Junge GfV

NEWSLETTER Issue 4/23

## Highlights

Advice from the expert: "How to resolve a conflict" Reports on jGfV lecture, jGfV lab rotation scholarship, DEEP-DV Interview with Dr. med. vet. Katharina Müller

## **Upcoming events**

<u>06 September – 08</u> <u>September 2023</u> "New and re-emerging zoonotic diseases"

<u>11 September – 13</u> <u>September 2023</u> "Immunobiology of Viral Infections"

<u>14 September 2023</u> (virtual; 5:00 pm) jGfV virology lecture series: EBV

<u>18 October – 20 October</u> <u>2023</u> "Cell Biology of Viral Infections"

### News

### Dear fellows,

we hope you have enjoyed your summer. During the summer break we intensively discussed the results of our recent survey and are looking forward to hearing how you like the new developments within the jGfV. Furthermore, we will continue our Virtual Virology Lecture Series, ACHIEVE with its Methods Seminar Series, and three jGfV working groups (New and Re-emerging Viruses, Immunobiology and Cell Biology) will soon hold their annual workshop. Last but not least, we want to thank all contributors to this issue.

Your newsletter team

# Preface

Thank you for your valuable feedback in the jGfV Survey! Overall, you mainly asked us to improve our communication, to support volunteer work within the jGfV without being a board member, and to increase our offers for postdocs.

**ACHIEVE** really supports young scientists: students, graduate students, postdocs and physicians in training. This year's workshop in Ulm was dedicated to younger virologists, namely students and first year PhD students. Next year's workshop in Vienna will have a slightly different format due to the timing of the annual meeting of the GfV. The focus will be on late PhD students and postdocs.

In addition, **ACHIEVE** has already implemented a virtual methods seminar series and the jGfV organizes the virology lecture series from which everyone can benefit. Both will continue after the summer break.

**ACHIEVE** will soon announce the call for the mentoring program to support young virologists.

As an additional improvement, the jGfV is planning a regular virtual discussion series on various topics to support young scientists.

We will also soon be looking for volunteers who can support the jGfV without being a board member and hope to get a high number of responses.

We will also update and improve the jGfV homepage to make it easier for you to find information about us.

With these measures we hope to do a better job and look forward to hearing how you like the new developments

Feedback is always welcome, even without a survey!



https://www.news-medical.net/health/A-Guide-to-Coping-with-Change.aspx

### **CONGRATULATIONS TO OUR jGfV BEST SUMMER PAPER 2023 AWARDEES**

#### **Christopher Veeck**

"Inhibition of Rab1B Impairs Trafficking and Maturation of SARS-CoV-2 Spike Protein" (Viruses, March 2023)

#### **Felix Dewald**



*"Impaired humoral immunity to BQ.1.1 in convalescent and vaccinated patients"* (Nature Communications, May 2023)

#### **Moritz Petersen**

"Inhibition of Infectious HIV-1 Production by Rerouting the Cellular Furin Inhibitor Serpin B8"" (Journal of Virology, June 2023)





Christopher

Felix

Moritz

#### SAVE THE DATE



2<sup>nd</sup> workshop of the GfV study group ,One Health and Zoonotic Viruses' September 2023, 6<sup>th</sup> to 8<sup>th</sup> – Goslar (Germany)

#### New and re-emerging zoonotic diseases

Prof. Seema Lakdawala, University of Pittsburgh School of Medicine, PA, USA
 Prof. Martin Beer, Friedrich-Löffler-Institute, Riems, Germany
 Prof. Friedemann Weber, Justus-Liebig-University Gießen, Germany
 Dr. Allison Groseth, Friedrich-Löffler-Institute, Riems, Germany

Chairs: Gisa Gerold (University of Veterinary Medicine Hannover, Foundation), Yvonne Börgeling (University of Münster) and Lisa Oestereich (Bernhard-Nocht-Institute for Tropical Medicine)



onehealth@g-f-v.org

# Reports

#### jGfV virology lecture series: HIV

Kristina Hopfensperger, Institute for Medical Virology and Epidemiology of Viral Diseases, Tübingen

In May 2022 the jGfV has initiated a virtual lecture series for young scientists in infection research, that covers basic information about a plethora of different viruses and virus families. The latest lecture in Julv. focused the on human immunodeficiency virus (HIV). The lecture was split in two parts: Prof. Dr. med. Christoph Stephan, the head of the HIV-CENTER at the University Hospital Frankfurt am Main provided the clinical point of view. In addition, Prof. Dr. Frank Kirchhoff, head of the Institute of Molecular Virology at the Ulm University Medical Center, gave a broad overview of the structure, and immune origin evasion strategies of HIV.

Prof. Dr. med. Stephan highlighted that more than 90.000 people are living with HIV in Germany, of which over 80% of cases refer to men who have sex with men. In addition, between 200 and 300 AIDS cases are still recorded in Germany every year, despite the broad availability antiretroviral of therapy. HIV infections are characterized by an acute phase, which usually lasts up to twelve weeks. During this phase, the virus load of the patient increases dramatically, while the CD4+ T-cell count drops. The patient might experience finally selflimiting, flu-like symptoms. During the following chronic phase, the virus load often remains stable. while the CD4+ T-cell count slowly declines. If antiretroviral therapy is not initiated in time, patients develop AIDS. Prof. Dr. med. Stephan further gave insight into the case report of a male patient taking part in the START-study, the first large-scale randomized clinical trial to optimize the timing of antiretroviral therapy initiation for HIV-positive individuals. The results of the study showed, that HIVinfected individuals have a lower risk of developing AIDS or other serious illnesses if the antiretroviral therapy is started soon after the positive test result, instead of waiting until the CD4+ cell count drops to lower levels.

