

Members' meeting

THE RESIST MEMBERS' MEETING ON 17 APRIL 2024 IN LECTURE HALL Q, WHICH WAS ATTENDED BY 30 MEMBERS AND IN WHICH 17 OTHER MEMBERS TOOK PART ONLINE, PROVIDED AN OPPORTUNITY TO MEET AGAIN, CATCH UP AND EXCHANGE IDEAS. PROF. SCHULZ WARMLY WELCOMED EVERYONE AT THE BEGINNING.



RESIST
members

Prof. Schulz then kicked off the meeting with the good news that the DFG had approved all of MHH's expenditure in 2021 in its financial audit. He continued with a topic for which he would like to see more commitment from RESIST members. It was about the RESIST seminars, which take place every first and third Thursday of the month at 5 p.m. and at which RESIST researchers or guests present their research. "Attendance is currently very low. Please use this opportunity

to learn and socialise. Please also motivate your (post)doctoral students to take part," he urged. The group then discussed which framework conditions could lead to increased participation – for example, moving the seminar to a more family-friendly lunchtime with catering.

Prof. Schulz also presented the measures that have been organised for early career researchers, such as the regular social evening for (post) doctoral students. He continued with measures for equal opportunities and diversity, mentioning, among other things, funding opportunities for families as well as the new network "Female Scientists in RESIST" (WiR) and the workshop "Discrimination in Science and its Prevention". Prof. Schulz also drew attention to other dates such as the deadline for the follow-up application on 22 August, the RESIST summer party on 23 August and the international symposium in Berlin on 1 and 2 October. (More information on these topics can be found in this newsletter from page 10).

One member of the RESIST Board, Prof. Grünewald, resigned from the Research Management Board and a new member was elected to the Board by the members during the meeting: Prof. Dölken. He took over the management of the Institute of Virology at the MHH from Prof. Schulz at the beginning of April. The next item on the agenda was the election of the RESIST speaker and a deputy speaker for the period until the end of 2024. The members elected Prof. Förster, who had previously been co-speaker of RESIST, as RESIST speaker and Prof. Förster accepted this result. Prof. Schulz was elected co-speaker, which he also welcomed.

Prof. Förster then continued the meeting by outlining preparations for the follow-up proposal, which began at the RESIST retreat in April 2023, including the deliberations of the Scientific Commission of Lower Saxony and the Scientific Advisory Board and which are currently in the writing phase; the proposal has to be submitted to the DFG by 22 August, and the evaluation by international review panels will take place between October 2024 and mid-February 2025. Prof. Förster then went on to explain which 25 researchers will be listed as Principal Investigators in the follow-up proposal, how acquired data will be handled and how it will be managed and evaluated, as well as the research priorities in RESIST-II. After a round of questions, Prof. Schulz was warmly thanked by all those present for founding and leading RESIST over the years – including with a few gifts. Afterwards, all participants were able to chat over drinks and treats in a relaxed atmosphere.

Meeting for the future

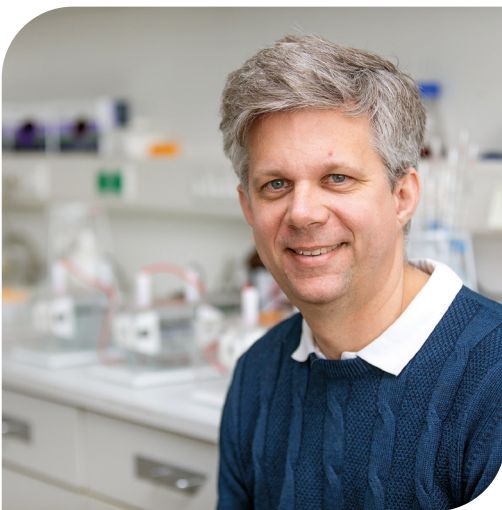
RESIST members from the Research Management Board and the RESIST-II Steering Group as well as other guests met on 7 and 8 March at the Wennigsen Monastery to plan the further development of RESIST. There, they continued work on the proposal for continued funding of RESIST for the period from 2026, which must be submitted to the DFG by 22 August 2024.

Prof. Schulz began by welcoming all those present and the four participants who were online. Nine researchers then presented topics that could potentially become part of the second phase of RESIST. These topics were then discussed and their potential analysed. The second day of the meeting focused, among other things, on the feedback provided by the RESIST Scientific Advisory Board during its consultation in February of this year. In addition, the new



research areas and thematic blocks for the writing teams were defined. The meeting was also used to develop visions for RESIST-II.

