

Send us your news to [evbc@uni-jena.de](mailto:evbc@uni-jena.de).

For more frequent updates, please follow us on Twitter  [EVirusBioinfC](#).

## Selected Publications by EVBC Members

 [All publications on Pubmed](#)

Computationally created de novo antibody efficiently neutralized multiple HCV genotypes. (*Immunity*: [10.1016/j.immuni.2021.12.003](#))

Removing hunting pressure enhances the role of males in transmission, increases the viral population growth rate and increases the role of evolutionary forces on the pathogen compared to when hunting was reinstated. (*Nat Ecol Evol*: [10.1038/s41559-021-01635-5](#))

A genome-wide CRISPR screen identified host factors that are crucial for coronavirus replication and constitute potential targets for therapeutic intervention. (*PLoS Biol*: [10.1371/journal.pbio.3001490](#))

Discovery, diversity, temporal stability and functional associations of crAss-like phages in human gut metagenomes. (*Cell Rep*: [10.1016/j.celrep.2021.110204](#))

Quantitative modelling and identification of context-dependent, complexity-informed leverage points to prevent HIV drug resistance. (*Pathogens*: [10.3390/pathogens10121535](#))

Evidence that the date of introduction of HIV subtype A1 in Greece was the earliest in Europe. (*Viruses*: [10.3390/v14010101](#))

Regular application of viral NGS in diagnostics could help evaluate assay performance, identify molecular causes of missed diagnoses and reveal gaps in the respiratory virus set used for local screening assays. (*Sci Rep*: [10.1038/s41598-021-03987-1](#))

Comparative analysis of ten different thogotovirus isolates to answer basic questions about their phylogenetic relationships, morphology and

pathogenicity in mice. (*J Virol*: [10.1128/JVI.01556-21](#))

Methods from medical illustration can be applied to produce detailed visualisations of virus particles which integrate information from multiple sources. (*J Gen Virol*: [10.1099/jgv.0.001730](#))

Analysis of HIV quasispecies after kidney-liver transplantation: Despite signs of viral evolution in transplant recipients, HIV genetic heterogeneity did not increase over the course of the months of follow up. (*Virol J*: [10.1186/s12985-021-01730-w](#))

A standard two-part "binomial nomenclature" is now the norm for naming virus species: distinction between "virus" and "virus species" and guidelines for naming and writing them correctly. (*Arch Virol*: [10.1007/s00705-021-05323-4](#))

Phage Annotation Guide: 14 questions that should be addressed before submitting a genome sequence to the International Nucleotide Sequence Database Collaboration or writing a publication. (*Phage*: [10.1089/phage.2021.0013](#))

### Reviews / Commentaries / Editorials

SnapShot: overview of different HERV families, how they are controlled, and their functional impact on diseases such as cancer and neurological disorders. (*Cell*: [10.1016/j.cell.2021.12.028](#))

Review on mononegaviruses, how they express their genetic information and carry out their RNA synthesis. (*Viruses*: [10.3390/v13122466](#))

## Tools and Resources

 [Virus tools website](#)

**mVIRs**: Localisation of inducible prophages using NGS data.

**ViralFlow**: reference guided genome assembly of SARS-CoV-2.

## EVBC Special Issues

 [Special issue list](#)

New publications in Special Issue on **Virus Bioinformatics 2022**:

**ViralFlow**: a versatile automated workflow for SARS-CoV-2 genome assembly, lineage assignment, mutations and intrahost variants detection. *Viruses* [10.3390/v14020217](#)

Submit your work.

Deadline: **30 April 2022**

## Vacancies

 [Find a job](#)

**Research Assistant (PhD student) in bioinformatics** | Laboratory for Applied Bioinformatics and Sequencing of Viral Genomes and Transcriptomes, Friedrich-Loeffler-Institute  
Application deadline: **11 February 2022**

**PhD student in Bioinformatics (computational virology)** | Institute for Virology and Immunobiology, University of Würzburg  
Application deadline: **16 February 2022**

## viruses *in silico* | EVBC Lectures

 [Register](#)

**The promise of mass spectrometry-based virus proteomics: taking a peek at current bioinformatics applications and limitations**

28. February 2022 | 03–04 pm CET

**online**

*Dr. Thilo Muth, BAM, Germany*

Driven by recent technological advances and the need for improved viral diagnostic applications, mass spectrometry-based proteomics comes into play for detecting viral pathogens accurately and efficiently. However, the lack of specific algorithms and software tools presents a major bottleneck for analyzing data from host-virus samples. In this presentation, an overview is given on current bioinformatics developments that aim to overcome the above-mentioned issues using algorithmic and statistical methods.