Finally, Prof. Dr. med. Stephan clinically characterized several AIDSrelated diseases that are often observed in the clinics.

In contrast, Prof. Dr. Kirchhoff background provided broad information about HIV. He started with a short overview about the structure and genome of this lentivirus and pointed out, that HIV from originated simian immunodeficiency viruses (SIVs) infecting more than 40 different African non-human primate species. Three of them have transmitted their SIVs to humans on at least 13 independent occasions. However, HIV-1 group M viruses, which cause of 95% all infections over worldwide, originated from a single transmission event from chimpanzees to humans. Prof. Dr. Kirchhoff also discussed why HIV is successful virus. For such a example, the HIV accessory proteins have evolved multiple sophisticated mechanisms to counteract cellular proteins that inhibit HIV replication, so called viral restriction factors. Vif, Vpu, Vpr and Vpx mainly hijack cellular ubiquitin ligases to induce the degradation of restrictive

proteins. In addition, Nef and Vpu hijack clathrin adaptor proteins to reroute restriction factors to cellular compartments, where they can't mediate their antiviral function.

Each lecture concluded with an interactive Q&A round, excellently moderated by Dr. Kristina Hopfensperger, in which current clinical and scientific challenges were discussed. At the end of the session. Prof. Dr. Kirchhoff also provided some general guidelines for a successful career in academia. The next lecture will be held by Prof. Dr. Uta Behrends and PD Dr. Andreas Moosmann on the 14th of September at 5 pm. The topic will be Epstein-Barr-Virus.



#WORLDAIDSDAY

https://www.unbonn.org/de/news/unaids-die-deutschebundesregierung-und-die-stadt-bonn-bekraeftigen-ihrepartnerschaft-zur Deadline extended until September 1<sup>st</sup>



# 22<sup>nd</sup> Workshop "Immunobiology of Viral Infections"

September 11-13 Bad Salzschlirf, Germany

# **Keynote Speakers:**

Dr Rosa Lozano-Durán "Manipulation of plant cells by geminiviruses" Dr Lisa Oestereich "Immune responses against Lassa virus infection" Dr Leo Swadling "T cell correlates of protection in viral infection"



**Register now!** 

## Synopsis DEEP-DV summer school and international symposium July 2023

Thalea Buchta, Baxolele Mhlekude, Nicole Fischer, and Melanie Brinkmann

The DFG-funded research unit FOR5200 "DEEP-DV" held its first international summer school at an inspiring venue: the Centre for Structural Systems Biology (CSSB) on the DESY campus in Hamburg. The impressive architecture and welcoming atmosphere of the CSSB building served as an ideal stage to facilitate lively scientific interactions of 120 participants for three days, focusing "high-resolution on virology" and covering the core areas Imaging, OMICs, and Data Science in the context of viral infections. This event gave participants excellent an opportunity to gain an understanding of the complexity of viral infections by exploring various OMICs technologies, state-of-theart bioinformatic analyses, and advanced microscopy techniques, including imaging at the resolution of viral and host protein structures mapping of viral well as as infections at the atomic and singlecell level.

# Mixture of plenary, short, and flash talks combined with poster sessions

After a cordial welcome by the DEEP-DV speaker team Melanie Brinkmann and Nicole Fischer, the Kay CSSB director Grünewald launched the first session on imaging and integrative virology. Throughout this interdisciplinary conference, plenary talks given by invited speakers in the fields of virology, cell biology, biophysics, bioinformatics, mass spectrometry, as chromatin well and as provided transcription research deep insights into captivating virology-related topics such as chromatin remodelling, nuclear compartments, and molecular switches in infection. This interdisciplinary composition invited the audience to think out of the box, and triggered new ideas and collaborations. The plenary talks were followed by a series of selected short talks, followed by FLASH talks and poster sessions, where young researchers from different career stages had the opportunity to their present scientific work.

Almost every short talk was accompanied by a poster on display, giving plenty of room to intensify discussions if a talk had sparked interest.

#### Science in 120 seconds

The FLASH talk format was particularly well received by the audience: 22 young researchers pitched their projects in 120 seconds, and it was fascinating and entertaining to see their creative ways to convey months of work in this short time. From fantastic animations showing the use of a chemical toolbox in biological applications to bioinformaticians who only needed one slide to show how they analyse cell heterogeneity to understand the outcome of an infection, to so much more - you never knew what the next speaker had up their sleeve. This format of talks was FLASH an excellent practice for science communication and giving presentations to larger audiences – and turned out to be a great teaser for the following poster sessions.

*Science writing: addressing your audience* 

addition to the scientific In programme, PhD students and postdocs experienced a satellite "Science lecture on writing: addressing your audience" bv Aditya Sankar, Head of the Scientific Visitor Programme and Training at EMBL Heidelberg. He shared tips, tricks, and pitfalls of writing a paper and gave insights into ways to raise awareness about the process of publishing in science. By sharing personal anecdotes and first-hand experiences, Aditya Sankar gave a highly informative and illustrative talk that will benefit many early career-stage researchers.

#### Collaborations and partners

days of high-resolution Three virology proved how inspiring and motivating face-to-face meetings providing constructive are. feedback and the opportunity to build networks and start new collaborations, especially for young scientists. Without the attendees' openness, expertise, and time, this event would not have been such a success. We would like to sincerely thank all participants and our Cliffe speakers, Anna invited (Charlottesville, VA, USA), Mava Topf (Hamburg), Wolfram Brune

(Hamburg), Torben Heick Jensen (Aarhus, Denmark), Denes Hnisz (Berlin), Thomas Schulz (Hannover), Thomas Quail (Heidelberg), Mathias Munschauer (Würzburg), Matthew D. Weitzman (Philadelphia, PA, USA), Urs Greber (Zürich), and Fan Liu (Berlin) for their inspirational engagement during the entire event.