In front of the Wennigsen Monastery: the participants of the RESIST retreat.



Prof. Dölken

We welcome [Prof. Dr. Lars Dölken](#) as a new member of RESIST. The specialist in herpes viruses has been Director of the MHH Institute of Virology since 2 April 2024 and thus succeeds Prof. Schulz, who headed the Institute since 2000. Prof. Dölken has also been a member of the RESIST Research Management Board since mid-April.

A warm welcome

Prof. Dölken is a specialist in microbiology, virology and infection biology. The 47-year-old was previously Director of the Institute of Virology and Immunobiology at the Julius-Maximilians-Universität Würzburg. Through the DFG research group FOR2830 "Advanced Concepts in Cellular Control of Cytomegalovirus", which he heads, he has maintained close contacts with numerous research groups at the MHH for many years.

His research at RESIST focuses on the cell biology of herpesvirus-host interactions and viral immune defense. To this end, he and his team employ a broad range of systems biology approaches to identify and characterize the manipulation of the host transcriptional and translational machinery by HSV-1 and HCMV during productive infection, latency and reactivation. "We have pioneered metabolic RNA labeling to study viral manipulation of their host cells with high temporal resolution at the single cell level and to uncover novel cellular genes and mechanisms that determine infection outcome," he says. A long-term goal of his research is to target conserved viral mechanisms that are important in the early phases of lytic infection and virus reactivation. The knowledge gained from this will be used to develop new antiviral agents with increased therapeutic potential.

Lars Dölken was born and grew up in Freiburg im Breisgau and studied medicine at the University of Greifswald and at the University of Otago in Dunedin on the South Island of New Zealand. After completing his doctorate, he worked as a postdoctoral researcher in virology at the Max von Pettenkofer Institute at Ludwig Maximilian University in Munich from 2005. He also completed his specialist training and his habilitation there. In 2011, he moved to the University of Cambridge, UK, as a lecturer in transfusion and transplantation virology. Since 2015, he has held the Chair of Virology at the Julius-Maximilians-Universität Würzburg.

SHaReD platform

EASIER MANAGEMENT AND COMBINED ANALYSIS OF DATA



Prof. Proietti

RESIST scientists have access to a constantly growing, comprehensive collection of data from 14 different cohorts. The "Shared Hannover Resist Database (SHaReD)" platform is currently being created with the aim of interconnecting all these diverse datasets and storing and managing all the available information more efficiently.

"As an advanced data management and research platform, SHaReD will enable RESIST researchers to manage cohort and project data more efficiently than before, make it more accessible, analyse it and share it more easily. This will accelerate data-based discoveries," says [Prof. Proietti](#), who is in charge of developing of this platform.

At the core of SHaReD lies what is known as a relational database, which employs a subject-centered model that stores data in distinct tables linked to each other through keys. This architecture effectively accommodates and interconnects various data types, spanning genetic information, clinical details, immunophenotyping, experimental results and functional findings, as well as longitudinal data.

SHaReD is inspired by "Gemma" and "Genetic Immunology Advisor" (GenIA) (www.geniadb.net), platforms previously developed by Prof. Proietti and his colleague [Dr. Caballero-Oteyza](#) together with other scientists.

Gemma – originally designed for cataloguing genetic data from patients and linking this data to clinical phenotypes – has now become a powerful tool for processing genetic, clinical, demographic, microbiomics and functional information as well as laboratory data.

GenIA is becoming a global reference database for cataloguing and searching knowledge on Inborn Errors of Immunity (IEIs). In this respect, this platform aims to characterise and diagnose IEI better. Recently, the renowned journal "[Allergy and Clinical Immunology](#)" published an article on the stored data of 24 genes associated with IEIs. GenIA also enables findings from genetic work carried out within RESIST to be made available to the scientific community worldwide. This helps to apply collective expertise to difficult cases, prevent redundant work and refine treatment strategies.

Both Gemma and GenIA serve as a valuable data source for SHaReD; data from both platforms can be seamlessly exported to SHaReD. SHaReD is expected to develop into an advanced data management and research platform. So far, this database has been designed to be used exclusively by RESIST researchers. However, the idea is that in future it will also be available to a wider audience at the MHH.



Dr. Caballero-Oteyza

Visit from the Minister



Prof. Förster, Prof. Schulz, Prof. Hansen, Minister Falko Mohrs, Prof. Manns (from left)

The trio of RESIST speakers was delighted to receive a distinguished visitor: Falko Mohrs, Lower Saxony's Minister for Science and Culture, visited the MHH on 21 March to find out more about our Cluster of Excellence.

