal Melbourne Hospital, Victoria, Australia
"Expression of *P. falciparum* virulence genes involves histone variant exchange at promoters" (12.05.2010)

Charlotte Behr, PhD

Universität Bordeaux, Bordeaux, France
"Early effector mechanisms against *P.falciparum* blood stage: deciphering the anti-parasitic activity of Human gamma-delta T cells" (18.05.2010)

Prof. Lesly A. Temesvari, Ph.D.

Clemson University, Clemson, SC, USA
"Amoebic Dysentery: Cellular Insights into Virulence" (01.06.2010)

Dr. Inari Kursula

CSSB, Helmholtz Centre, University of Hamburg and Dep. of Biochemistry, University Oulu, Finland
"Actin-binding proteins of the malaria parasite - from structure to function" (01.07.2010)

Dr. Markus Knop

Forschungszentrum Borstel
"Novel vaccination strategies adapted from cancer therapies against schistosomiasis in the *S. mansoni* post-genomic era" (13.07.2010)

Dr. Maximiliano Gutierrez

Helmholtz-Zentrum für Infektionsforschung, Braunschweig
"A novel role for sortilin in phagosomal maturation" (21.07.2010)

Dr. med. Dennis Tappe

Institut für Hygiene und Mikrobiologie, Universität Würzburg
"Echinococcosis: Many species, only few diseases? A century-old question revised" (31.08.2010)

Prof. Lyn-Marie Birkholtz

University of Pretoria, South Africa
"Functional consequences of polyamine perturbation in the malaria parasite" (24.09.2010)

Dr. Ivan Best

Laboratory of Immunology, Institute of Tropical Medicine, Alexander von Humboldt Universidad Peruana Cayetano Heredia, Lima, Peru
"Immunological aspects of HTLV-1 infection in Peru" (27.09.2010)

Prof. Dr. Vilma G. Duschak

National Institute of Parasitology, Dr. M. Fátala Chaben, ANLIS-Malbran, Health Department Buenos Aires, Argentina
"Post-translational modifications of cruzipain, the major cysteine proteinase of *Trypanosoma cruzi*" (28.09.2010)

Prof Dr. Hubert Hilbi

Max von Pettenkofer-Institut, Ludwig-Maximilians-Universität München
"Virulence and communication of the amoebae-resistant bacterium *Legionella*" (29.09.2010)

Dr. Kyeong-Hee Lee

Research Center Borstel
"The biological role of membrane trafficking in the immune system" (19.10.2010)

Prof. Paul Walter

Universität Ulm
"Cryo-fixation based electron microscopy in cell biology and virology" (26.10.2010)

Claudia Welz

Institut für Parasitologie, Tierärztliche Hochschule Hannover
"Transcriptional changes of selected genes during the percutaneous migration of larvae of the canine hookworm *Ancylostoma caninum*" (02.11.2010)

Dr. Adrian Luty

Radboud University Nijmegen, Netherlands
"Yes we can: Inducing sustained sterile immunity to *Plasmodium falciparum* in humans" (23.11.2010)

Dr. rer.nat. Michael Saettel

Tropen- und Reisemedizin, GlaxoSmithKline, Germany
"Entwicklung von Impfstoffen mit innovativen Adjuvanssystemen am Beispiel der Malaria" (30.11.2010)

Dr. Susanne Kramer

Dept. of Biochemistry, University of Cambridge, UK
"Where do untranslated mRNAs go to? Diversity of RNA granules in trypanosomes" (07.12.2010)

Prof. John A. Crump

Kilimanjaro Christian Medical College (KCMC), Moshi, Tanzania
"Community-acquired bloodstream infections in Africa" (28.01.2011)

Dr. Anja Kühl

Institute of Pathology / Charité-Campus Benjamin Franklin, Berlin
"Targeting human CD2 by the CB.219 mAb protects from intestinal inflammation in a humanized colitis model" (15.02.2011)

Dr. Guy Reeves

Max-Planck-Institut für Evolutionsbiologie, Abteilung Evolutiongenetik, Plön
"Genetically modified insects a new tool to combat vectored diseases: Can it ever be made to fly?" (22.02.2011)

Dr. Stefanie Müller

Institut de Biologie Moléculaire et Cellulaire (IBMC), Research Unit "Immune Response and Development of Insects", Université Louis Pasteur, Strasbourg/France
"Virus-host interactions in *Drosophila*: an arboviral infection model" (11.04.2011)

Dr. Boran Altincicek

Institut für Nutzpflanzenwissenschaften und Ressourcenschutz (INRES), Universität Bonn
"Insect-Microbe Interactions" (12.04.2011)

Dr. Gabriele Schönian

Institut für Mikrobiologie, Charité Berlin
"Epidemiological and population genetic studies in the *Leishmania donovani* complex" (19.04.2011)

Prof. Ralph Steinman

Rockefeller Institute, New York, USA
"Vaccines that mobilize dendritic cells" (11.05.2011)

Dr. Moritz Treack

Stanford University, School of Medicine, Department of Microbiology and Immunology, Stanford, USA
"System-wide phosphoproteomics to identify novel proteins at the parasite-host interface and key signaling events in apicomplexan parasites" (12.05.2011)

Prof. Leann Tilley

La Trobe University, Bundoora, Melbourne
"High resolution of imaging of feeding, maturation and reproduction processes in *P. falciparum*-infected erythrocytes" (19.05.2011)

Prof. Michael Hoelscher

Abt. für Infektions- und Tropenmedizin, LMU München
"Neue Entwicklungen in der TB Diagnostik und Therapie - von der Grundlagenforschung bis zur Implementierung" (25.05.2011)

Prof. Dr. Franz X. Heinz

Department of Virology, Medical University of Vienna, Austria
"Molecular and antigenic structure of flaviviruses" (27.05.2011)

Dr. Katja Lühje

The Walter and Eliza Hall Institute, Melbourne, Australia
"An IL-21 reporter mouse reveals development and fate of TFH cells, which regulate humoral immune responses" 13.9

Dr. Thierry Soldati

Senior Lecturer, Dept. of Biochemistry, University of Geneva, Switzerland
"The amoeba *Dictyostelium* as a model host to study mechanisms of bacterial sensing, killing and host-pathogen interactions" (15.11.2011)

Dr. Maximiliano Gutierrez

Helmholtz-Zentrum, Braunschweig
"Understanding intracellular persistence of mycobacteria using a cell-based model" (22.11.2011)

STAFF ACTIVITIES

Dr. Anna Bachmann

Parasitology Section, Molecular Parasitology Department

Awards

Deutsche Gesellschaft für Parasitologie (03/2010)

PD Dr. Norbert Brattig

Clinical Research & Epidemiology Section,
Molecular Medicine Department

Editorial Activities

Editor, *Acta Tropica* (since 2007)

Editorial Board, *The Open Tropical Medicine Journal* (since 2007)

Editorial Board, *Asian Pacific Journal of Tropical Medicine* (since 2007)

Editorial Board, *Medicina Universitaria, Elsevier* (since 2011)

Invited Speaker

Diplomkurs Tropenmedizin, BNI, Hamburg (2011)

Offices and Posts

Gutachter, Universität Hamburg, FB Chemie, ZMNH, *Acta Tropica* (04 & 09/2010)

Organizer and Chairman

Co-organizer, DFG-Meeting, Hamburg (05/2011)

Teaching

Universität Hamburg, Department für Biologie

Universität Hamburg, Department für Chemie/Pharmazie

BNI, Diplomkurs Tropenmedizin

Dr. Laura Biller

Parasitology Section, Molecular Parasitology Department

Awards

Doktorandenpreis, Vereinigung der Freunde (06/2010)

Dr. Minka Breloer

Immunology & Virology Section

Head, Research Group Breloer (Helminth Immunology)

Awards

Best Presentation in NDI, Forschungszentrum Borstel / NDI (11/2010)

