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Selected Publications by EVBC Members

 [All publications on Pubmed](#)

Metagenomics

🔗 A European proficiency test revealed that while metagenomic sequencing reliably detects porcine astroviruses across different labs, variations in laboratory methods significantly impact the accuracy of read counts, emphasizing the need for standardized practices in molecular diagnostics. (Microbiol Spectr: [10.1128/spectrum.04208-23](https://doi.org/10.1128/spectrum.04208-23))

🔗 Diverse range of viruses in European white-toothed shrews, highlighting their potential role as reservoirs for zoonotic pathogens and the need for further research on their impact on public health. (Microb Genom: [10.1099/mgen.0.001275](https://doi.org/10.1099/mgen.0.001275))

🔗 🗒️ This review analyzes various metagenomic binning approaches and highlights the challenges and advancements in the field, emphasizing the importance of refining and visualizing microbial community data. (Brief Bioinform: [10.1093/bib/bbae372](https://doi.org/10.1093/bib/bbae372))

Proteomics

🔗 🗒️ X VUStruct, a web-accessible analysis pipeline, enhances the interpretation of genetic variants of unknown significance (VUS) by analyzing their molecular impact within 3D protein structures, aiding clinical decision-making and research in rare genetic disorders. (bioRxiv: [10.1101/2024.08.06.606224](https://doi.org/10.1101/2024.08.06.606224))

Bacteriophages

🔗 Ecological phage therapy, which uses bacteriophages to target dominant bacteria in degraded soils, shows potential to accelerate soil microbiota recovery in ecosystem restoration, though further research and risk management are needed. (Ecol Evol: [10.1002/ece3.70185](https://doi.org/10.1002/ece3.70185))

🔗 🗒️ DepoScope is a novel machine learning tool that accurately identifies depolymerase enzymes and their domains in bacteriophages, enhancing our understanding of phage-host interactions. (PLoS Comput Biol: [10.1371/journal.pcbi.1011831](https://doi.org/10.1371/journal.pcbi.1011831))

🔗 Identification of a widespread ancient bacteriophage lineage, *Candidatus Heliusvirales*, in human gut microbiomes, linking its diversity to lifestyle changes

and disease prevalence. (Nat Commun: [10.1038/s41467-024-50777-0](https://doi.org/10.1038/s41467-024-50777-0))

Genomics

🔗 A comparative analysis reveals significant errors in the genome sequencing and analysis of the Eastern grey kangaroo virus isolate from New South Wales, raising concerns about discrepancies with the previously studied Sunshine Coast isolate. (Sci Rep: [10.1038/s41598-024-68967-7](https://doi.org/10.1038/s41598-024-68967-7))

🔗 Clustering conserved RNA secondary structures in human untranslated regions reveals significant associations with gene functions, providing insights into their roles in biological processes. (NAR Genom Bioinform: [10.1093/nar-gab/lqae089](https://doi.org/10.1093/nar-gab/lqae089))

Immunology

🔗 This study uncovers a novel function of Merkel cell polyomavirus (MCPyV) small T antigen in regulating the type I interferon response, providing insights into its role in infection, tumorigenesis, and immune evasion. (PLoS Pathog: [10.1371/journal.ppat.1012426](https://doi.org/10.1371/journal.ppat.1012426))

Evolution and Taxonomy

🔗 Rhizome concept as a novel framework to understand RNA virus evolution, emphasizing dynamic interconnections and heterogeneity in viral populations and their host interactions. (Sci Rep: [10.1038/s41598-024-68760-6](https://doi.org/10.1038/s41598-024-68760-6))

🗒️ This review explores the evolution and classification of polintons and related viruses, proposing a new megataxonomy that unifies these elements within the subphylum 'Polisuviricotina' in the viral kingdom Bamfordvirae. (Microbiol Mol Biol Rev: [10.1128/membr.00086-23](https://doi.org/10.1128/membr.00086-23))

🔗 The discovery of 'ambiviruses,' a novel group of fungal mobile genetic elements with unique RNA genomes, has led to the establishment of a new ribovirion phylum, Ambiviricota, by the ICTV. (J Virol: [10.1128/jvi.00831-24](https://doi.org/10.1128/jvi.00831-24))

🔗 - open access


✂️ - preprints

🗒️ - reviews

🔗 - tools

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 .

🌟 **VUStruct**: genetic variants of unknown significance

🌟 **DepoScope**: detect phage depolymerases in their genomes

Vacancies

 [Find a job](#)

Scientific Coordinator EVBC. The EVBC is looking for a new Scientific Coordinator. This is a half-time position that can be combined with a research position on e.g. viruses in the RNA bioinformatics lab at the Friedrich Schiller University Jena.


Principal Investigators in Population Health Data Science. The Lunenfeld-Tanenbaum Research Institute (LTRI) of Sinai Health, a University of Toronto affiliated research centre, is seeking two emerging leaders in: (i) **Infectious disease research** and (ii) **Population data linkage research**.

Application deadline:

[More information](#)
20 October 2024

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 .

7th International Viromics Workshop

23–25 October 2024 | Columbus, Ohio, USA

Deep dives on virus identification, virus taxonomy/classification, databases, ecogenomics pipeline, auxiliary metabolic gene analysis, virus-host linkages, and genome annotation.

Registration deadline:

moved to 01 September 2024

🌟 Olivier Zablocki, Matt Sullivan (Organizers)

11th European Seminar in Virology (EuSeV):

"Viral Vectors – from Basic Research to Clinical Application"

21–23 October 2024 | Bertinoro, Italy

Recent advancements in viral gene transfer systems have significantly enhanced basic research and clinical applications, leading to the development and regulatory approval of various viral vector-based therapies, with ongoing efforts to optimize these vectors for specific research and medical uses.

Abstract (oral & poster) deadline:

10 September 2024