Prof. Manns received the Minister, who was accompanied by Julia Streuer, Leon Schmalstieg and Katharina Pfeiffer, in the Senate meeting room. In addition to the trio of RESIST speakers, the guests were also awaited by the scientists Prof. Lauber, Dr. Jacobsen, Dr. Riemann and Marie-Sophie Schulze.

The Minister and his team watched the VR film on herpes virus infection, heard Prof. Schulz, Prof. Hansen and Prof. Förster explain RESIST's successes to date and future plans and engaged in lively discussions with them and Prof. Manns on various topics relating to the application for the new funding period.



With the VR glasses: Minister Falko Mohrs (left) and Prof. Manns

RESIST impresses Scientific Advisory Board

The RESIST Scientific Advisory Board provided the cluster with helpful advice during the application phase for the new funding period: During an online meeting on 27 February, Prof. Maria Masucci, Prof. Charles M. Rice, Prof. Eric G. Pamer, Dr. Klaus Klumpp, Prof. Peter Openshaw, Dr. Josef Lange and Prof. Andrew J. Macpherson advised the RESIST Research Management Board, which was almost entirely present.

To this end, the advisory board was first given an overview of the current state of development of the cluster by Prof. Schulz, which included the pro-

duced research results and new content. The members of the Scientific Advisory Board were impressed by what had been achieved so far. The individual topics were then discussed and the advisory board provided detailed feedback. The committee commented on the structure and content of the Cluster of Excellence as a whole as well as the individual research areas. In addition, the members of the RESIST Research Management Board were able to ask the Scientific Advisory Board specific questions, for example on the topics of data processing and cohorts.

Praise for RESIST

RESIST received a lot of praise for what it has achieved so far on 15 January. On this day, a team from the Scientific Commission of Lower Saxony (WKN) learnt about the work of RESIST at an online event attended by almost the entire RESIST Research Management Board.

After a presentation and discussion, Prof. Dr. Hans-Jochen Heinze, Medical Director of Magdeburg University Hospital, Prof. Dr. Jörg Debatin, formerly of the Health Innovation Hub, Berlin, and Dr. Timm Haack, Scientific Officer for Natural Sciences and Medicine, WKN office, were impressed by RESIST.

The Scientific Commission of Lower Saxony (WKN) is an independent body of experts that advises the state government of Lower Saxony and the state-funded scientific institutions on matters of science and research policy.

Top researchers

Prof. Manns is one of the best researchers in the world. This is the result of the second edition of a ranking published by the academic platform Research.com. The ranking includes leading researchers from all major fields. Prof. Manns is one of the most cited researchers in Europe and worldwide and has received numerous awards for his extensive commitment to liver, stomach and intestinal research.

Apart from him, there are only 47 other researchers in the whole of Germany who are listed internationally across all disciplines, i.e. who have made it into the top 1,000. The liver expert is ranked 861st internationally and 40th in Germany. In the ran-

king broken down by discipline, he is ranked 431st worldwide in the field of medicine and 16th in Germany.

The position in the world ranking of top researchers is based on the so-called H-index – a measure of a person's influence in science. The H-index indicates how often

someone has been cited. Other decisive criteria for inclusion in the ranking are the proportion of published work in a particular subject area as well as academic honours and achievements. You can find the ranking list here: <https://research.com/scientists-rankings/best-scientists>.



Prof. Manns

Prof. Di Donato at Herrenhausen Palace



Prof. Di Donato introduced herself to the interested public.

The MHH is about to celebrate its 60th birthday and is currently undergoing its second generational change in management: Numerous clinic or institute directors have been newly appointed. Five of these top physicians introduced themselves to the interested public as part of the Volkswagen Foundation's "Herrenhausen Extra" format at the very well-attended

"Xplatorium Schloss Herrenhausen" event venue on 30 January.

Among them was RESIST researcher Prof. Di Donato, Director of the MHH Institute of Human Genetics. Prof. Manns moderated the evening between the topics of human genetics and cell biology as well as transplantation and cancer medicine. This was followed by a lively discussion.

You can watch a video recording of the event here: <https://www.volkswagenstiftung.de/de/veranstaltungen/neue-koepfe-der-mhh-von-zellbiologie-bis-transplantationsmedizin>

Imprint

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Therapy on the spot

PPROF. LACHMANN RECEIVES
"ERC PROOF OF CONCEPT GRANT" FROM
THE EU FOR THE FURTHER DEVELOPMENT OF
A NOVEL IMMUNE CELL THERAPY



Can healthy macrophages be brought into the lungs by bronchoscopy?