To learn more about the DFG research unit DEEP-DV, please visit our website:

#### FOR5200 DEEP-DV:

"Disrupt – Evade – Exploit. Gene expression and host response programming in DNA virus infection" <u>https://deep-dv.org</u> DEEP-DV on social media: <u>LinkedIn</u>, <u>Instagram</u>, <u>Twitter</u> The principal investigators of the DEEP-DV research unit, Melanie Brinkmann (TU Braunschweig). Nicole Fischer (UKE Hamburg), Adam Grundhoff (LIV, Hamburg), Jens Bosse (MHH, Hannover, LIV and CSSB, Hamburg), Sabrina Schreiner (MHH, Hannover), Abel Viejo-Borbolla (MHH, Hannover), Markus Landthaler (MDC, Berlin), Benedikt Kaufer (FU Berlin), Thomas Stamminger (Universität Ulm), Lars (Julius-Maximilians-Dölken Universität Würzburg), Florian Erhard (Universität Regensburg), Caroline Friedel and (LMU München) thank the DFG for funding.



Participants of the DEEP-DV summer school in the beautifully designed auditorium of the CSSB on the DESY campus in Hamburg. DEEP-DV/FOR5200 speakers Melanie Brinkmann and Nicole Fischer (first row) hosted 120 participants during the 3-day symposium on high-resolution virology, which provided deep insights into the complexity of virus-host interactions focusing on nuclear events such as chromatin remodelling, nuclear compartments, and molecular switches mapped at the atomic and single-cell level.

## 8th Calicivirus conference, Rotterdam, the Netherlands (7.-11.5.2023)

Nele Villabruna, TiHo Hannover

The Calicivirus conference was organized by Marion Koopmans and Miranda de Graaf from the Erasmus Medical Centre in Rotterdam. The meeting was kicked off with the Kapikian Lecture given by Kim Green (NIH, USA). In the lecture, the milestones of Norovirus research were summarized, starting with the first Norovirus outbreak in 1968 in the Norwalk school to the first breakthrough in establishing norovirus culturing systems in 2016.

The session on vaccines and immunity started with Lisa Lindesmith (UNC Gillings School of Global Public Health. USA) addressing how the first norovirus infection influences subsequent infections. We further heard about a new reverse genetic system, antigenic variation, the sapovirus protease, a promising rhesus macaque animal model, and several candidates vaccine and their potential impact. Melissa Jones (University of Florida, USA) started the session Interplay between host

microbiome and caliciviruses by bacterialintroducing how originated extracellular vesicles influence norovirus infections. Other talks discussed the correlation between gastroenteritis and bacteria and bile acid-mediated immune response. The Molecular epidemiology and evolution session started with Gabriel Parra (Food and Drug Administration, USA) presenting data on the dynamics and restrictions of norovirus recombination. Other talks taught us about the allele frequency of a loss-of-function FUT2 intrahost evolution in gene, immunocompromised patients, and evolution of different the genotypes.

The Epidemiology and transmission session was kickstarted by a talk by Miranda de Graaf (Erasmus MC, Netherlands). in which she summarized the reservoirs where new norovirus variants. recombinants, and genotypes could originate. We subsequently learned about the impact of breastfeeding on gastrointestinal infections, the epidemiology of sapoviruses, and norovirus epidemiology in different settings.

In the sessions Pathogenesis and Replication, Wilen Craig (Yale School of Medicine, USA) and Nihal Altan-Bonnet (NIH, USA) elucidated the role of the tuft cells in murine norovirus infection and a new transmission route for murine noroviruses from suckling pups to their mothers, respectively. Further talks addressed, among others, norovirus replication in zebrafish macrophages, norovirus binding to intestinal tissue of premature infants, sapoviruses cultivation in enteroids. and the of role nonstructural proteins in the of replication formation the complex.

Venkataram Prasad (Baylor College of Medicine, USA) began the Virus structure and entry session with an the insights overview of into norovirus structure and conformation. Talks about Norovirus entry, cell tropism, the impact of ions on the capsid and the stability of the capsid under various environmental conditions followed this presentation.

In the **Food safety and environmental distribution** session, we learned from Dan Li (National University of Singapore, Singapore) about human norovirus infectivity measurement in food safetv. Further talks discussed how PMAxx ideal method is not an to differentiate between infectious and non-infectious norovirus, the calicivirus diversity discovered from seal feces and bat caliciviruses found in clams in Cameroon, and sequencing protocols to genotype norovirus in shellfish.

In the session Burden of disease in low- and middle-income countries, learned about norovirus we epidemiology in. among other countries, Peru and Bangladesh. In Antiviral the control and prevention session, Joana Rocha-(KU Leuven, Pereira Belgium) presented a summary of antivirals targeting noroviruses. Further talks addressed how organoids can be used to test antivirals and if feeding gnobiotic pigs nanobody-secreting yeast could protect them from norovirus infection. The session and with conference ended the introduction of a drug candidate against feline caliciviruses.

The organizers did a fantastic job putting together this conference, which was attended by 235 delegates from all career stages, disciplines, and different countries. The poster sessions additionally nice platform to presented а increase scientific exchange and led to lively discussions. As a final act of the conference, the destination for the next meeting was voted on, and we can all look forward to seeing each other again in Alberta, Canada.