Invited Speaker

Tagung der Deutschen Gesellschaft für Parasitologie, Düsseldorf (03/2010)

Molecular and Cellular Biology of Helminth Parasites, University of Edinburgh, Hydra, Greece (09/2010)

Herbsttagung der Deutschen Gesellschaft für Immunologie, Leibzig (09/2010)

SFB 456, TU München (10/2010)

Norddeutsches Immunologentreffen, Forschungszentrum Borstel (11/2010)

LCI Symposium Co-infection, Hamburg (01/2011)

Symposium der Leopoldina Akademie, Kumasi, Ghana (03/2011)

DFG-Graduierten Kolleg, Ernst-Moritz Arndt Universität, Greifswald (05/2011)

5th German Meeting on Immune Regulation, Akademie Berlin-Schmöckwitz (05/2011)

Tierärztliche Hochschule Hannover (06/2011)

Charité Campus Benjamin Franklin, Berlin (07/2011)

Lecture of Humboldt funded BHU/BNI partnership, Benaras Hindu University, Varansi, India (10/2011)

Teaching

Universität Hamburg, Department für Biologie

Prof. Dr. Iris Bruchhaus

Molecular Parasitology Department

Ombudsman BNI (since 2003)

Vertrauensdozentin für Doktoranden

Mitarbeitervertreterin im Kuratorium (since 2008)

Invited Speaker

Coruse: Biology of Parasitism, Marin Biological Laboratory (05/2010)

24. Annual Meeting of the German Society for Parasitology (03/2010)

Institut für Zellbiologie, Universität Bern (11/2011)

Teaching

Universität Hamburg, Department für Biologie und Chemie

Prof. Dr. Gerd-D. Burchard

Clinical Research & Epidemiology Section

Head, Research Group Burchard (Clinical Studies)

Leiter Bernhard-Nocht-Klinik, Universitätsklinikum Hamburg-Eppendorf

Editorial Activities

Associate Editor, *Journal of Travel Medicine* (since 2003)

Invited Speaker

7. Kölner Antibiotika-Tag, Universitätsklinik Köln (01/2010)

Impf- und reisemedizinische Fortbildung, Institut für Transfusionsmedi-

zin am Universitätsklinikum Schleswig-Holstein, Lübeck (02/2010)

Tropenkurs für medizinisches Fachpersonal, BNI, Hamburg (02/2010)

Tag der Reisegesundheits, BNI, Hamburg (02/2010)

5. Flensburger Pneumologie-Forum, Flensburg (02/2010)

Inferktiologische Fortbildung, Universitätsklinik Hamburg-Eppendorf (04/2010)

Arbeitsmedizinische Fortbildungsveranstaltung, BNI, Hamburg

(04/2010)

116. Kongress der Deutschen Gesellschaft für Innere Medizin e. V., Wiesbaden (04/2010)

Workshop zur Influenza A/H1N1-Pandemie, Behörde für Soziales, Familie, Gesundheit und Verbraucherschutz, Hamburg (05/2010)

Hamburger Intensivkurs Innere Medizin, Universitätsklinikum Hamburg-Eppendorf (05/2010)

XV. Symposium Reise- und Impfmmedizin, Auswärtiges Amt Berlin

(05/2010)

3. Treffen des interdisziplinären Arbeitskreises Infektiologie, Universitätsklinik Hamburg-Eppendorf (06/2010)

41. Internistisches Kolloquium, Krankenhaus Reinbek St. Adolf-Stift

(06/2010)

IV. Postdamer Gastroenterologisches Seminar (06/2010)

57. Jahrestagung der Deutschen Gesellschaft für Anästhesiologie und Intensivmedizin, Nürnberg (06/2010)

10. Kongress für Injektionskrankheiten und Tropenmedizin, Köln

(06/2010)

Hauptstadtkongress für Anästhesiologie und Intensivtherapie der DGA, Berlin (09/2010)

65. Jahrestagung der Deutschen Gesellschaft für Verdauungs- und Stoffwechselerkrankheiten, Stuttgart (09/2010)

22. Bremerhavener Onkologisches Kolloquium (10/2010)

Potsdamer Impfkolloquium (10/2010)

Refresherkurs Diplomkurs Tropenmedizin – DTG-Refresherkurs, BNI, Hamburg (10/2010)

4. Symposium für Tropendermatologie und Reisemedizin, Hamburg

(11/2010)

5. Kursus der Klinischen Hapatologie, Universitätsklinikum Hamburg-Eppendorf (11/2010)

Hamburger Infektiologie-Update 2010, Institut für Interdisziplinäre Medizin, Hamburg (12/2010)

5. Treffen des interdisziplinären Arbeitskreises Infektiologie, Universitätsklinik Hamburg-Eppendorf (12/2010)

29. Jahrestagung der Arbeitsgemeinschaft Tropenpädiatrie, Hamburg

(01/2011)

Tag der Reisegesundheits 2011, BNI, Hamburg (02/2011)

Kurs für Hygienebeauftragte für Ärzte, Universitätsklinik Hamburg-Eppendorf (03/2011)

XVI. Symposium Riese- und Impfmmedizin 2011, Auswärtiges Amt, Berlin (04/2011)

Fortbildungsveranstaltung Bethesda-Krankenhaus Bergedorf, Hamburg (04/2011)

Hamburger Intensivkurs Innere Medizin, Universitätsklinikum Hamburg-Eppendorf (05/2011)

Leberstage Hamburg, Institut für Interdisziplinäre Medizin Hamburg (05/2011)

1. Kursus der Klinischen Infektiologie, Universitätsklinikum Hamburg-Eppendorf (05/2011)

12th Conference of the International Society of Travel Medicine, Boston, USA (05/2011)

10. Tag der Arbeitsmedizin, Handelskammer Hamburg (06/2011)

Fokus Neuroradiologie, Fortbildungsveranstaltung des Otto-von-Guericke-Universität Magdeburg, Medizinische Hochschule Hannover und Klinikum Vest Recklinghausen, Magdeburg (07/2011)

8. Arbeitsmedizinisches Sommersymposium 2011 der Impfakademie von GlaxoSmithKline, Erfurt (07/2011)

Seminar Hafenerärzte, Akademie für öffentliches Gesundheitswesen, Düsseldorf mit Hamburg Port Health Center, Bremerhaven (09/2011)

27. Kongress für Infektiologie, Tropenmedizin und Impfwesen, bayerische Gesellschaft für Immun-, Tropenmedizin und Impfwesen, München (10/2011)

Lehrgang „Barrier Nursing“, Fachbereich für Tropenmedizin, Hamburg (10/2011)

Fortbildung der Apothekerkammer Hamburg (10/2011)

Kurs Arbeitsaufenthalt in den Tropen, BNI, Hamburg (11/2011)

Medica Congress, Düsseldorf (11/2011)

6. Kursus der Klinischen Hepatologie, Universitätsklinikum Hamburg-Eppendorf (11/2011)

National Conference on Tropical Diseases and Travel Medicine, Bukarest, Rumänien (11/2011)

45. Annual Meeting of the Austrian Society of Tropical Medicine and Parasitology, Wien, Österreich (11/2011)

DTG-Refresherkurs, Diplomkurs Tropenmedizin, Hamburg (12/2011)

Organizer and Chairman

Chairman, 3rd Northern European Conference on Travel Medicine, Hamburg (05/2010)

Site Director Hamburg, GeoSentinel Meeting (05/2010)

Site Director Hamburg, GeoSentinel Meeting, Atlanta, USA (11/2010)

Site Director Hamburg, GeoSentinel Meeting, Barcelona, Spain

(10/2011)

Membership in Committees and Advisory Boards

Ausschuss „Reisemedizin“, Deutsche Gesellschaft für Tropenmedizin und Internationale Gesundheit (since 1993)

Chairman, Ausschuss “Leitlinienentwicklung” der Deutschen Gesellschaft für Tropenmedizin und Internationale Gesundheit (since 2009)