Treating bacterial pneumonia with healthy macrophages – that is the goal of the team led by RESIST-Professor Prof. Lachmann. The European Union (EU) has now honoured his "iMAClung" project, with which he is taking the next steps towards the application of immune cell therapy, with an "ERC Proof of Concept Grant".

Until now, bacterial pneumonia has mainly been treated with antibiotics that affect the entire body. In addition, there are pathogens that are resistant and can therefore only be treated to a limited extent. In order to break new ground, macrophages are to be injected directly into the lungs and have a therapeutic effect there. Mac-

rophages are also normally present in the lungs and belong to the white blood cells; as part of the immune system, they eliminate pathogens. If this does not work or does not work sufficiently, the result is severe infections that can even be fatal. This is where therapy with healthy macrophages, which Prof. Lachmann's team produces in the laboratory from induced pluripotent stem cells (iPS cells), is intended to help.

Unlike antibiotics or other treatment methods, the scavenger cells are to be delivered directly to the site of the infection in order to be effective. The "iMAClung" project centres on whether bronchoscopy – a method in which a probe is inserted into the windpipe via the throat – is suitable for bringing healthy macrophages into the lungs. Do the cells stay where they are supposed to? Do they trigger undesirable reactions and if so, which ones? These questions need to be answered.

The macrophages produced using iPS technology allow the latest insights into infection medicine, which are also utilised by other research groups. This also includes RESIST teams investigating viral infections – for example those of Prof. Viejo-Borbolla, Prof. Werfel, Prof. Kalinke and Prof. Viemann.

Kidnapping in the immune system

HCMV REPROGRAMS CELLULAR DEFENCE MECHANISMS

The human cytomegalovirus (HCMV) lies dormant and unnoticed in the body of up to 90 per cent of people for their entire lives. However, it can cause life-threatening infections in immunocompromised people. The virus infects dendritic cells, although the genetic programme of the virus is only immediately executed in a few

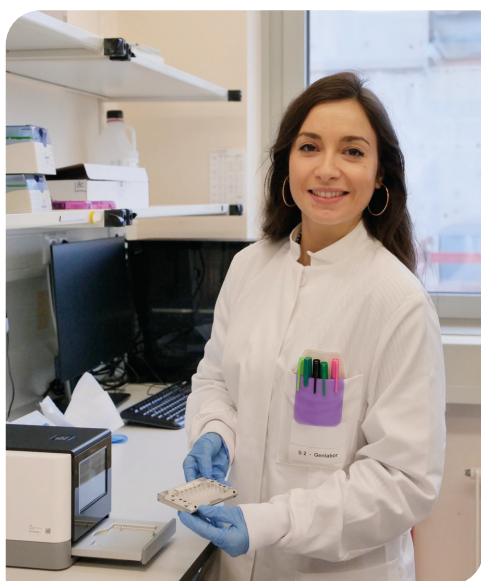
of these immune cells. Researchers led by Prof. Kalinke from TWINCORE have now been able to show which signalling pathways of the innate immune system the virus infects in order for it to be reproduced from within the host cells. They have published these results in the journal *Nature Communications*. [Nature Communications](#).

The researchers identified three groups of dendritic cells, one of which is more susceptible to infection than the others. "Using single-cell RNA sequencing, we found that in these cells the signalling pathway that normally recognises viruses is virtually hijacked by HCMV in order to establish the productive infection," says Dr. Bibiana Costa, first author of the study. "This is the so-called STING signalling pathway."

Interferons are messenger substances of the immune system that act directly against viruses, triggering defence cells and other defence processes. In this subgroup of dendritic cells, virus proteins block this protective function and instead reprogramme them so that new virus particles are produced undisturbed.

"We then investigated this viral intervention in the cellular process in more detail to find out exactly which genes in the cells are affected," says Dr. Costa. "We were able to identify several candidates that have either antiviral or proviral properties." Because certain immunomodulating drugs intervene precisely in these signalling pathways, there may be potential here for a therapeutic approach. This seems particularly promising because organ transplant recipients have to take immunosuppressive drugs for the rest of their lives to prevent the immune system from rejecting the transplant. "However, further studies are needed for this," says Prof. Kalinke. In addition to the researchers from TWINCORE, co-operation partners from several research institutions were involved in the study.

The text is based on a TWINCORE press release.



Dr. Bibiana Costa in the lab.