### **jGfV labrotation scholarship report** *Henning Jacobsen, Helmholtz Centre Braunschweig*

Supported by the jGfV lab rotation fellowship, I had the great opportunity to visit the group of Prof. Kai Dallmeier at the Rega institute at KU Leuven (Leuven, BE). I joined his lab to learn some methods flowadvanced of cytometry on hamster cells. I'm currently developing novel vector vaccines against COVID-19 based on murine cytomegalovirus the (MCMV). While we have previously shown that these vaccines can elicit life-long immunity in the cognate host, the really interesting question is, if these vaccines can also cause long-lasting immunity in noncognate hosts, such as the hamster. Since MCMV cannot replicate in hamster tissue, it is yet unclear how long-lasting MCMV-latency in hamsters will be, and how this will affect long-term immunogenicity of such a vaccine vector. Assessing humoral immunity in hamsters is technically easy, however cellular immunity is another story. No antibodies commercially are for flow-cytometry available on cells. Only very few hamster

antibodies have been described to be cross-reactive to hamster cells and allow only a limited view on T cellular immunity after vaccination. In collaboration with Dr. Yeranddy Aguiar Alpizar from Kai's group, we tested a spectrum of potentially antibodies for cross-reactive hamsters and started establishing T cell proliferation assays to assess T cell reactivity in hamsters in more detail. In parallel, we used this opportunity to bring mice that we have previously infected with our vaccine MCMV-based against COVID-19 one year ago to perform challenge experiments with SARS-CoV-2, and to assess post-challenge T cell reactivity in these animals flow-cytometry using and establishing sample-processing а pipeline under BSL-3 conditions. Together, these three weeks have been a very fruitful and fun time allowing me to massively extend my flow-cytometry expertise, connect to brilliant and highly motivated fellow scientists and to set ground unique collaboration for some projects.

I want to thank the whole team at Rega, especially Kai, Yeranddy, Elke Maas and Lara Kelchtermans for their fantastic support and the great time I had in Leuven, my PI Luka Cicin-Sain for supporting my trip, and of course the jGfV for giving me this outstanding opportunity!



Prof. Kai Dallmeier (right) and me (Henning Jacobsen) in front of the Rega institute in Leuven, Belgium.





## Announcement of the "How to..." lecture series

Have you ever wondered how to do a specific method in the lab or do you like to learn from other scientist's hands-on experience? Maybe you are not in a lab yet but interested in getting an overview about the important classical and hot new methods in virology? In both cases, the "How to…" lecture series is for you.

In this talk series, our method experts will give you an overview about the ins and outs of an experimental technique. They walk you through the protocol step-by-step and you'll be able to discuss your questions with equally interested peers. Maybe you even get some helpful tips to improve your research or expand your experimental portfolio!

If you are interested, please register for the free lecture series <u>here</u> or via the QR code.



#### Always on Tuesdays 12-12.45 pm:

Date	Speaker	Topic: "How to"
07.02.2023	Jochen Wettengel	clone smart, select reporter genes, and use Snapgene
07.03.2023	Lennart Köpke	use different tools to make stable cell lines
04.04.2023	Jun-Gen Hu	mutate viruses successfully
06.06.2023	Annett Ziegler	generate high quality flow cytometry data and do FlowJo analysis
04.07.2023	Isabelle Reichert	make beautiful microscopy images for advanced analysis
05.09.2023	Florian Pfaff & Sten Calvelage	generate and analyze next generation sequencing data
10.10.2023	Andreas Walker	get the most out of MinION sequencing
07.11.2023	Daniel Todt	apply the right statistical methods

# ...resolve a conflict with a colleague



Anke Kautz, coach and mediator

Anke Kautz is a graduate media consultat and has worked as a journalist for 25 years. As a trained coach and mediator, she works in scientific institutions. Anke uses her expertise from both fields to address science communication, to coach scientists in this area and to share her knowledge in workshops.

For many people, that sounds like a pretty delicate matter. Addressing the conflict comes with the worry of making the problem bigger. What if the person gets really angry or doesn't see a conflict at all?

Of course, all this could happen. But don't hope the conflict will resolve itself. Address it as soon as possible to prevent it from escalating further. Conflicts could become very contagious to the rest of your team.

And maybe your colleague is even glad that you are addressing the difficult situation between you. So, it's worth looking at how best to address a conflict and come to a good mutual solution.

# Resolving conflicts requires open communication.

But before you approach your colleague, it's good to be clear about the situation yourself. How do you feel? And what would you need to feel better? If you could use a little support for that, check it out here -

https://www.gefuehlsmonster.de/en/selfmanagement/ Once you have reflected on the situation for yourself, ask your colleague to talk to you.

calm setting and trusting Α atmosphere are crucial when discussing sensitive issues with a colleague. Choose the right place where you can have a conversation without distractions. All parties should be able to feel comfortable and relaxed. Therefore, the timing also plays an important role. Talks between here and there are not promising.

#### Confidentiality

Before you start, assure your colleague that the conversation will remain confidential. And ask your colleague to keep what you will say confidential as well. Respecting confidentiality is very important to build trust and openness.

#### **5 Steps Method**

Then describe the conflict from your do you of view. How point experience the situation? Share vour observations of a situation or problem. You can start How could a good solution look like? with:

I noticed that...

I experienced the situation as follows...

From my perspective, the problem is...

Describe the effect this has on you.

This means for me... For me this has the following effects...

Voice your feelings

I felt...insecure. I was...angry, sad... This confused me... and the underlying needs. and I need more information, and I need your support, and I need clarity.

Then ask the other person to describe their view of the situation.

How did you experience this? What is your view on the situation?

Formulate your request.

For me it would be helpful, if...

#### **Active Listening**

To understand each other properly, you can use Active Listening as a tool. That means to demonstrate genuine interest in your colleague's perspective. Give the other person your undivided attention, maintain eye contact, and avoid interrupting the person with your own thoughts or conclusions. Also, show empathy and try to understand the other person's feelings.