Advisor, Swiss Expert Committee for Travel Medicine (ECTM), Bern, Schweiz (11/2011)

Fachberater, Vorstand der Deutschen Gesellschaft für Tropenmedizin und Internationale Gesundheit (since 2009)

Extraordinary Member, Arzneimittelkommission der Deutschen Ärzteschaft (since 1994)

Member, Wissenschaftlicher Beirat der Deutschen Akademie für Flug- und Reisemedizin (since 1997)

Member, Wissenschaftlicher Beirat Forum Reisen und Medizin e.V. (since 2001)

Member, Ständige Arbeitsgemeinschaft der Kompetenz- und Behandlungszentren (STAKob) (since 2003)

Member, Arbeitskreis Infektiologie im Bund Deutscher Internisten (since 2003)

Member, Advisory Board of EuMeCom Medizin Information Fortbildung GmbH, EuMeCom Impfakademie (since 2008)

Member, Expertengruppe Off-Label, Fachbereich Infektiologie mit Schwerpunkt HIV/AIDS beim Bundesinstitut für Arzneimittel und Medizinprodukte (since 2010)

Member Antibiotic Stewardship Group, Universitätsklinikum Hamburg-Eppendorf (since 2011)

Member, Scientific Committee, 4th Northern European Conference on Travel Medicine 2012 (since 2011)

Offices and Posts

Member Editorial Board, Zeitschrift „Flug-, Tropen- und Reisemedizin“, Thieme-Verlag (since 2007)

Teaching

Universität Hamburg

PD Dr. Joachim Clos

Parasitology Section

Head, Research Group Clos (Leishmaniasis)

Vorsitz, Ausschuss für die Biologische Sicherheit (since 2004)

Mitglied Bibliotheksausschuss (since 2004)

Invited Speaker

Lebenswissenschaftliches Kolleg, Studienstiftung des Deutschen Volkes (12/2011)

Membership in Committees and Advisory Boards

Member, Hamburger Kommission für Fragen der Gentechnik (since 2002)

Teaching

Universität Hamburg, Department für Biologie

Dr. Jakob Cramer

Clinical Research & Epidemiology Section, Research Group Burchard (Clinical Studies)

Invited Speaker

Grundkurs Reise- und Tropenmedizin, Hamburg (02/2011)

7th European Congress on Tropical Medicine & International Health, Barcelona (10/2011)

National Symposium on Zoonoses Research 2011, Berlin (10/2011)

3rd International TEMOS Conference, Köln (11/2011)

Teaching

Universität Hamburg

Dr. Christina Deschermeier

Parasitology Section, Research Group Heussler (Malaria)

Invited Speaker

Projektmeeting EU Projekt PIROVAC; Abd Oldesloe (06/2011)

Dr. Stephan Ehrhardt

Clinical Research & Epidemiology Section, Research Group Burchard

Associated Professor of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA (since 2011)

Invited Speaker

Akademie für Rettungsdienst und Gefahrenabwehr der Feuerwehr

Hamburg (2010)

DTG-Kurs „Reisemedizin“ für Arbeitsmedizin (01/2010)

10. Kongress für Infektionskrankheiten und Tropenmedizin, Köln

(06/2010)

Refresherkurs Tropenmedizin der Deutschen Deutsche Gesellschaft für

Tropenmedizin und Internationale Gesundheit e.V. (09/2010)

Medizinische Hochschule Hannover (10/2010)

Erstes Meeting der Deutschen (Leopoldina) und Ghanaischen Akad-

emien der Wissenschaften (03/2011)

Jahrestreffen, Berufsverband der Ärzte für Mikrobiologie, Virologie und Infektionsepidemiologie e. V. (05/2011)

Membership in Committees and Advisory Boards

Member, Ausschuss „Leitlinienentwicklung“ der Deutschen Gesellschaft für Tropenmedizin und Internationale Gesundheit (since 2009)

Vorstandmitglied, Deutsche Gesellschaft für Tropenmedizin und

Internationale Gesundheit e.V. (since 2009)

Editorial Board, *Tropical Medicine and International Health* (since 2010)

Teaching

Universität Hamburg, Fachbereich Medizin

Landesfeuerwehrschule Hamburg

Dr. Klaus Erttmann

Clinical Research & Epidemiology Section,

Molecular Medicine Department

Posts and Offices

Gutachter, Universität Hamburg, Department Biology (2011)

Nina Eickel

Parasitology Section, Research Group Malaria I

Awards

Vortragspreis, SGTP-Jahrestreffen, Spiez (11/2010)

Dr. Petra Emmerich-Paloh

Immunology & Virology Section, Virology Department

Invited Speaker

Fa. Novatec, Frankfurt (03/2010)

Fa. Siemens, Kassel (10/2010)

Universität Würzburg (04/2011)

Bundeswehr / Wehrwissenschaft Munster (05/2011)

Joint International Tropical Medicine Meeting (12/11)

Teaching

University of Hamburg, Faculty of Medicine

Wehrwissenschaftlicher Dienst der Bundeswehr Munster

Dr. Torsten Feldt

Clinical Research & Epidemiology Section, Research Group Burchard

Invited Speaker

Refresherkurs Tropenmedizin, BNI, Hamburg (10/2010)

Diplomkurs Tropenmedizin, BNI, Hamburg (06/2010)

Fortbildungsveranstaltung Infektiologie, Universitätsklinikum Hamburg-Eppendorf (10/2010)

Kurs Arbeitsaufenthalt in den Tropen, BNI, Hamburg (11/2011)

HIV-Fortbildung, Krankenhaus der Augustinerinnen, Köln (11/2011)

Offices and Posts

Berater Gruppe, WHO/gTZ (since 2010)

Teaching

SMS/KNUST/KATH, Kumasi, Ghana

Universität Hamburg

Prof. Dr. Bernhard Fleischer

Immunology & Virology Section

Head, Immunology Department

Lehrstuhl (C4) für Immunologie/Tropenmedizin an der Universität

Hamburg

Direktor, Institut für Immunologie, Universitätsklinikum Hamburg-

Eppendorf

Editorial Activities

Editor-in-Chief, *Medical Microbiology and Immunology* (since 1990)

Associate Editor, *Clinical and Developmental Immunology* (since 2007)

Member, Editorial Team, TropiKA.net, WHO, TDR (since 2009)

Member Editorial Board, *International Journal of Medical Microbiology*

(since 2000)

Member Editorial Board, *Asian Pacific Journal of Tropical Medicine*

(since 2008)

Membership in Committees and Advisory Boards

Member, National Academy of Sciences, Leopoldina (since 1995)

Member, Kuratoriums, Werner-Otto-Stiftung Hamburg (seit 2003)

Member, Scientific Advisory Board, Procevs GmbH, Hamburg (since 2010)

Member, Scientific Advisory Board, Research Center Borstel (since 2011)

Member, Scientific Advisory Board, Hans Knöll Institut, Jena (since 2011)

Member, Working Group „Infection“, Academy of Sciences in Hamburg

Sprecher, Netzwerk für Parasiten, tropische und vektorübertragene Er-

krankungen, Infektionsepidemiologisches Netzwerk des RKI (seit 2009)

Sprecher, Leibniz-Graduiertenschule „Modellsysteme für Infektions-

krankheiten“ (since 2009)

Vorsitzender, Auswahl Ausschuss, Georg-Forster-Programm der

Alexander-von-Humboldt-Stiftung (seit 2003)

Invited Speaker

Universität Marburg (02/2010)

Singapore General Hospital (02/2010)

University of Medan, Sumatra (02/2010)

WHO, Global Buruli Ulcer Initiative (03/2010)

Prof. Dr. Rolf Garms

Parasitology Section, Molecular Parasitology Department

Invited Speaker

Uganda Onchocerciasis Elimination Committee Meeting, Kampala, Uganda (08/2010)
4th Session Uganda Onchocerciasis Elimination Committee Meeting, Kampala, Uganda (08/2011)