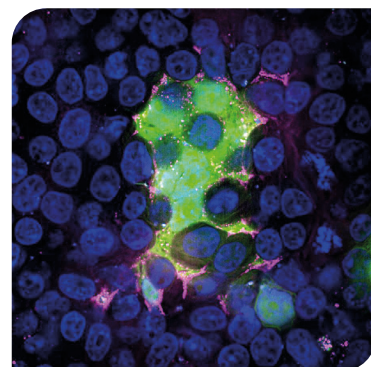
New hope in the fight against RSV

RESEARCHERS DISCOVER PROMISING DRUG CANDIDATE

The respiratory syncytial virus (RSV) causes severe lower respiratory tract infections, particularly in infants and young children. To date, there is neither an antiviral therapy against the virus nor a vaccination for children. This is why researchers led by Prof. Pietschmann at TWINCORE are looking for new active substances against RSV. In a large-scale study, they have now identified lonafarnib as a promising candidate. They have published their results in the journal *Nature Communications*. The first author is Dr. Svenja Sake [Nature Communications](#).

Around one per cent of infants who come into contact with RSV for the first time become so severely ill that they have to be treated in hospital. Adults over the age of 65 can also develop severe courses of the disease due to pre-existing heart or lung conditions. Vaccines have been authorised for older people and pregnant women since 2023, but there is currently no directly antiviral therapy against the RS virus.

The researchers led by Prof. Pietschmann have searched the ReFRAME Library of the Scripps Research Institute (USA) for potential new RSV drugs. It contains around 12,000 active substances that are in clinical development or have already been authorised. From an initial 21 remaining candidates, they focussed on the active substance lonafarnib, whose mechanism of action against the RS virus they investigated in more detail. With the help of Prof. Hirsch, HIPS, and Prof. Krey, University of Lübeck, they clarified the molecular structure of the virus-drug complex. Lonafarnib binds to the fusion protein of RSV and thus



Microscopic image of cells infected with RSV. Green: RSV-F protein labelled with GFP in the cytoplasm of the cells, magenta: RSV-F protein, blue: cell nuclei.

prevents the virus particles from fusing with the membrane of the target cell. As a result, no new cells can be infected. In cooperation with colleagues in France, a reduction in viral load has already been demonstrated in the mouse model. "Administered orally, however, the dose of lonafarnib required is very high, so we have also observed side effects," says Prof. Pietschmann. It is conceivable that local application, for example by inhalation, could improve the ratio between effect and side effect. This must be carefully examined in follow-up studies. "With lonafarnib, we have identified an interesting candidate for the treatment of RSV," says Dr. Svenja Sake, first author of the study.

The text is based on a TWINCORE press release.

First Master's graduates in Biomedical Data Science



Dr. Adrian Schulz was honoured – by Prof. Marschollek, Julia Winkler, Alexander Bräuer, Yasmine Alwie, Anna Selich and Dr. Melina Celik (from left).

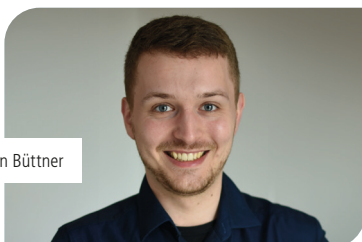
How can artificial intelligence and machine learning improve health? How is it possible for data to help prevent diseases, make diagnoses or make treatment decisions? These and other important questions relating to the collection, processing and analysis of large amounts of data in medical and scientific research are the focus of the four-semester Biomedical Data

Science Master's degree programme, which was created as part of RESIST. It has now produced its first graduates – including Konstantin Büttner and Dr. Adrian Schulz.

"I liked the degree programme because it was easy to get in touch with the lecturers, I liked the practical orientation and gaining experience in the working groups," says Konstantin Büttner. The 29-year-old doctor completed his Master's thesis at the Peter L. Reichertz Institute for Medical Informatics (PLRI) at the MHH and developed a machine learning model: "I trained an AI algorithm file to recognise patterns that can be used to predict organ dysfunction in children being treated in intensive care," he explains. He now works at Heidelberg University Hospital. Among other things, he is currently interested in the integration of machine learning algorithms in the clinic, for example to predict at an early stage whether a patient will develop severe sepsis based on laboratory data and vital



Dr. Adrian Schulz



Konstantin Büttner

parameters such as pulse, blood pressure and oxygen saturation.