## ECR Viromics Webinar Series

 [Register](#)

The EVBC, together with the Center of Microbiome Science at Ohio State University, and the NSF EMERGE Biology Integration Institute are starting a **webinar series for early career researchers studying viruses in complex communities**.

**Growing opportunities for studying microdiversity in viral ecology**

09 Feb 2022 | 05 pm CET

**online**

*Dr. Ann Gregory, Ohio State University, United States*

Please see the **back of the newsletter** to get to know our members!

 [evbc@uni-jena.de](mailto:evbc@uni-jena.de)

 +49-3641-9-46482

 <http://evbc.uni-jena.de/>

 Leutrargaben 1, 07743 Jena

**Board of Directors**

Martin Beer, Li Deng, Bas E. Dutilh, Philippe Le Mercier, Manja Marz, Volker Thiel

## Member Profile: Daniel Todt



**Name:** Daniel Todt

**Position:** Group leader  
"Computational Virology" at  
Department for Molecular &  
Medical Virology, Ruhr  
University Bochum, Germany

**Research focus:** RNA virus  
host interactions & RNA virus  
evolution



### What do you love about viruses?

The fact that the living world as we know probably would not exist without viral gene transfer. They are the driver of evolution.

### Who is your favourite scientist and why?

One of my favourite scientists is Charles Rice. I find it fascinating that he spend almost all of his scientific life with Hepatitis C virus. All the way from discovery to cell culture models and subsequently to Hepatitis C cure. I admire this dedication. And of course Marco Vignuzzi. We seem to share the same scientific interests and he is doing awesome research.

### On what topic could you give a 30-minute presentation without any preparation?

Hepatitis E virus - What is known and what do we need to know?

### What is your favourite way to spend a day off?

Everytime I make it home, I try to go hiking in the Alps. But also a sunny day in the beergarden can be very regenerative.

### What are you currently learning?

How to analyze scRNAseq data

### What is the most interesting question or challenge in science that is still unanswered?

Is there extraterrestrial life?

### What do people think about you that isn't true?

That I know anything about network administration. Just because I have the word "informatics" in my profession doesn't make me an IT expert.

### Is there anything else you would like to share with other EVBC members?

I am currently trying to establish a new virus bioinformatics group here in Bochum. Any advice, help, and collaboration request is very much appreciated ;)

## Member Profile: Janina Rahlff



**Name:** Janina Rahlff

**Position:** Postdoc at the  
Linnaeus University (on a  
DFG-scholarship)

**Research focus:** Viral-bacterial  
interactions at the air-sea  
interface using  
culture-dependent and  
culture-independent methods.



### What do you love about viruses?

Viruses are like little aliens and despite they are not even alive by human definition they are incredibly successful, diverse and abundant. We know so little about them.

### What is your favourite way to spend a day off?

Sleeping in, meeting or talking to people I love, spending time in nature.

### What are you currently learning?

Swedish language, chess, lots of things related to bioinformatics and personally: detachment and letting go.

### What is the coolest thing about your research?

The possibility to go at sea and on cool expeditions, lose myself in exciting data or discussions with colleagues and be a writer/story-teller all within the same profession. What I like most is that I can ask big questions and can actually try to find an answer. Making exciting discoveries is the cherry on the cake.

### What was your most surprising scientific finding?

Most recently: There seem to be viruses in rain that are genetically different from viruses on Earth's ground but still leave a footprint on Earth as prokaryotic hosts from the sea surface show adaptive immunity against these viruses. Little aliens, as said.

### For which project idea are you looking for a cooperation partner?

I'd like to sample viruses from the stratosphere. Someone with an aircraft would be great ;)

### What was your biggest achievement / your biggest failure?

Biggest achievement: to do what I love for a living, biggest failure: there is no failure, there is either success or learning.

### Which scientific topic (outside of your field of research) do you think should have more scientific attention?

The human brain. Why and how do we develop a coherent sense of self and many other mysteries.

### If you had the option to give advice to a younger version of yourself, what would that be?

Don't waste any time to care about and adjust to peer pressure and do what you think is best for you. Question authorities and "common knowledge" and make your own judgement as often as possible. Feel confident in being edgy. And don't be too hard to yourself.

### Is there anything else you would like to share with other EVBC members?

I am very happy to be a member of the EVBC community and say "hello" to everyone!