Membership in Committees and Advisory Boards

Consultancy, Carter Center, Atlanta, USA (08/2010)
Member, Uganda Onchocerciasis Elimination Committee (UOEC), Ministry of Health, Kampala, Uganda (since 2008)

Dr. Tim-Wolf Gilberger

Parasitology Section
Head, Research Group Gilberger (Malaria)

Awards

Doktorandenpreis des Fördervereins (2010)

Invited Speaker

Universität Göttingen (01/2010)
Universität Leipzig (01/2010)
North West University, Potchefstroom, South Africa (02/2010)
Canadian Society Microbiology, Canada (06/2010)
ICOPA, Melbourne, Australia (08/2010)
University of Toronto (12/2010)
McMaster University (01/2011)
McGill University (12/2011)

Organizer and Chairman

Chairman, Internationales Symposium, DFG GRK1459 (2010)
Chairman, Woods Hole (09/2011)

Teaching

Associated Professor, DeGrootte Institute for Infectious Disease Research, McMaster University, Canada (seit 04/2010)

Membership in Committees and Advisory Boards

Committee member, invited, Candian Institutes of Health Research (CIHR), Ottawa, Canada (since 2011)

Prof. Dr. Stephan Günther

Immunology & Virology Section
Head, Department of Virology

Membership in Committees and Advisory Boards

Member, International Scientific Council of the BSI-4 Laboratory in Lyon, Frankreich (since 2004)
Consultancy, European Centre for Disease Prevention and Control (ECDC) (06/2010)
Consultancy, Europäische Kommission (02/2010)

Invited Speaker

Heinrich-Pette-Institut, Hamburg (06/2010)
2nd Swiss Microbial Safety Meeting, Spiez Laboratory, Mittelhäusern, Switzerland (04/2010)
4th European congress of Virology, Vernobbio, Italy (04/2010)
Symposium der Charité – Universitätsmedizin Berlin (04/2010)
Negative Strand Virus Meeting, Brugge, Belgium (06/2010)
HEIBL Conference, Rombe, Italy (09/2010)
Workshop Ökologie und Speziesbarrieren bei neuartigen Viruserkrankungen, Universitätsklinikum Bonn (09/2010)
DFG Conference, German-African Cooperation Projects in Infectiology, Accra, Ghana (03/2011)
Sitzung der Schutzkommission beim Bundesministerium des Inneren, Berlin (04/2011)

Virologisch-parasitologisches Seminar, Philipps-Universität Marburg (04/2011)
Institut of Medical Virology Justus-Liebig University, Gießen (04/2011)
Animal Health & Veterinary Laboratories Agency, New Haw, Addlestone, Surrey, UK (06/2011)
Strategic meeting of the World Health Organization, Freetown, Sierra Leone (08/2011)
Symposium of the International Centre for Medical Research in Franceville, Gabon (11/2011)
Deutsches Primatenzentrum, Göttingen (12/2011)

Organizer and Chairman

Organizer, EC meeting on European mobile Laboratory, Brüssel (10/2010)

Teaching

University of Hamburg, Faculty of Medicine
University of Hamburg, Studiengang Biochemie/Molekularbiologie
University of Lübeck, Biochemistry

Dr. Monica Hagedorn

Parasitology Section
Head, Research Group Hagedorn (Cell Biology)
Strahlenschutzbeauftragte für Elektronenmikroskopie (since 2011)

Invited Speaker

Forschungszentrum Borstel, Borstel (07/2010)
International Dictyostelium Conference, Cardiff (08/2010)
GRK1459, Sylt (10/2010)
Universität Oslo, Norwegen (05/2011)
DFG Schwerpunkt-Treffen, Bonn (05/2011)

Teaching

University of Hamburg, Faculty of Biology

Anna Heitmann

Parasitology Section, Research Group Heussler (Malaria)

Awards

Posterpreis, 2. Platz, Symposium Structural and Infection Biology, DESY, Hamburg (05/2011)

PD Dr. Volker Heussler

Parasitology Section
Head, Research Group Malaria I

Editorial Activities

Editorial Board, Trends in Parasitology (since 2007)
Editorial Board, PLoS ONE (since 2008)
Editorial Borad, Transboundary and Emerging Disease (since 2008)

Invited Speaker

Diplomkurs Tropenmedizin, BNI, Hamburg (2010, 2011)
Symposium on infectious diseases, San Jose, Costa Rica (03/2010)
Konferenz der Deutschen Gesellschaft für Immunologie (03/2010)
Refresher Tropenmedizin, Hamburg (11/2010)
ICGEB International Malaria meeting, (12/2010)
University of Edinburgh (04/2011)
Jawaharlal Nehru University New Delhi, India (11/2011)
Theodor-Kocher-Institute, University Bern, Swiss (09/2011)
Indo-Swiss Meeting on Infectious Diseases (11/2011)
Refresher Tropenmedizin, BNI, Hamburg (02/2011)

Membership in Committees and Advisory Boards

Mitglied und Sprecher, DFG Schwerpunkt
Mitglied des Konsortiums, BioMalPar Meeting
Mitglied des Konsortiums, SIAS-Gründungssymposium, Desy

Organizer and Chairman

Sprecher und Co-Organisator, COST Meeting, Lausanne (04/2010)
Sprecher und Co-Organisator, MALSIG intermediate report meeting, Rom, Italy (09/2010)

Teaching

University of Hamburg, Department of Biology

Bendikt Hogan

Clinical Research & Epidemiology Section, Research Group May (Infection Epidemiology)

Invited Speaker

8th Malaria Meeting of PEG/DTG, Basel (11/2010)

Prof. Dr. Rolf Horstmann

Clinical Research & Epidemiology Section
Chairman, Board of Bernhard Nocht Institute
Head, Molecular Medicine Department
Lehrstuhl (C4) für Tropenmedizin an der Universität Hamburg

Membership in Committees and Advisory Boards

Wissenschaftlicher Beirat (ex officio) des Robert-Koch-Instituts (seit 2008)
Wissenschaftlicher Beirat, Deutsche Gesellschaft für Tropenmedizin und Internationale Gesundheit e.V. (2007-2009)
Arbeitsgruppe Molekulare Medizin, Telematikplattform des Bundesministeriums für Bildung und Forschung (seit 2006)

Invited Speaker

BMBF-Plattform, Nationales Symposium für Zoonosenforschung (06/2010)
Jahrestreffen Progress Konsortium des BMBF, Berlin (06/2010)
Zentrum für Molekulare Neurobiologie, Hamburg (2010)
BMBF-Plattform Zoonosen (10/2010)
Arbeitsgemeinschaft GenDiagnostik (10/2010)
5th Hanseatic India Colloquium, BWF Hamburg /Norgenta (11/2010)
LCI Symposium Co-Infection, Hamburg (01/2011)
Workshop, Deutsche Akademie der Naturforscher Leopoldina, Kumasi, Ghana (03/2011)
Symposium oft he German-Brazilian Year of Science 2010/2011, Fiocruz, Rio der Janeiro (03/2011)
Institute of Tropical Medicine, Manaus (03/2011)
Workshop, Akademie der Wissenschaften, Hamburg (06/2011)
Universitäts-Gesellschaft Hamburg (09/2011)
EMBO Workshop, Institut Pasteur, Paris, France (09/2011)

Organizer and Chairman

Chairman, World Health Summit (10/2010)
Chairman, Symposium oft he German-Brazilian Year of Science 2010/2011, Fiocruz, Rio der Janeiro (03/2011)
Co-Organizer, LCI Symposium Co-Infection, Hamburg (01/2011)

Delegations

Delegation der Leibniz-Gemeinschaft, Taiwan (04/2009)

Teaching

University of Hamburg, Faculty of Medicine

PD Dr. Thomas Jacobs

Immunology & Virology Section, Immunology Department

Editorial Activities

Editorial Advisory Board, Endocrine, Metabolic & Immune Disorders – Drug Targets (since 2009)

