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Selected Publications by EVBC Members

 [All publications on Pubmed](#)

A virus-borne DNA damage signaling pathway controls the lysogeny-induction switch in a group of temperate pleolipoviruses. (Nucleic Acids Res: [10.1093/nar/gkad125](#))

Efficacy of an unmodified bivalent mRNA vaccine against SARS-CoV-2 variants in female small animal models. (Nat Commun: [10.1038/s41467-023-36110-1](#))

Four principles to establish a universal virus taxonomy: recommendations to guide the construction of a coherent and comprehensive virus taxonomy, based on expert scientific consensus. (PLoS Biol: [10.1371/journal.pbio.3001922](#))

Comparison of drug resistance mutation (DRM) detection by Sanger and NGS in HIV-1 suggest that a substantial fraction of the low-abundance HIV-DRMs may represent sequencing errors and hence should not be overinterpreted in clinical practice. (J Antimicrob Chemother: [10.1093/jac/dkac430](#))

MGNify Genomes: growing collection of biome-specific non-redundant microbial genome catalogues generated using MAGs and publicly available isolate genomes. (J Mol Biol: [10.1016/j.jmb.2023.168016](#))

Rational Design of Profile HMMs for Sensitive and Specific Sequence Detection with Case Studies Applied to Viruses, Bacteriophages, and Casposons. (Viruses: [10.3390/v15020519](#))

Viriforms: new polyphyletic category of classifiable virus-derived genetic elements, juxtaposed to the polyphyletic virus, viroid, and satellite nucleic acid categories. (Biomolecules: [10.3390/biom13020289](#))

Composition and global distribution of the mosquito virome: A comprehensive, searchable database of insect-specific viruses associated with vector mosquitoes from 175 studies, published between October 2000 and February 2022. (One Health: [10.1016/j.onehlt.2023.100490](#))

Different processing, amplification, and sequencing approaches for virome characterization in irrigation waters. (J Sci Food Agric: [10.1002/jsfa.12522](#))

Heritable CRISPR-Cas9 editing of plant genomes using RNA virus vectors: protocol to assemble plant viral vectors for single-guide RNA delivery. (STAR Protoc: [10.1016/j.xpro.2023.102091](#))

Reviews / Commentaries / Editorials / ...

Available sources and approaches for the processing of secondary data for global health digitalisation. (Lancet Digit Health: [10.1016/S2589-7500\(22\)00195-9](#))

Publication shortcuts: If you would like us to add a shortcut to a specific virus (family) or topic, drop us an [email](#).

SARS-CoV-2

influenza

HIV

monkeypox

EVBC Special Issues

 [Special issue list](#)

For our special issue **Virus Bioinformatics 2023** running alongside ViBioM 2023, we have vouchers available for EVBC members. Get in contact if you are interested! We encourage you to publish your work in this SI and present it at ViBioM 2023. However, this is not an obligation for publication.

Published papers so far:

✳️ Rational Design of Profile HMMs for Sensitive and Specific Sequence Detection with Case Studies Applied to Viruses, Bacteriophages, and Casposons. [10.3390/v15020519](#)

Fragment-Based Approaches Identified Tecovirimat-Competitive Novel Drug Candidate for Targeting the F13 Protein of the Monkeypox Virus. [10.3390/v15020570](#)

Tools and Resources

 [Virus tools website](#)

Tools that have been added to our [collection](#) this month, or have now been published. Tools developed by EVBC members are marked ✳️.

✳️ **deepG:** deep learning on (meta)genomic sequences.

✳️ **MGNify Genomes:** Biome-specific Microbial Genome Catalogues.

✳️ **MpoxRadar:** An interactive dashboard for genomic surveillance of mpox.

✳️ **TABAJARA:** rational design of profile HMMs.

✳️ **vAMPirus:** Automated virus amplicon sequencing analysis program integrated with Nextflow pipeline manager.

ViBioM 2023

 [Submit now](#)



Submit now to present at the only conference on virus bioinformatics in **Valencia, Spain, May 24-26, 2023**.

Key dates:

Submission deadline for oral presentations: **15 March 2023**
Notifications for oral presentations: **05 April 2023**
Submission deadline special issue: **30 Jun 2023**

PhD Travel Award:

We offer a PhD Travel Award sponsored by Viruses to enable a PhD student to attend ViBioM. To apply for the award, please submit your abstract for oral presentation and select "I want to apply for the PhD Travel Award."

Submission deadline: **15 March 2023**

Satellite:

The RdRp Summit will take place in the days leading to ViBioM 2023 at the same venue. The registration is independent of ViBioM. The RdRp Summit offers several CZI travel grants for computational virologists from the Global South.

Abstract submission deadline (lighting talks): **25 March 2023**

viruses *in silico* lecture series

[\[regular\] Register](#)

This lecture is designed to keep you up to date with the latest developments in virus bioinformatics, especially new tools that might help you in your research.

Computational identification of highly conserved, structured functional modules in long RNA molecules.

27 March 2023 | 04 pm CET online
Tomasz Krzysztof Wirecki, International Institute of Molecular and Cell Biology in Warsaw, Warsaw, Poland

Tomasz will present a novel computational approach to search for highly conserved, structured functional modules in long RNA molecules, including UTRs and CDSs. The method uses a sliding window approach to carry out secondary structure predictions and utilizes various structure predictors to generate local structures. He will present the software benchmark results based on structures reported for SARS-CoV-2, and initial results of identifying potentially conserved structural modules in other viral taxa.