#### Find a common goal

You must find common ground to resolve the conflict. One helpful way is to find areas where you agree or share common goals. Focus on mutual interests and look for a solution that benefits both parties. In order not to limit yourself in your ideas, use brainstorming as a method. In this way, you can explore different ideas and work towards finding a solution that addresses both perspectives.

#### **Solution Cards**

A helpful tool are solution cards. To do this, both parties write on moderation cards: "I am ready to do..." and "I wish..." One idea per card. No conditions shall be written down.

When all the cards are written, one party reads out all its cards. Then it is the other party's turn. After all the cards are face up, they are sorted. Here, an "I wish card" from one party is always combined with an "I am ready card" from the other party. You can use this to come to a mutual agreement.

#### Seek mediation if necessary

If you're unable to reach a resolution through direct discussions, involve a neutral third party. Ask your institute for a mediator, to facilitate the conversation and help find a resolution. You should also ask a mediator if the conflict has existed for a long time.





#### **Structural conflicts**

When resolving conflicts, have in mind that often the circumstances in which you are working will encourage or cause conflicts between people. So, if it is a structural conflict, you can agree on how best to deal with the situation. On the other hand, you could address the problem to those responsible.

Especially in the context of science, there are several conditions that favour conflicts - temporary contracts, high pressure and an uncertain career future are just a few of them.

#### Summary

Remember, conflicts are natural, and resolving them constructively can lead to stronger (working) relationships.

Addressing conflicts requires patience, active listening, and a commitment to finding a solution that benefits all people involved. By addressing conflicts in a timely and constructive manner, you can promote more harmonious and productive work for your entire research group or team.

If you have topics for the "how to" section we have not yet touched, please email to jGfV@Gf-V.org.

# **Online-Weiterbildungszirkel**

## des jGfV-Arbeitskreises "Klinisch-virologische Forschung"

# Inhalt und Ziele

- Vorträge zu Themen der diagnostischen und klinischen Virologie
- Einblick in die verschiedenen universitären und außeruniversitären Tätigkeitsfelder
- Diskussionen zu aktuellen Themen
- Vernetzung unter jungen klinischen Virologinnen und Virologen
- Vorbereitung auf die Facharztpr
  üfung

## <u>Wer</u>:

Alle Ärztinnen/Ärzte und Fachvirologinnen/Fachvirologen in Weiterbildung (und auch darüber hinaus)

## <u>Wann</u>:

Jeden ersten Freitag des Monats um 10:00 Uhr

## <u>Wo</u>:

Online-Veranstaltung (Zoom)

# Weitere Infos und Anmeldung unter:

https://clinviro.g-f-v.org/online-education-circle/

# Interview with Dr. Katharina Müller



Katharina Müller studied veterinary medicine at the Ludwig-Maximilians-University of Munich from 2009 - 2015. She then completed her PhD and part of her microbiology residency in the Department of Virology at the Institute for Infectious Diseases and Zoonoses in Munich. At the end of 2017, she joined the Bundeswehr as a Captain (VC) and started working at the Bundeswehr Institute of Microbiology. In the Department of Bacteriology and Toxinology, she completed her resident training and successfully passed the examination to become a board-certified specialist in medical microbiology in 2021. Since October 2022, she is the head of the Division for Medical Bio-Reconnaissance and Verification with the rank of Lieutenant Colonel (VC).

#### Interviewers:

Maximilian Kelch, PhD Student, Institute of Medical Virology, Frankfurt Dr. Nele Villabruna, Postdoc, TiHo Hannover

#### **QUESTIONS:**

1. You are the leading Scientist of "The Division for Medical Biological (Med. B) Reconnaissance and Verification" task force within the Bundeswehr Institute of Microbiology (IMB). What is the focus and aim of your work?

A. The Division for Med. B-Reconnaissance and Verification is the IMB's mobile and rapidly deployable diagnostic unit. It consists of a mobile field laboratory and a reconnaissance element. Our mission is to bring the Institute's extensive diagnostic capabilities and expertise directly to the field and make them available to protect our soldiers worldwide. This includes rapidly identifying diseases caused by potential biological warfare agents or other dangerous pathogens, identifying treatment options, and recommending appropriate mitigation measures. The Division is challenged to provide diagnostic methods and medical expertise for a very broad spectrum of biological agents, including a large number of relevant differential diagnoses.

2. At what point in your career did you decide to work for the Bundeswehr? What was your main motivation, and how did you approach this?

**A.** I had known for a long time that I wanted to become a veterinarian and then work in the field of infection research. At the same time, it was very important to me to do applied research rather than basic research, and I have always had a special interest in neglected and zoonotic pathogens (some of which are rare to non-existent in Germany and therefore often of little research interest) - all of Bundeswehr which the offers. That's why my interest in the Bundeswehr grew especially during my studies. In the end, chance helped a little, because just as I was finishing my doctorate in virology, I actually came across a iob advertisement for the Bundeswehr Institute of Microbiology, looking for a specializing veterinarian in microbiology. So I took the chance, applied directly to the institute and, after receiving the job offer, joined the Bundeswehr as a Captain (Stabsveterinär).

3. In your opinion, what are the main pros and cons of working in academia and the Bundeswehr?

A. For me, academia is one of the few places (maybe the only place) where you can maintain a nearly constant high pace of learning. It allows you to innovate, to pursue new and sometimes unconventional ideas. to fail and still learn something important. It's a non-stop learning process that can offer great flexibility and opportunity. However, especially in the field of (medical) science, money always plays a major role. Many research institutes have to finance large part of their а projects by raising funds from third parties. As a result, research is often externally oriented and grant-driven. This often makes it difficult to conduct research in niche areas, for example, because there is often little or no funding available, which is of course a major disadvantage in academia and science as a whole.