Membership in Committees and Advisory Boards

Scientific Committee, ATP Microbiology Programme, Centre National de la Recherche Scientifique, France (since 2007)
Scientific Committee, SFB 841 Symposium, BNI, Hamburg (04/2011)

Invited Speaker

University of Leicester, UK (01/2010)
Instituto Fatala Chaben, Buenos Aires, Argentinien (11/2010)
Forschungszentrum Borstel (03/2011)
Symposium KCCR, Ghana (03/2011)
Symposium SFB 841, Hamburg (04/2011)
Institut für Virologie Marburg (11/2011)

Organizer and Chairman

Organizer & Chairman, SFB 841 Symposium, BNI, Hamburg (04/2011)

Teaching

University of Hamburg, Department of Biology / Medicine
University of Hamburg, Studiengang Biochemie/Molekularbiologie

Dr. Marc Jacobsen

Immunology & Virology Section, Immunology Department

Invited Speaker

Robert Koch-Institut, Berlin (04/2010)

Teaching

University of Hamburg, Department of Biology
University of Hamburg, Department of Medicine

Dr. Christian Keller

Medical Microbiology Section

Invited Speaker

20. Frühjahrstagung des Bundesverband der Ärzte für Mikrobiologie, Virologie und Infektionsepidemiologie (BAMI), Bad Staffelstein (05/2011)

Teaching

University of Hamburg, Faculty of Medicine
University of Applied Sciences, Hamburg, Rescue Engineering

Dr. Caroline Krefis

Parasitology Section, Research Group May (Infection Epidemiology)

Invited Speaker

7th European Congress on Tropical Medicine and International Health, Barcelona, Spain (10/2011)
9. Malaria-treffen der PEG und DTG, Heidelberg (11/2011)

Dr. Benno Kreuels

Clinical Research & Epidemiology Section, Research Group May (Infection Epidemiology)

Invited Speaker

10. Kongress für Infektionskrankheiten und Tropenmedizin, Köln (06/2010)

Dr. Ralf Krumkamp

Parasitology Section, Research Group May (Infection Epidemiology)

Invited Speaker

6. Jahrestagung der Deutschen Gesellschaft für Epidemiologie, Mainz (09/2011)

Nina Lapke

Immunology & Virology Section, Immunology Department

Awards

Preis für beste Diplomarbeit, MIN-Fakultät, Förderverein Chemie (12/2010)

Christine Lehmann

Parasitology Section, Research Group Heussler (Malaria)

Awards

Vortragspreis, Woods Hole Parasitology Meeting (09/2010)
Posterpreis, BioMalPar Konferenz, Heidelberg (05/2011)

Dr. Hannah Lotter

Parasitology Section

Invited Speaker

FG Infektionsimmunologie Symposium, Burg Rothenfels, Würzburg (03/2010)
15. Symposium „Infektion + Immunabwehr“, Rothenfels, Würzburg (03/2011)
SFB 841 Update, UKE, Hamburg (06/2011)

Organizer and Chairman

Chairman, SFB Retreat, Egestorf (09/2010)
Organizer, SFB 841 Symposium, BNI, Hamburg (04/2011)

Teaching

University of Hamburg, Faculty of Biology
Universitätsklinikum Hamburg-Eppendorf, SFB 841

Prof. Dr. Jürgen May

Clinical Research & Epidemiology Section
Head, Research Group May (Infection Epidemiology)

Membership in Committees and Advisory Boards

Arbeitskreis Malaria-Therapie der Paul-Ehrlich-Gesellschaft (seit 2003)
Advisory Board Member, KCCR, Kumasi, Ghana (since 2008)
Vorsitz, Kommission „Forschung in den Tropen“, BNI (since 2008)
Data Safety Monitoring Board, Sanofi Aventis (2010)

Editorial Activities

Editorial Board, Tropical Medicine and International Health (since 2006)
Editorial Board, The Scientific WorldJOURNAL, Infectious Diseases Domain (since 2011)

Invited Speaker

1. Meeting on Multi-Country Typhoid Fever Surveillance Pogram in Sub-Saharan Africa (TSAP), Madagascar (04/2010)
2. Meeting on Multi-Country Typhoid Fever Surveillance Pogram in Sub-Saharan Africa (TSAP), Madagascar (10/2010)
Medizinische Hochschule Hannover (06/2010)
Leibniz Gemeinschaft „Science Meets Parliament“, Berlin (2010)
Institut für Tropenmedizin, Tübingen (01/2011)
German Association of Tropical Paediatrics, Hamburg (01/2011)
Tag der Reisegesundheit, BNI, Hamburg (02/2011)
Leopoldina-Symposium, KCCR, Kumasi, Ghana (03/2011)
Ghana School of Public Health, Accra, Ghana (04/2011)
Workshop, Bundesministerium für Bildung und Forschung (05/2011)

Organizer and Chairman

Co-Organizer and Chairman, 9. Malaria-treffen der PEG und DTG, Heidelberg (11/2011)
Chairman, Netzwerkforum zur Biodiversitätsforschung Deutschland (NeFo), Berlin (03/2011)

Posts and Offices

Gutachter, „Tropical Medicine and International Health“ (2010)
Gutachter, „Malaria Journal“ (2010)
Gutachter, „Journal of Infectious Diseases“ (2010)
Gutachter, „Blood“ (2010)
Gutachter „PloS“ (2010)

Teaching

University of Hamburg, Faculty of Medicine
Freie Universität Berlin, Department of Veterinary Medicine

Prof. Dr. Christian G. Meyer

Tropical Medicine Section

Awards

Medica-Verdienstplakette 2010, MEDICA (07/2010)

Editorial Activities

Editorial Board, Tropical Medicine and International Health (since 2001)
Editorial Board, Case Reports in Infectious Diseases (since 2011)

Invited Speaker

Auswärtiges Amt, Berlin (04/2008)
International Vaccine Institute, Seoul, Südkorea (09/2008)
Lufthansa, Aaeromedical Centre, Wiesbaden (03/2008, 11/2008)
Hygieneforum Siegen (10/2008)
Akademie für Rettungsdienst und Gefahrenabwehr der Landesfeuerwehrschule Hamburg (11/2008)
Fortbildungskongress der MEDICA (11/2008)
Eröffnung der Tropenpädiatrischen Ambulanz des UKE, Hamburg (11/2008)

Biomerieux Symposium, Köln (01/2009)
Bund Deutscher Internisten, Berlin (03/2009)
Lufthansa, Aaeromedical Centre, Wiesbaden (03/2009, 11/2009)
Ärztammer Lüneburg (04/2009)
Symposium Reisemedizin, Auswärtiges Amt, Berlin (06/2009)
HIV-Symposium, Erfurt (06/2009)
Reisemedizin-Symposium, Osnabrück (08/2009)
Verband Deutscher Betriebs- und Werksärzte, Lübeck (10/2009)
Akademie für Rettungsdienst und Gefahrenabwehr der Landesfeuerwehrschule Hamburg (10/2009, 11/2009)
Rotary International, Lüchow (10/2009)
Impfsymposium der Ärztekammer Schleswig-Holstein (11/2009)
Polizeiakademie Hamburg, (03/2011)
Auswärtiges Amt Berlin (04/2011)
Seminar Kongress der Nordwestdeutsche Gesellschaft für Ärztliche Fortbildung (05/2011)
KV Mecklenburg-Vorpommern (05/2011)
Ärztammer Hamburg (06/2011)
Tropeninstitut Tübingen (06/2011)
Feuerwehrakademie Hamburg (06, 09, 10/2011)
OGACH Wien (10/2011)
MEDICA, Düsseldorf (11/2011)
Infektologie-Update der IFI (12/2011)
DLR Köln (2011)

Editorial Board, Tropical Medicine and International Health (since 2006)
Editorial Board, The Scientific WorldJOURNAL, Infectious Diseases Domain (since 2011)