You can also already [register](#) for our upcoming lectures:

- 24. April 2023 Masayuki Horie, Osaka Metropolitan University, Japan
- 28. August 2023 Dominik Heider, University of Marburg, Germany
- 23. October 2023 Gabriel da Luz Wallau, Bernhard Nocht Institute for Tropical Medicine, Germany

If you are attending the "viruses in silico" lecture regularly and do not want to register every month, you can choose to be permanently registered. You will be added to the mailing list and receive the access details every month. You can unsubscribe at any time.

ICTV/EVBC Automating Virus Taxonomy Register

31 July – 02 August 2023 | Jena, Germany

This summer, EVBC is organizing together with ICTV a [Workshop on Automating Virus Taxonomy](#) in Jena, Germany. The idea of this workshop is to connect virus classification experts to bioinformaticians who make automated tools, share and explore ideas for making the demarcation criteria more FAIR.

ICTV/EVBC Workshop on



**Automating
Virus Taxonomy**

31 July – 2 August 2023

On the first day, after a keynote by Alexander E. Gorbalenya (Applied bioinformatics in virology, University of Leiden, Netherlands), we will focus on **virus classification**. In the morning of the second day, we will look into **classification automation**, and in the afternoon, we will bring both groups together. On the third day, we will have **hands-on sessions**.



The workshop will be hybrid and we hope to see many of you either live or online! Participation is free of charge. [Register now](#).

ECR Viromics Webinar Series

 [Register](#)


This lecture for early career researchers studying viruses in complex communities is organized together with the [Center of Microbiome Science](#) at Ohio State University and the [NSF EMERGE Biology Integration Institute](#).

Interrogating the virome-microbiome interactions to mitigate dysbiosis-associated diseases

08 March 2023 | 04-05 pm CET online
Mohammadali Khan Mirzaei, Helmholtz Munich, Munich, Germany

Upcoming Events

 [Subscribe to Calendar](#)

We do not endorse any of the listings and do not take any responsibility for the accuracy of the information. EVBC members are involved in events marked .

[BC]² Basel Computational Biology Conference 2023

11–13 September 2023 | Basel, Switzerland
Submission deadline: **15 March 2023**

New Members

 [EVBC members website](#)

We are happy to welcome our new members:

- **Arif Nur Muhammad Ansori**, Universitas Airlangga, INA
- **Anamarija Butkovic**, Institut Pasteur, FRA
- **Justine Charon**, INRAE UMR 1332, FRA
- **Ann C. Gregory**, Ohio State University, USA
- **Jean Népomuscène Hakizimana**, Sokoine University of Agriculture, TAN
- **Colin Hill**, University College Cork, IRL
- **Paula Istvan**, University of Oslo, NOR
- **Győző Kaján**, Veterinary Medical Research Institute, HUN
- **Mustafa Karataş**, KU Leuven, BEL
- **Cedric Lood**, KU Leuven, BEL
- **Gabriel da Luz Wallau**, Bernhard-Nocht-Institut für Tropenmedizin, GER
- **Paolo Margaria**, Leibniz Institute DSMZ, GER
- **Moses Masika**, University of Nairobi, KEN
- **Uri Neri**, Tel Aviv University, ISR
- **Anna Onisiforou**, University of Cyprus, CYP
- **Richard Orton**, University of Glasgow, GBR
- **Fabio Pasin**, CSIC Institute for Plant Molecular and Cellular Biology, ESP
- **Tao Zuo**, Sun Yat-sen University, CHN

Vacancies

 [Find a job](#)

The Dept. of **Molecular Immunology at the Ruhr-University Bochum** invites applications from candidates (m/f/d) with an interest in the regulation of gene expression influencing immune responses and the development of immune cells.

Application deadline:

13 March 2023

The group of Dr. Daniel Todt in the Department of Molecular & Medical Virology at the Ruhr University Bochum is seeking a highly motivated and talented **PhD student in Computational Virology**.

Application deadline:

14 April 2023

Member Profile: Noriko Cassman



Name: Noriko Cassman
Position: Junior Group Leader
(Post-Doc)
Research focus: virus
databases



What do you love about viruses?

How viruses infect every branch of life and were maybe even central to its origin

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

Metagenomics

What are you currently learning?

German

If you could create a new invention, what would it be?

Teleportation device

What is the coolest thing about your research?

The more organised our reference databases, the faster our analyses and the more wide-ranging science can be.

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

Meta science (the study of science itself)

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

Always vote for yourself

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

Always open to suggestions for the NFDI4Microbiota virus database!

Member Profile: Vincent Navratil



Name: Vincent Navratil
Position: Research Engineer,
Head of the PRABI-AMSB
bioinformatics core facility.
Université Claude Bernard
Lyon1. FR BioEEnvis.

Research focus: multiscale
modeling of virus/host
interaction network



What do you love about viruses? The way they control and shape everything living on the Earth and beyond

Who is your favourite scientist and why?

Many favourite scientists, including many members of EVBC :-)

On what topic could you give a 30-min talk without preparation?

Talking about virus/host protein-protein interaction networks ...

What is your favourite way to spend a day off?

Sea + sand + swimming

What are you currently learning?

Viral Metagenome Assembled genomes and deep learning.

If you could create a new invention, what would it be?

Add viral language in Google translator.

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

How many years left to Homo sapiens?

What is the coolest thing about your research?

The coolest thing in my research is interdisciplinary collaboration

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

I am virhostnet!

What was your most surprising scientific finding?

How viruses tuned their protein interaction interface with host protein bottleneck and bridges in virus/host theoretical protein-protein interaction network.

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

Real-time identification of viral sequences using MinION

What was your biggest achievement / biggest failure?

Virhostnet and Virhostnet

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

Neuroscience

If you were completely free to choose a scientific topic to work on, which would it be?

Today, explore swimming pool viral dark matter

An advise to a younger version of yourself:

Don't trust older version of yourself!