It's a bit different for the Bundeswehr, because we don't have to rely so much on external funding; instead, we can do almost all of our research with the government funding we receive. Nevertheless, we regularly acquire various third-party projects, but that is more like the icing on the cake. However, the Bundeswehr Institute for Microbiology is of course a research institution of the Federal Ministry of Defence and as such has a predefined, specific mission. While we have the advantage that we are not dependent on third-party funding and therefore do not necessarily have to follow "current popular research trends", we are, on the other hand, dependent on the definition of our research corridor. This means that as long as you are interested in our defined research areas, you can flourish academically without any major restrictions.

4. What would you advise researchers and students interested in pursuing a career at the Bundeswehr? At what career stage should this be considered? Is it, for example, possible to do a PhD at the IMB?

**A.** Just as many roads lead to Rome, so many roads lead to a career in the Bundeswehr. If you want to become a physician or veterinarian, there is of course the possibility to study directly with the Bundeswehr. This, of course, requires that you enlist for military service. However, there are many other (civilian) ways to work with the Bundeswehr and especially with the IMB. We regularly supervise a large number of bachelor's and master's theses in many areas of the life sciences, such as (molecular) biology, biochemistry and biotechnology. We also offer doctoral theses, including for physicians and veterinarians. In addition, the IMB is authorized to specialist training conduct to become a board-certified specialist in medical microbiology (3 years) and veterinary microbiology (full 5 years). And, of course, there is always the possibility to do an internship to get to know the institute and its research areas.

### 5. Finally, what is your advice for people interested in working for the Bundeswehr? What are the main considerations?

**A.** Most people think of people in uniform when they think of the Bundeswehr. But as mentioned above, the military path is not the only way to build a career in the Bundeswehr. So the first and, in my opinion, most important question that everyone should always ask first when considering а career in the Bundeswehr is: am Linterested in a military or a civilian career? Both are possible in the Bundeswehr and especially at the IMB, and even though the fields of work and responsibilities sometimes overlap, there are of course some major differences that need to be considered.

Thank you very much, Dr. Katharina Müller, for this interview!



Interesse an der klinischen und diagnostischen Virologie als Naturwissenschaftler\*in oder Veterinärmediziner\*in?

Dann wäre das Zertifikat für Medizinische Virologie und Infektionsprävention ("Medizinische/r Fachvirologe/in) der GfV vielleicht das Richtige?

## VORTEILE

- Qualifikation zur technischen Leitung eines Labors der medizinischen Virologie
- ggf. medizinische Freigabe technisch validierter Ergebnisse der Virusdiagnostik

Weitere Informationen unter:

https://g-f-v.org/zertifikat-fachvirologe/

# Job posts & Advertisements

### **Conferences / Workshops / Seminars**

<u>06 September – 08 September 2023</u> 2<sup>nd</sup> workshop "New and re-emerging zoonotic diseases" Goslar, Germany <u>https://onehealth.g-f-v.org/</u>

<u>06 September – 08 September 2023</u> DACh Epidemiologietagung 2023 Leipzig, Germany <u>https://www.dvg.net/tagungen/termine/dach-</u> <u>epidemiologietagung-2023/</u>

<u>10 September – 13 September 2023</u> Annual Conference 2023 of the Association for General and Applied Microbiology (VAAM) Göttingen, Germany <u>https://www.vaam-kongress.de/</u>

<u>11 September – 13 September 2023</u> 22<sup>nd</sup> workshop "Immunobiology of Viral Infections" Bad Salzschlirf, Germany <u>https://immunviro.g-f-v.org/</u>

<u>13 September – 15 September 2023</u> (hybrid) 41. Jahrestagung der DVG-Fachgruppe "AVID" 2023, Bad Staffelstein, Germany <u>https://www.dvg.net/tagungen/termine/41-</u> jahrestagung-der-dvg-fachgruppe-avid-2023/

In this section, we will post any job vacancies or workshops / conferences. If you are aware of any advertisements, please email to <u>jGfV@G-f-V.org</u> or post them on SLACK. <u>14 September 2023 (virtual; 5:00</u> <u>pm)</u> jGfV virology lecture series:

EBV – from a molecular to a clinical point of views by PD Dr. Andreas Moosmann & Prof. Dr. Uta Behrends

https://us06web.zoom.us/meeting/r egister/tZMvduGgrj8sH9TTTShBXFsA gPtB-QlgXHX#/registration

<u>17 September – 20 September 2023</u> 9th ESWI Influenza Conference Valencia, Spain <u>https://www.eswiconference.org/</u>

<u>18 September – 20 September 2023</u> 75. Jahrestagung der Deutschen Gesellschaft für Hygiene und Mikrobiologie e.V. Lübeck, Germany <u>https://dghm-kongress.de/</u>

<u>19 September – 23 September 2023</u> International HBV Meeting Kobe, Japan <u>https://www.hbvmeeting.org/</u>

20 September – 22 September 2023 International Symposium "Respiratory RNA viruses: from the laboratory to the clinic" Marburg, Germany <u>https://www.sfb1021.de/event/inte</u> <u>rnational-symposium-sfb-1021-kfo-</u> 309/ 23 September – 26 September 2023 10th European Meeting on Viral Zoonoses St. Raphaël, France <u>https://escv.eu/portfolio-</u> <u>posts/10th-european-meeting-on-</u> <u>viral-zoonoses/</u>

25 September – 26 September 2023 DZIF annual meeting Hanover, Germany <u>https://www.dzif.de/en/event/dzif-annual-meeting-2023</u>

<u>01 October – 04 October 2023</u> 29<sup>th</sup> International Symposium on Hepatitis C Virus, Flaviviruses and Related Viruses Atlanta, GA, USA https://www.hcv-flavi2023.org/