1. Meeting on Multi-Country Typhoid Fever Surveillance Pogram in Sub-Saharan Africa (TSAP), Madagascar (04/2010)
2. Meeting on Multi-Country Typhoid Fever Surveillance Pogram in Sub-Saharan Africa (TSAP), Madagascar (10/2010)
Medizinische Hochschule Hannover (06/2010)
Leibniz Gemeinschaft „Science Meets Parliament“, Berlin (2010)
Institut für Tropenmedizin, Tübingen (01/2011)
German Association of Tropical Paediatrics, Hamburg (01/2011)
Tag der Reisegesundheit, BNI, Hamburg (02/2011)
Leopoldina-Symposium, KCCR, Kumasi, Ghana (03/2011)
Ghana School of Public Health, Accra, Ghana (04/2011)
Workshop, Bundesministerium für Bildung und Forschung (05/2011)

Organizer and Chairman

Chairman, 101. Jahrestagung der Deutschen Gesellschaft für Tropenmedizin und Internationale Gesundheit, München (11/2009)

Teaching

University of Hamburg, Faculty of Medicine

Dr. Ingrid B. Müller

Parasitology Section

Invited Speaker

EMBL-Outstation, Hamburg (01/2010)
ANU, Canberra, Australia (02/2010)
BSP Spring Meeting, University of Cardiff, UK (02/2010)
University of Pretoria, Southafrica (08/2010)

Teaching

University of Hamburg, Department of Biology
University of Hamburg, Department of Medicine

Dr. Anke Osterloh

Immunology & Virology Section, Immunology Department

Teaching

University of Hamburg, Department of Biology

Dr. Sven Poppert

Parasitology Section

Invited Speaker

DELAB-Fachtagung, Mainz (06/2010)
ÖGTP-Jahrestagung, Graz, Austria (11/2010)
Refresher Tropenmedizin, Hamburg (11/2010)

Teaching

University of Hamburg, Department of Biology
University of Hamburg, Department of Medicine

Membership in Committees and Advisory Boards

Deutsche Gesellschaft für Hygiene und Mikrobiologie (seit 2000)
Deutsche Gesellschaft für Parasitologie (seit 2008)

Dr. Birgit Reime

Parasitology Section, Research Group May (Infection Epidemiology)

Invited Speaker

9. Malaria-Treffen der PEG und DTG, Heidelberg (11/2011)

Dr. Jonas Schmidt-Chanasit

Immunology & Virology Section, Virology Department

Invited Speaker

Diplomkurs Tropenmedizin, BNI, Hamburg (2010)
Universitätsklinikum Halle an der Saale (04/2010)
Paul-Ehrlich-Gesellschaft, Bonn (10/2010)
DRK-Blutspendedienst Baden-Baden (05/2011)
Berliner Mikrobiologische Gesellschaft, Berlin (11/2011)
Kongress der Bundeswehr Hamburg (10/2011)

Organizer and Chairman

Chairman, Joint International Tropical Medicine Meeting, Mahidol University, Bangkok, Thailand (12/2010)

Teaching

University of Frankfurt/Main, Faculty of Medicine

Dr. Norber Schwarz

Parasitology Section, Research Group May (Infection Epidemiology)

Invited Speaker

Parasitology Section, Research Group May (Infection Epidemiology)

Dr. Tobias Spielmann

Parasitology Section

Editorial Activities

Editor, PLoS One (since 2011)

Invited Speaker

Swiss TPH, Basel, Schweiz (04/2010)
Mc Master University, Hamilton, Canada (09/2010)
Harvard School of Public Health, Boston, USA (09/2010)
GRK1459, Sylt (10/10)
Institut Cochin, Inserm U1016, Paris, France (06/2011)
Symposium University of Glasgow, UK (07/2011)
Technische Universität Dresden (10/2011)
Institute of Cell Biology, University of Bern, Switzerland (11/2011)
SFB 593, Philipps-Universität Marburg (12/2011)

Organizer and Chairman

Chairman Meeting of the German Society for Parasitology, Hamburg (03/2008)

Dr. Rebecca Stanway

Parasitology Section, Research Group Malaria I

Awards

Posterpreis, EMBO meeting, Krakow, Poland (10/2010)

Prof. Dr. Egbert Tannich

Parasitology Section

Head, Molecular Parasitology Departement
Lehrstuhl (C4) für Molekulare Parasitologie/Tropenmedizin an der Universität Hamburg

Editorial Activities

Editorial Board, Molecular and Biochemical Parasitology (since 1994)
Editorial Board, Parasitology International (since 1998)

Invited Speaker

University of Singapore (02/2010)
University of Medan, Indonesia (02/2010)
Bundeswehrkrankenhaus, Hamburg (03/2010)
Biannual Meeting of the German society of Parasitology, Düsseldorf (03/2010)
Ain Shams University, Cairo, Egypt (04/2010)
Annual Meeting of the Egyptian Society of Parasitology, Cairo (04/2010)
Refresher Kurs Diplomkurs Tropenmedizin, Hamburg (10/2010)
4. Symposium für Tropendermatologie und Reisemedizin, Hamburg (11/2010)
Jahrestagung der Gesellschaft für Tropenpädiatrie, Hamburg (01/2011)
Refresher Kurs Diplomkurs Tropenmedizin, Hamburg (02/2011)
KCCR, Kumas, Ghana (02/2011)
FOCRUZ, Rio de Janeiro, Brasilien (03/2011)
3. Regensburger Meeting für angewandte Molekulare Diagnostik, Regensburg (04/2011)
Bundeswehrkrankenhaus, Hamburg (07/2011)
University of Anatanarivo, Madagaskar (08/2011)
Kursus „Arbeitsaufenthalt in den Tropen“ (11/2011)

Membership in Committees and Advisory Boards

Member, Deutsche Gesellschaft für Tropenmedizin und Internationale Gesundheit e.V. (since 1992)
Member, Deutsche Gesellschaft für Parasitologie (since 1994)
Member, Deutsche Gesellschaft für Hygiene und Mikrobiologie (since 1994)
Member, Gesellschaft zur Förderung der Qualitätssicherung im Medizinischen Laboratorium (since 2005)
Wissenschaftlicher Beirat, Qualitätssicherungskommission der

Deutschen Gesellschaft für Hygiene und Mikrobiologie (DGHM): Bereich Ringversuche Parasitologie (since 2003)
Wissenschaftlicher Beirat, Deutsche Gesellschaft für Tropenmedizin und Internationale Gesundheit e.V. (since 2005)
Fachberater, Institut für Standardisierung und Dokumentation im medizinischen Laboratorium (since 2005)
Fachberater, Bundesärztekammer, Berlin (since 2009)
Fachberater, BG Chemie, Heidelberg (since 2011)
Stellvertretender Vorsitzender, Deutsche Gesellschaft für Parasitologie (since 2010)

Offices and Posts

Ringversuchsleiter, Institut für Standardisierung und Dokumentation im medizinischen Laboratorium (since 2005)

Organizer and Chairman

Chairman, Biannual Meeting of the German Society of Parasitology, Düsseldorf (03/2010)
Chairman, Annual Meeting of the Egyptian Society of Parasitology, Cairo, Egypt (04/2010)
Chairman, Amebiasis: From Pathogenesis to Treatment Modalities, Montreal, Canada (09/2010)
Chairman, WHO-Meeting „Invasive Mosquitos“, Speyer (06/2011)

Teaching

University of Hamburg, Faculty of Medicine

Prof. Dr. Rolf D. Walter

Parasitology Section

Head, Research Group Biochemistry

Editorial Activities

Editor, Tropical Medicine and International Health (since 1996)

PD Dr. Carsten Wrenger

Parasitology Section

Forschungsprofessur, Department of Parasitology, University of Sao Paulo (since 2010)