Dr. Adrian Schulz also really liked the informal atmosphere of the small cohort on the Master's programme. "The lecturers were always very approachable and interested in our feedback. They went to great lengths to respond to our wishes," says the 33-year-old. In terms of subject matter, he particularly enjoyed the module "Statistical Machine Learning – Artificial Intelligence and Data Analysis". Dr. Schulz studied human medicine before his Master's degree and is now working on clinical decision support systems in Dr. Dominik Wolff's junior research group "iXplain_CDS" at the PLRI. "These systems are able to process large amounts of data in a very short time. They can support doctors in making decisions – for example when making a diagnosis or planning treatment," he explains.

Study "Biomedical Data Science"!

In medicine, healthcare and (bio)medical research, it is becoming increasingly important to be able to handle large amounts of data. However, there are still too few experts in this field. The "Biomedical Data Science" Master's degree programme is designed to remedy this situation. It is aimed at graduates of a bachelor's degree programme in biosciences or (veterinary) medicine. The degree programme is located at the interface of biosciences, medicine and computer science, it is characterised by many online formats and thus offers flexible learning and the opportunity to work part-time alongside your studies. It is possible to apply from 1 June to 15 July to start in the winter semester. You can find more information about this degree programme and the application process here: www.mhh.de/master-biomeddat.

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With objects that they find "typically German" (from left): Shruti Chopra, Ximena Leon Lara and Dr. Xiaoyu Zhang.



Motivation comes with ability – and with Mr Sieg

Mastering everyday life, coming into contact with people, understanding the culture – these are the reasons why Dr. Xiaoyu Zhang, Shruti Chopra and Ximena Leon Lara, who came to RESIST in Germany from China, India and Mexico, have been learning German for a long time. The "German as a foreign language" course, which teacher Artur Sieg has been offering to RESIST researchers since August 2020, is helping them in their endeavours.

The students, like many other researchers, have come to Hanover to write their doctoral thesis as part of RESIST or to conduct research as a postdoctoral researcher. In everyday working life, English would suffice, but these three researchers are taking part in the online course, which takes place once a week, together with two other young researchers.

"My knowledge of German helps me to cope better with everyday life," says [Dr. Xiaoyu Zhang](#). Although her German language skills are already very good, she would like to invest even more time and energy in vocabulary and pronunciation to feel even more comfortable in the language. Since October 2020, she has been attending German classes whenever her demanding and sometimes exhausting daily work as a postdoc allows.

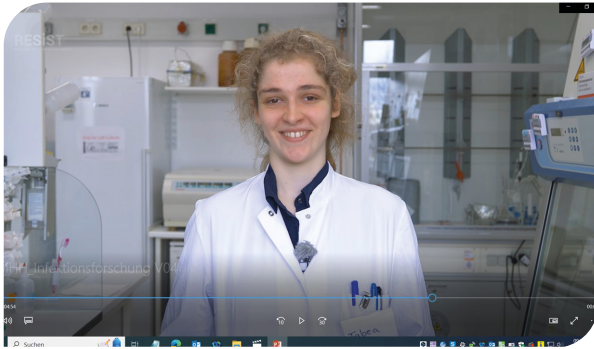
The 32-year-old studied pharmacy and medicinal chemistry at China Pharmaceutical University, where she received her bachelor's degree in 2014. In 2020, she completed her doctorate in pharmacology at the Chinese Academy of Medical Sciences; her topic was the discovery of novel antivirals against arenaviruses. In March 2020, she joined TWINCORE, where she is working in Prof. Pietschmann's team to identify genetic factors for severe respiratory syncytial virus infections in children.

When [Shruti Chopra](#) came to Germany from India, she not only wanted to do research, but also to familiarise herself with the German language and culture. The German course, which she has been attending since August 2020 whenever she finds time alongside her doctoral research, has helped her in this endeavour: "The course has enabled me to get in touch with more people and understand their culture even better," she says. At first, she was afraid to speak German, but her confidence soon grew and she felt confident enough to order in German in restaurants or cafés. "Mr Sieg made it fun to learn German," she says. She now gets on well with the language: "If someone speaks to me on the street, I can hold a conversation and I once gave a talk in German at a meeting of a small group," she reports.

The 27-year-old studied biochemistry at the University of Delhi. In 2021, she started her doctoral thesis in Prof. Werfel's team at the Department of Dermatology and Allergy. Her work centres on new potential risk genes for eczema herpeticum – a skin infection caused by herpes simplex viruses.