<u>09 October – 11 October 2023</u> Zoonoses 2023 - International Symposium on Zoonoses Research Berlin, Germany <u>https://www.zoonosen.net/zoonose</u> <u>s-2023-international-symposium-</u> <u>zoonoses-research</u>

<u>18 October – 20 October 2023</u> 21<sup>st</sup> workshop "Cell Biology of Viral infections" Kloster Schöntal, Germany <u>http://cellviro.g-f-</u> <u>v.org/registration\_abstracts/</u> 20 October – 22 October 2023 10th European Seminar in Virology (EuSeV) "Novel Concepts in Antiviral Vaccines and Immunotherapy" Bertinoro, Italy <u>https://www.ceub.it/events/event/1</u> <u>Oth-european-seminar-in-virology-</u> <u>eusev-novel-concepts-in-antiviral-</u> <u>vaccines-and-immunotherapy/</u>

22 October – 25 October 2023 Medical Biodefense Conference Munich, Germany <u>https://conference.instmikrobiobw.d</u> <u>e</u>

<u>17 November – 21 November 2023</u> Facharztrepetitorium Medizinische Mikrobiologie, Virologie und Infektionsepidemiologie Online Meeting <u>https://www.dghm.org/facharztrepe</u> <u>titorium/</u>

<u>29 November – 1 December 2023</u> Symposium "40 years of HIV science" Institute Pasteur, Paris, France www.40yhivscience.conferencespasteur.org

<u>30 November – 01 December 2023</u> 45<sup>th</sup> NDI3 Symposium - New Developments in Inflammation, Infection and Immunology Borstel, Deutschland https://ndi3.fz-borstel.de/program

<u>4 December – 7 December 2023</u> RETROPATH workshop on retroviral pathogenesis Trento, Italy <u>https://www.retropath2023.org/</u>

<u>11 December – 12 December 2023</u> 1<sup>st</sup> workshop "Young PI virology faculty" Marburg, Germany https://youngpi.g-f-v.org/events/

<u>03 March – 06 March 2024</u> 31<sup>st</sup> Conference on Retroviruses and Opportunistic Infections (CROI) Denver, Colorado, USA <u>https://www.croiconference.org/pre</u> liminary-agenda-2024/

25 March – 28 March 2024 Annual meeting of the Society for Virology (GfV) Vienna, Austria <u>https://g-f-v.org/events/33rd-</u> <u>annual-meeting-of-the-society-for-</u> <u>virology/</u>

<u>08 April – 12 April 2024</u> EMBO Workshop Pathogen immunity and signaling San Servolo, Italy <u>https://coming-soon.embo.org/w24-</u> 34 <u>11 April – 13 April 2024</u> 32. BÄMI-Frühjahrstagung (Berufsverband der Ärzte für Mikrobiologie, Virologie und Infektionsepidemiologie) Kassel, Germany <u>https://www.baemi.de/?page=</u>

27 April – 30 April 2024 34<sup>th</sup> European Congress of Clinical Microbiology (ECCMID) Barcelona, Spain <u>https://www.escmid.org/dates\_eve</u> <u>nts/eccmid/about\_the\_congress</u>

<u>02 June – 05 June 2024</u> 21<sup>st</sup> Biennial International Conference on Human Retrovirology: HTLV and related viruses London, UK <u>https://www.htlv2024.org/</u>

<u>06 June – 07 June 2024</u> 76. Jahrestagung der Deutschen Gesellschaft für Hygiene und Mikrobiologie e.V. Würzburg, Germany <u>https://www.dghm.org/veranstaltun</u> <u>gen/</u>

<u>06 June – 07 June 2024</u> 17<sup>st</sup> Workshop "Clinical Virological Research" Würzburg, Germany https://clinviro.g-f-v.org/

<u>01 September – 04 September 2024</u> European Congress of Immunology (ECI) 2024 Dublin, Ireland <u>https://www.immunology.org/event</u> <u>s/european-congress-immunology-</u> <u>eci-2024</u>

### **Open positions**

#### **Scientist Position**

Mosquitoes and mosquito-borne zoonoses in Germany Institute of Infection Medicine, Friedrich-Loeffler-Institut (FLI), Greifswald, Germany <u>https://www.fli.de/en/career/vacan</u> <u>cies/vacancy/mitarbeiterin-</u> <u>mitarbeiter-doktorand-in-m-w-d-im-</u> <u>institut-fuer-infektionsmedizin/</u>

#### **Scientist Position**

BMG-funded project "Nigeria Centre for Disease Control: Building capacity to prevent and manage infectious diseases" Robert Koch-Institut, Berlin, Germany <u>https://www.rki.de/DE/Content/Ser</u> <u>vice/Stellen/Angebote/2023/145\_23</u> .html

Scientist Position Scientific computing "Viral Data Science" Leibniz Institute of Virology, Hamburg, Germany <u>https://www.leibniz-</u> <u>liv.de/fileadmin/media/pdf/2023 A</u> <u>uschreibung Data Science Specialis</u> t EN 5.7.2023 bf.pdf Scientist Position Biology and clinical relevance of a HERV-encoded protease Institute of Human Genetics at Medical Faculty, Saarland University, Germany <u>https://www.uni-</u> <u>saarland.de/fileadmin/upload/verwa</u> <u>ltung/stellen/Wissenschaftler/W236</u> 1.pdf

PhD Student Position

HIV-1 pathogenesis at the laboratory of Prof. Dr. Oliver T. Fackler, Center for Infectious Diseases, Integrative Virology, CIID University Hospital Heidelberg, Germany <u>https://karriere.klinikum.uniheidelberg.de/index.php?ac=jobad&</u> <u>id=19766</u>

