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Selected Publications by EVBC Members publications on Pubmed

All

Microbial Solutions for Climate Change

📖 This paper calls for urgent, coordinated action to deploy microbe-based solutions at scale as part of climate change mitigation efforts. (Nat Commun: [10.1038/s41467-024-53680-w](https://doi.org/10.1038/s41467-024-53680-w))

Virome and Microbiome Analysis

📖 This study presents a bioinformatics-driven approach to identify and induce prophages in *Faecalibacterium**, revealing active phages with distinct genetic features and potential relevance to gut health. (Microbiol Spectr: [10.1128/spectrum.01066-24](https://doi.org/10.1128/spectrum.01066-24))

Artificial Intelligence and Computational Virology

📖 This study presents a hybrid Graph Neural Network (GNN) and Fully Connected (FC) model to enhance antiretroviral therapy outcome prediction for HIV-1, demonstrating robustness to out-of-distribution drugs. (Comput Med Imaging Graph: [10.1016/j.compmedimag.2024.102484](https://doi.org/10.1016/j.compmedimag.2024.102484))

Genomic Surveillance and Viral Epidemiology

📖 This study combines whole genome sequencing and phylogenetic analysis to investigate the ongoing measles outbreak in Romania, focusing on circulating viral strains and haemagglutinin gene variations. (PLoS One: [10.1371/journal.pone.0317045](https://doi.org/10.1371/journal.pone.0317045))

📖 This study explores the role of protein language models (pLMs) in genomic surveillance, showcasing their ability to predict viral properties and evolution while proposing their integration into pathogen monitoring pipelines. (J Virol: [10.1128/jvi.01601-24](https://doi.org/10.1128/jvi.01601-24))

📖 This study traces over two decades of Japanese encephalitis virus (JEV) circulation in China, revealing multiple introduction events and the environmental drivers of its spread. (J Virol: [10.1128/jvi.01575-24](https://doi.org/10.1128/jvi.01575-24))

📖 This study investigates the disruptions in seasonal influenza circulation and antigenic evolution during the 2009 H1N1 and COVID-19 pandemics, revealing distinct pandemic-related impacts on viral spread in Southeastern Asia. (Nat Commun: [10.1038/s41467-025-55840-y](https://doi.org/10.1038/s41467-025-55840-y))

RNA Viruses and Evolution

📖 This study investigates the genome expansion mechanisms in nidoviruses, revealing factors such as host translation fidelity, genome architecture, and proteome complexity that influence RNA genome size constraints. (Proc Natl Acad Sci U S A: [10.1073/pnas.2413675122](https://doi.org/10.1073/pnas.2413675122))

Virus Meeting Report

📖 This report summarizes key discussions and findings from the 2024 International Soil Virus Conference, highlighting advances in soil viral ecology, future research directions, and the role of viruses in soil ecosystems. (Virus Res: [10.1016/j.virusres.2025.199544](https://doi.org/10.1016/j.virusres.2025.199544))

Antiviral Therapeutics and Immunology

📖 This study reveals a novel mechanism by which the monoclonal antibody 3A6 neutralizes Ebola virus by binding GP_{1,2} in a lifted conformation, providing therapeutic efficacy even in highly viremic animals. (Nat Commun: [10.1038/s41467-025-56452-2](https://doi.org/10.1038/s41467-025-56452-2))

📖 This review explores the antiviral effects of probiotics, highlighting their role in modulating immune responses against respiratory viral infections, including influenza and COVID-19. (Microb Pathog: [10.1016/j.micpath.2025.107377](https://doi.org/10.1016/j.micpath.2025.107377))

📖 - open access X - preprints 📖 - reviews, meta analyses 🔧 - tools

ViBioM 2024

Register



Invited Speakers:

We are thrilled to announce the full list of invited speakers:

- Arvind Varsani, Arizona State University, USA
- Marie Agnes Petit, National Research Institute for Agriculture, Food and Environment - Paris, France
- Richard Neher, University of Basel, Switzerland
- Denise Kühnert, Robert Koch Institute Ludwign- Wildau
- Maria Joao Amorim, Católica Biomedical Research Centre (CBR) - Lisbon, Portugal
- Pieter Ibin, VUB Artificial Intelligence Lab - Brussels, Belgium

For more details about the invited speakers, please visit: [ViBioM 2025 Invited Speakers](https://www.vibiom2025.com).

Abstract Submission Deadline:

Submissions are open until

28 February 2025.

For submission guidelines and details, visit: [Submission](https://www.vibiom2025.com).

RDRP Summit 2025

Register



A satellite conference of EVBC ViBioM 2025
Venue: IHMT NOVA, Lisbon

REGISTRATION

Early bird deadline
March 31 2025



ABSTRACT

Deadline
March 31 2025



RdRp.io

Announcements

✳ EVBC member Aare Abroi has initiated a discussion on “what kind of structural similarity of protein domains is evidence for homology and is the structural similarity at a certain level enough to define (distant) homology.”

Join the discussion: [Discussion Link](#)

✳ EVBC members Prof. Arli Parikesit and Ariz Ansori from Universitas Airlangga, Indonesia, handled a Special Topics issue in Frontiers in Virology.

[Bridging Gaps in Antiviral Therapy – Frontiers in Virology](#)

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.

1st International Symposium on Ancient Pathogen Genomics 12–13 April 2025 | Querétaro, México

The event aims to unite researchers in the field of ancient pathogen genomics, encompassing both ancient DNA and paleovirology studies.

Abstract submission deadline: **13 March 2025.**

One Health Computational Network Symposium 24 April 2025 | University of Glasgow

The symposium will bring together experts in computational preparedness research to enhance our ability to predict, detect, and prevent emerging viral diseases.

Abstract submission deadline: **28 February 2025.**

[BC]² 2025 | Bioinformatics meets AI: Shaping the Future of Data-Driven Biology

08–10 September 2025 | Basel, Switzerland

The tutorials and workshops for BC2 2025 have been selected! For more details, please visit: [BC2 2025 Tutorials & Workshops Information](#).

Abstract submission deadline: **27 February 2025.**

Tools and Resources

[Virus tools website](#)

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

✳ **DesiRNA**: Computational tool using Replica Exchange Monte Carlo to design RNA sequences with specific structures, handling pseudoknots and complex constraints.

✳ **Sphae**: Automated bioinformatics pipeline for rapid phage therapy candidate screening, integrating genome assessment and annotation.

✳ **VirMake**: Flexible and scalable pipeline for viral taxonomic and functional characterization from shotgun metagenomic data.

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We want to know about your **publications, tools, workshops and other events, vacancies** or anything important you would like to share with the EVBC community.

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