Awards

CAPES-Visiting Professorship (01/2010)
Jovem Pesquisador, FAPESP (03/2010)
Best Paper Award 2010, Cytometry A (2011)
Research Highlight 2010, EMBL-Outstation Hamburg (2011)

Membership in Committees and Advisory Boards

Committee, Vergabe Posterpreis, International Symposium of LEXI-SDI, Hamburg (07/2011)

Invited Speaker

University Medical Center, Hamburg-Eppendorf (03/2010)
University of Sao Paulo, Department of Parasitology (05/2010)
University of Hamburg, Department of Chemistry (05/2010)
University of Sao Paulo, Department of Parasitology (09/2010)
Cancer Research UK, London, UK (10/2010)
IBILCE/UNESP Sao Jose do Rio Preto-SP, Brazil (03/2011)
BMBF/CNPq network, University of Münster (04/2011)
Institute of Chemistry, University of Sao Paulo, Brazil (05/2011)
Heart Institute (InCor), University of Sao Paulo, Brazil (06/2011)

Organizer and Chairman

Chairman, 6th Biannual Polyamines in Parasites Meeting, University of Pretoria, South Africa (08/2010)

Teaching

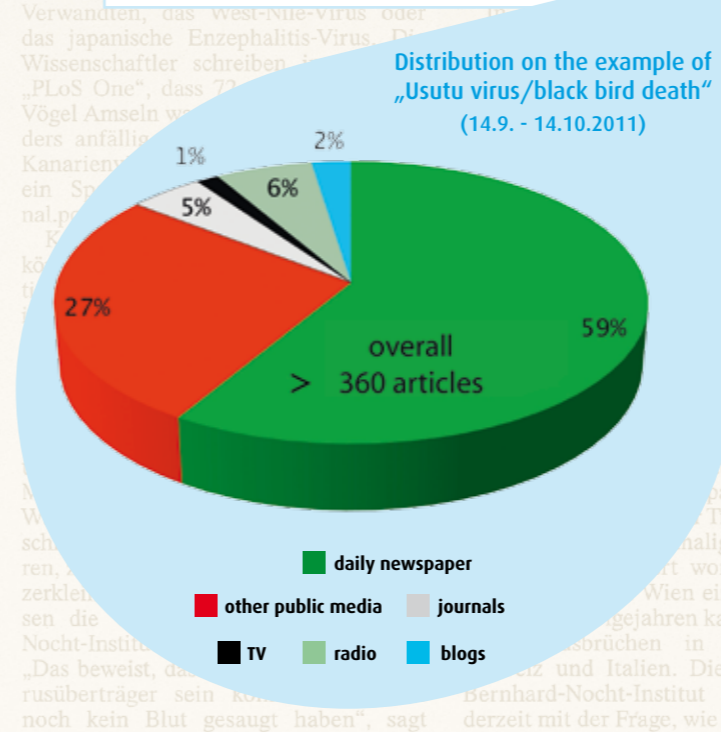
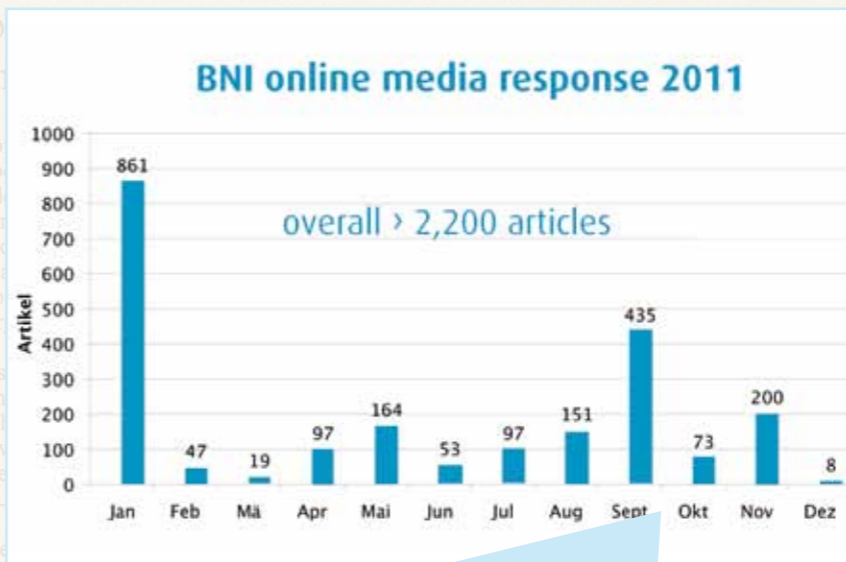
University of Hamburg, Department of Biology

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BNI in the media

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1.2. – 19.2.10 „Medicine in the Tropics“



Prof. Tim Gilberger



1.4.10 Hagedorn Group (Cell Biology)



23.4.10 Girls' Day/For Boys



10.5.10 Signing agreement with Madagascar



6.4. – 30.6.10 Diploma course "Tropical Medicine"



19.6.10 BNI runners

CHRONICLE

Spring 2010

Virologists of the institute identify sindbis viruses for the first time in Germany and detect the pathogen in three different mosquito species. The viruses can cause febrile illnesses with rheumatic symptoms.

01.01.2010

As part of the international project "BuruliVac", Prof. Bernhard Fleischer, project coordinator, raises € 575,000 from the European Commission. The focus is on the development of a vaccine against Buruli ulcer.

01.02. – 19.02.2010

Course for medical support staff "Medicine in the Tropics" with 19 participants.

01.04.2010

Prof. Tim Gilberger, a cellular biologist and malaria researcher at the institute, accepts a position as an Associate Professor at McMaster University in Hamilton, Ontario, Canada.

06.04. – 30.06.2010

The diploma course "Tropical Medicine", designed for physicians and scientists, hosts 56 students.

01.04.2010

Prof. Stephan Günther receives a grant from the German Research Foundation (DFG) of a total of € 578,300 for the development of diagnostic tests for Lassa fever.

01.04.2010

Biologist Dr. Monica Hagedorn starts as head of a new research group to study the cellular biology of TB bacteria. Her findings on the structured egress of pathogens from host cells have gained international recognition.

23.04.2010

„Girls' Day/For Boys“: Molecular parasitologist Prof. Iris Bruchhaus gives a seminar about amoebae and malaria parasites. Then, the 55 students are being guided by scientific staff godmothers and godfathers to perform small experiments.

10.05.2010

Prof. Monique Ramanamihantsoarana, Vice President for International Relations of the University of Antananarivo, Madagascar, visits the Institute. By signing a contract both institutions seal their cooperation. The aims are joint research projects as well as training and the exchange of scientists.

20.05.2010

Since six years, the Institute organizes a sports festival. Nine teams take part in the beach volleyball tournament including 55 players from the Institute, the Diploma Course "Tropical Medicine" and the Army Department of Tropical Medicine and were cheered by 50 fans. The cup goes to a team of immunologists.

19.06.2010

For the HSH Nordbank Run the Institute composes a highly motivated and even-successful team.

23.06.2010

Three young scientists receive the Doctoral Prize of the "Association of Friends of the Tropical Institute Hamburg": Dr. Annika Renneberg (Heussler Group) studied the survival of malaria parasites in liver cells and Dr. Moritz Treeck (Gilberger Group) the entry of malaria parasites into red blood cells, and Dr. Laura Biller (Molecular Parasitology) compared all proteins of pathogenic and harmless amoebae.

25.06.2010

Entitled "Insights and Impressions", the Institute organizes a summer party in its backyard. Among the invited guests is Bernd Reinert, State Secretary of the Hamburg Ministry of Science and Research and Chairman of the Board of Trustees.

08.07.2010

The Senate of the Leibniz Association publishes the evaluation report of the Institute. The Institute is certified excellent scientific achievements as well as a "convincing strategic plan" and an extraordinarily good working atmosphere. Federal and State governments will continue the funding of the Institute as an institution of national importance.