"I knew that I would be living in Germany for a few years, so I studied the language so that I could integrate better into everyday life," says [Ximena Leon Lara](#). The 33-year-old began her doctoral thesis in 2020, after studying medicine and infectious diseases at the National Autonomous University of Mexico. In her project, she is investigating the maturation properties of $\gamma\delta$ -T-cells after premature birth in the team led by Prof. Ravens at the MHH Institute of Immunology. She has been attending the German course since May 2023 and both her German friends and her husband help her to stay motivated. "He is also Mexican, but he speaks better than me because he uses the language at work," she says. She says she found it difficult to learn the language at first. "But the more I learn and practise, the more motivated I am."

Paths into the lab for young researchers



Tabea Gehnen:
She explains the
RESIST programmes
for young
researchers.

"Doing your own research is always exciting – especially when it comes to infections. After all, it's important for everyone, as we've seen during the coronavirus pandemic, for example,"

says young researcher Tabea Gehnen. She guides us through our new video, which shows the diversity of what RESIST researchers at the MHH and TWINCORE offer young people: The "Leibniz Lab" bus travels to school pupils with exciting experiments and at the "UniStem Day" there is the opportunity to do your own research in a laboratory and talk directly to scientists at different career levels.

You can also get a taste of infection research at the "Immunology Day"

and, after leaving school, you have the opportunity to do a Voluntary Year of Science – just like Tabea did. You can find the video "Paths into the laboratory for young researchers" in the RESIST media centre under the following link: <https://www.resist-cluster.de/mediathek/>.

Feel free to share this post!

Dates and times

RESIST seminars

Exciting topics, presented in an interesting way: Every first and third Thursday (except during school holidays), RESIST scientists or top-class researchers from external institutions present their topics at the RESIST seminar series. Come along in large numbers or take part online! The names of the speakers and the exact dates can be found on the RESIST homepage at www.RESIST-cluster.de.

HAGIS

RESIST and the team from the MRC-University of Glasgow Centre for Virus Research (CVR) in Glasgow, Scotland, have created the scientific partnership "Hannover – Glasgow Infection Strategy" (HAGIS) to conduct joint research in the field of infectious diseases and to provide an excellent training environment in the future. The next visit to Glasgow has taken place: Prof. Manns and Prof. Schulz took part in Falko Mohrs' (Lower Saxony's Minister for Science and Culture) visit to Scottish universities from 30 April to 3 May 2024.

Launch of the women's network "WiR"

On 14 May from 14:00 to 15:30 in the conference room in the MHH shop passage, the kick-off of the RESIST women's network "Women in RESIST" (WiR) will take place for all women in RESIST – including PhDs and postdocs. This kick-off event will be mode-

rated by Sonja de Vries. You can find more information about her on the Internet: www.Coaching-Wedemark.de. Dear RESIST researchers, please come and join us. Over coffee and cake, you can get to know each other better and exchange ideas. We will also discuss how the next meetings can be organised. If external researchers are unable to come to Hanover, we will try to organise a transfer. We plan to organise the network meeting once a quarter. If you have not yet registered for the kick-off event and would like to join us, please contact us by e-mail: resist@mh-hannover.de.

IdeenExpo

From 13 to 16 June 2024, RESIST will be represented for the second time with a stand at IdeenExpo, the youth event for technology and science at the Hannover Exhibition Centre. Anyone interested can watch the virtual reality film on the herpes virus infection and take part in a quiz. We look forward to welcoming many visitors!

Bioinformatics Summer School

The second Bioinformatics Summer School will take place from 24 to 28 June. It offers the opportunity to learn more about bioinformatics methods and working methods. The course instructor is Prof. Dr. Thomas Otto from the University of Glasgow. He has already organised the first Bioinformatics Summer School in July 2023, which

was attended by 17 (post)doctoral students and research group leaders. The participants of this summer school will learn the basics of bioinformatics and the "bioinformatics language" in order to be able to carry out some analyses independently.

Symposium in Berlin

On 1 and 2 October, RESIST is organising a joint symposium with the Cluster of Excellence "Balance of the Microverse", Jena, and "Controlling Microbes to Fight Infections", Tübingen, at the Futurium, Berlin. This includes an event for the public on the evening of 1 October. More detailed information will be available from the summer on the RESIST homepage at www.RESIST-cluster.de.

LISA 2024

From 25 August to 6 September, the "Lower Saxony International Summer Academy in Infection and Immunology (LISA)" supported by RESIST will take place at TWINCORE: Young students of biosciences and medicine (Bachelor / Master) who are aiming for a doctorate in immunology or infection research can take part in lectures in which lecturers present their scientific work, as well as practical demonstrations and laboratory rotations. You can find more information on this homepage: www.mhh.de/hbrs/lisa.