PhD Student Position

Epidemiology, Biostatistics and Clinical Research in the group of Dr Johannes Mischlinger Department of Clinical Research, Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany <u>https://jobs.bnitm.de/PhD-Studentin-Medical-Sciences-mfd-engj303.html7</u> PhD Student Position Functional analysis of a Rat Cytomegalovirus protein Institute of Virology, University Hospital Essen, Germany <u>https://g-f-v.org/en/job/phd-</u> <u>student-position-m-f-d/</u>

Postdoctoral Position Interaction between Cytomegalovirus proteins and the immune system Institute of Virology, University Hospital Essen, Germany <u>https://g-f-</u> v.org/en/job/postdoctoral-position-<u>m-f-d/</u>

Postdoctoral Position HIV-1 pathogenesis at the laboratory of Prof. Dr. Oliver T. Fackler, Center for Infectious Diseases, Integrative Virology, CIID University Hospital Heidelberg Germany <u>https://karriere.klinikum.uniheidelberg.de/index.php?ac=jobad&</u> id=19767

<u>Postdoctoral Position</u> Novel diagnostic tools and therapeutics against infectious diseases caused by emerging viruses and bacteria Fraunhofer Institute for Translational Medicine and Pharmacology (ITMP), Munich, Germany <u>https://jobs.fraunhofer.de/job/M%C</u> <u>3%BCnchen-Postdoc-Scientist-</u> <u>Virology-%28mfd%29-</u> <u>80799/970046001/</u>

<u>Postdoctoral Position</u> Diversity and evolutionary dynamics of viral hemorrhagic fever (VHF) Department of Virology, Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany <u>https://jobs.bnitm.de/Post-doctoral-</u> <u>researcher-mfd-NGS-Virology-EG-</u> <u>13-TV-AVH-ful-eng-j302.html</u>

Postdoctoral Position Joint project on foot-and-mouth disease 8FMD) with the U.S. Department of Agriculture Institute of Diagnostic Virology, Friedrich-Loeffler-Institut (FLI), Greifswald, Germany https://www.fli.de/en/career/vacan cies/vacancy/postdoctoralresearcher-postdoc-m-f-d-in-theinstitute-of-diagnostic-virology-is/ <u>Postdoctoral Position</u> Innate immune defence against viral infections in animal species University of Canberra, Canberra, Australia <u>https://g-f-</u> v.org/en/job/postdoctoral-researchfellow/

Postdoctoral Position DZIF-funded project "Lead Optimization of AHPs as Novel CMV Inhibitors" at the research group Quantitative Virology (Prof. Dr. Jens Bosse) enter for Structural Systems (CSSB), Hamburg <u>https://g-f-</u> v.org/en/job/postdoctoral-fellow-fd-m/

<u>Group Leaders</u> Data-Driven Epidemiology and Biology of Infection Umeå University together with The Laboratory for Molecular Infection Medicine Sweden (MIMS) and the SciLifeLab & Wallenberg National Program for Data-Driven Life Science (DDLS), Umeå, Sweden <u>https://g-f-v.org/en/job/two-groupleaders-in-data-driven-</u> epidemiology-and-biology-ofinfection/ <u>Group Leader</u> Head of Department "Infectious Diseases" Robert Koch Institute, Berlin, Germany <u>https://interamt.de/koop/app/stelle</u> <u>?0&id=985885</u>

Medical specialist in microbiology, virology and infectious disease epidemiology Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany https://jobs.bnitm.de/FacharztFacha erztin-mwd-fuer-Mikrobiologie-Virologie-und-I-eng-j298.html

Senior physician Institute of Virology, University Hospital Bonn https://karriereamukb.de/offer/obe rarzt-m-w-d-institut-furvirolog/a73c6fe4-4842-43f1-8e27-307bf8723f40

### Funding / Awards

Best "Paper of the Season" award for early career virologists - by the young Society for Virology Germany (jGfV)

Application deadline: 01 September 2023

https://g-f-v.org/wpcontent/uploads/2022/03/jGfVawards-and-scholarships.pdf

Lab rotation scholarships for early career virologists - by the young Society for Virology Germany (jGfV) Application deadline: 15 October 2023

https://g-f-v.org/wpcontent/uploads/2022/03/jGfVawards-and-scholarships.pdf

Emmy Noether Program (DFG) https://www.dfg.de/foerderung/pro gramme/einzelfoerderung/emmy n oether/

MSCA Postdoctoral Fellowships https://ec.europa.eu/info/fundingtenders/opportunities/portal/screen /opportunities/topicdetails/horizon-msca-2022-pf-01-01

#### Useful Webpages

Graduate Student Funding Opportunities – compiled by the Johns Hopkins University <u>https://research.jhu.edu/rdt/fundin</u> <u>g-opportunities/graduate/</u>

https://research.jhu.edu/rdt/fundin g-opportunities/graduate/

https://www.nature.com/naturecar eers/jobs/search?text=virology&loca tion=

https://careers.cell.com/searchjobs/ ?Keywords=virology&radialtown=&L ocationId=&RadialLocation=20

https://www.jobvector.de/stellensu che/?keyword=virologie&sort=score &pn=1

https://www.dfg.de/

https://g-f-v.org/

https://fems-microbiology.org/

# Announcements

- Don't forget to apply for the best jGfV fall paper award. Deadline is September 1<sup>st</sup>
- ACHIEVE will soon open to the call for the mentoring program: <u>https://achieve.g-f-v.org/mentoring/</u>
- If you are interested in becoming a jGfV volunteer, please send us an email
- The next deadline for the jGfV lab rotation scholarship is October 15<sup>th</sup>
- Check out our upcoming jGfV lectures, the monthly seminar from ACHIEVE as well us the different workshops: <u>https://g-f-v.org/jgfv/</u>

#### IMPRESSUM

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