01.08.2010

Prof. Volker Heussler, cellular biologist and malaria researcher, accepts an offer and becomes Full Professor at the University of Bern, Switzerland.

24.08.2010

The Federal Minister for Health, Dr. Philipp Rösler, visits the Institute. Topic for discussions is the recommendation of the Leibniz evaluation to transfer the responsibility for the Institute from the Federal Ministry of Health to the Federal Ministry of Education and Research.

03.09. – 06.09.2010

As part of an initiative to support young African scientists - with Prof. Bernhard Fleischer as coordinator - the Institute organizes an international symposium. This year, the Volkswagen Foundation and four other European foundations extended the funding of the initiative by 1 Mio. Euro.

15.10.2010

A delegation from the Ministry of Health of the Republic of China Taiwan, led by the Deputy Minister of Health, visits the Institute.

01.01.2011

To study the genetic resistance of humans against tuberculosis Prof. Christian Meyer from the Department of Molecular Medicine is awarded € 725,000 by the Federal Ministry of Education and Research.

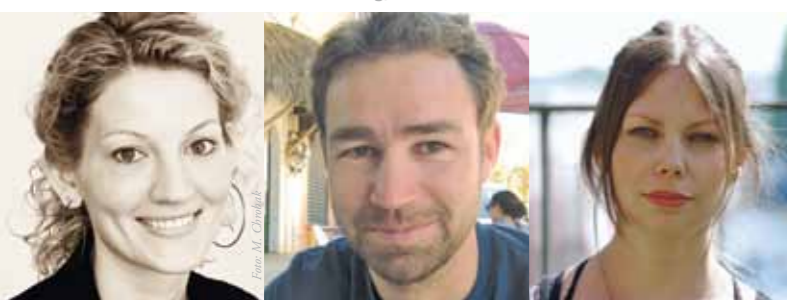
26.01. – 27.01.2011

Coinfections is the topic of the first international symposium of the Leibniz Center Infection (LCI), a consortium of the Institute with the Heinrich Pette Institute and the Research Center Borstel. In the historic auditorium over 140 scientists and interested persons from industry discuss recent findings and new treatment options, if infections such as malaria, tuberculosis and HIV / AIDS occur concomitantly.

31.01. – 18.02.2011

Course for medical support staff "Medicine in the Tropics" with 28 participants.

Awards for Dr. Annika Renneberg, Dr. Moritz Treeck and Dr. Laura Biller



25.6.10 Summer party



8.7.10 Evaluation report



Prof. Volker Heussler



24.8.10 Visit of the Minister



3.9. – 6.9.10 International symposium



26./27.1.11 LCI symposium 'Coinfection'





11.2.11 Visit of the President



17.4.11 1st Boys' und 11th Girls' Day



26.5.11 Sports festival



1.6.11 Visit of the Senator



1.7.11 Starting signal for the "mosquito project" and the Group Müller (Molecular Entomology)



11.02.2011

Prof. Karl Ulrich Mayer - since July 2010 President of the Leibniz Association - visits the Institute and in several personal conversations he interviews young scientists on their work.

01.03.2011

Dr. Norbert Schwarz from the 'May Group' coordinates the international project "African Programme for Advanced Research Epidemiology Training" (APARET), which will support African scientists in their own epidemiological research plans. For this purpose, the European Commission provides the Institute and the nonprofit organisation "African Field Epidemiology Network" (AFENET), Uganda, with funds of almost 2 Mio Euro for four years.

04.04. - 30.06.2011

„The diploma course „Tropical Medicine“, designed for physicians and scientists, hosts 48 students.

17.04.2011

New record at the 11th Girls' and 1st Boys' Day: 34 girls and 27 boys participate in the nationwide campaign and visit the Institute. As in 2010, Prof. Iris Bruchhaus answers questions concerning human parasites. Twenty

staff members of parasitology, virology and immunology present their research and offer small experiments to be performed by the pupils.

26.05.2011

This year, ten teams take part at the beach volleyball tournament of the sports festival, which have to take place on three courts in parallel. Attendance record of about 90 players and over 50 fans. Winner is a team of the Diploma Course "Tropical Medicine".

01.06.2011

Dr. Dorothee Stapelfeldt, Deputy Mayor of the City of Hamburg and Senator for Science and Research, visits the Institute.

29.06.2011

At its annual meeting the "Association of Friends of the Tropical Institute" grants the 2011 PhD award to Dr. Anna Bachmann (Molecular Parasitology) for her studies on the switching of the surface proteins of malaria parasites and Dr. Benno Kreuels (May Group) for a study showing that, in malaria areas, children with the sickle-cell trait develop better than children with normal red blood cells.

29.06.2011

The Institute organizes a summer party in its backyard, to which also members of the Association of Friends of the Tropical Institute are invited.

01.07.2011

Kick-off for the "mosquito map", a joint project with the "German Mosquito Control Assoziation" (KABS) and the Senckenberg German Entomological Institute, coordinated by Prof. Egbert Tannich, which is funded by the Leibniz Association initially with 737,000 Euro. Under study are the prevalence of mosquitoes in Germany and their competence to transmit tropical pathogens.

01.07.2011

As part of the Leibniz funded "mosquito project" biologist Stefanie Müller starts her work as head of a new research group for Molecular Entomology. Her group will study the transmission of infectious agents by mosquitoes in the biosafety level 3 insectarium of the Institute.

10.07.2011

The "Broadcast with the Mouse" on nationwide TV celebrates its 40th birthday, calling for a nationwide door-opening event. The channel sends the "father of the mouse," Armin Maiwald, to the Institute for a shooting with virologists and parasitologists of the Institute. Fourteen young "mouse fans" are invited to have a look behind laboratory doors, one comes all the way from Bavaria.

26.07.2011

Dr. Marc Jacobsen accepts an offer from Heinrich Heine University of Düsseldorf for an Associate Professorship in "Paediatric Infection Research".

14.09.2011

A mysterious blackbird carnage with tens of thousands of dead birds bothers citizens and especially ornithologists in southern Germany in the summer. The cooperating partner KABS sends cadavers to the Institute where virologist Dr. Jonas Schmidt-Chanasit and his group reveal the cause of death. The birds die from an infection with the tropical Usutu virus, which the group had detected in mosquitoes from southern Germany already in 2010.

22.09.2011

The Virology Department presents the new high-security laboratories to a delegation from the University of Nagasaki, Japan.

14.10.2011

The Tropical Medicine Department of the Army and the Virology Department of the Institute organize a clinically oriented, internationally attended scientific conference on "Patients with viral haemorrhagic fevers" coordinated by Lieutenant Colonel MC Dr. Hinrich Sudeck. With 130 attendants the maximum number of participants is reached.

29.10.2011

During the "4th Night of Science" in Hamburg more than 1,300 visitors of the Institute are offered a colorful program of events and lectures on subjects of tropical medicine. The great response convinces the sixty volunteer helpers of the Institute that all their efforts have been worth while to intelligibly present their research to the public.

05./06.11. 2011 und 12./13.11. 2011

For the first time, the Institute offers a course on "Working in the Tropics" to occupational physicians. The participants acquire the tools required for prophylactic measures and clinical examinations in occupational health in the tropics and travel medicine.

09.11.2011

During the Year of Science 2011 - an initiative of the Federal Ministry of Education and Research - the Leibniz Association organizes the event "Good Health! More Knowledge in Museums". The Institute supports the project with a live broadcast from its high-security laboratories to the German Museum in Munich. Five school classes and other visitors of the museum can watch the work in protective suits on a screen and are free to ask the Head of Virology, Prof. Stephan Günther, questions about dangerous viruses.

10.7.11 Shooting with Armin

Awards for Dr. Anna Bachmann and Dr. Benno Kreuels

14.9.11 Mysterious death of blackbirds

PD Dr. Marc Jacobsen

14.10.11 Conference of Armed Forces and Virology

29.10.11 4th Night of Science

9.11.11 Live into the German Museum



Imprint

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