Regulars' get-together
at Room Escape

RESIST teams help Sherlock Holmes

Sherlock Holmes is upset. Dr. Watson no longer wants to take part and would rather look after his family – now, of all times, when there are so many cases to solve. A new team is needed. The young RESIST researchers Thu Hien Vu, Marie Schulze, Shruti Chopra, Shruti Chowdhury, Reem Hobolos, Dr. Carina Jacobsen, Dr. Saskia Stein and Nina Plückebaum (from left to right in the photo) as well as Hanan Begali and Hannes Sommer are ready to help:

In "Room Escape Hannover", they stepped into Dr. Watson's shoes at the RESIST regulars' table on 1 February to solve two cases for Sherlock. The players had organised themselves into two teams, of which the "Four Musketeers" team – consisting of Marie, Nina, Saskia and Shruti – found their way out of the room a little faster than the other team.

At the next RESIST regulars' get-together on 21 March, (post)doctoral students met up to play neon golf together. The date for the next junior network meeting is 16 May and this meeting will continue to take place every third Thursday every two months. Please come in large numbers – even if you have never attended before! Please get in touch with Marie Schulze. E-mail: Schulze.Marie-Sophie@mh-hannover.de.

RESIST with virtual reality in the "aufhof"

On 7 February, RESIST was part of the MHH exhibition in the "aufhof", the former Galeria Kaufhof building at the Marktkirche in Hanover's city centre. At the stand of our Cluster of Excellence, numerous interested guests were able to watch a brand new, exciting virtual reality film on herpes virus infection. This film shows in a unique way how cold sore viruses enter the body, which cell components play a role in this infection and how the virus multiplies there. Visitors also had the opportunity to take part in a quiz on herpes viruses. Many guests also enjoyed listening to the presentation by Dr. Stephan Traidl from the MHH Clinic for Dermatology and Allergy on the subject of shingles. All of this took place as part of the presentation of the MHH with its various facets as a maximum care hospital, an institution for cutting-edge research, a university for young medical academics and a training facility, from 6 to 10 February at aufhof.

With VR glasses: Marie Schulze (left) and Josephine Schenk



UniStem Day 2024



One pupil was allowed to take blood samples from Dr. Rahn.

body belongs exclusively to oneself. A particularly exciting part of the day for the young guests was being able to ask researchers – including students, participants in the Voluntary Scientific Year (FWJ) and doctoral students – questions directly after the lectures and guided tours.

The young guests were enthusiastic: "The doctors at the paediatric clinic are very open and flexible. Everything was explained in detail, slowly and well, so that a newcomer like me was able to take it all in," said Melisa Schmidt. "The UniStem Day had a very positive impact on my decision regarding my career choice. The incredibly helpful organisers and doctors contributed to this," reports Nina Harms.

At this year's UniStem Day on 22 March at the MHH, which was organised by RESIST-Professor Prof. Lachmann, PD Dr. Ruth Olmer and Dr. Sylvia Merkert, 24 sixth form students were able to experience stem cell research first-hand.

In the middle of the Easter holidays, they came to the MHH, where Dr. Carlens first gave them an impression of what an incurable lung disease means for those affected. PD Dr. Zweigerdt explained to them how bro-

ken hearts can be healed. Afterwards, the young guests were able to carry out their own experiments in four different laboratories relating to stem cell research, for example they were able to produce macrophages (scavenger cells) in Prof. Lachmann's laboratory and learn about the importance of cells in infection research, or let Dr. Rahn show them the premature baby ward, ultrasound and blood sampling in the paediatric clinic. After a break in the canteen, Prof. Hoppe explored the question of whether one's own

On the annual UniStem Day, research institutions around the world open their doors to interested students to dedicate an entire day to stem cell research.

RESIST – About us



The clinicians and scientists working in the Cluster of Excellence RESIST (Resolving Infection Susceptibility) aim to offer scientific excellence for the people most vulnerable to infections. RESIST researchers work at **Hannover Medical School (MHH)**, **TWINCORE** Centre for Experimental and Clinical Infection Research, **Helmholtz Centre for Infection Research (HZI)** in Braunschweig, **Centre for Structural Systems Biology (CSSB)** Hamburg, **Centre for Chronic Immunodeficiency** Freiburg (CCI) and the **University of Veterinary Medicine Hannover**, Foundation (TiHo). The work of the Cluster of Excellence RESIST is funded by the **German Research Foundation (DFG)**.

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