

11th Annual BELVIR Symposium

Thursday December 14, 2023

Palace of the Academies, Brussels



PROGRAMME

With the support of



- 8:00 - 8:45 Registration
- 8:45 - 9:00 Welcome address and General Assembly of VZW/ASBL BELVIR
Lieve Naesens (Chair of BELVIR)

9:00 - 9:45 **KEYNOTE LECTURE**
Host range barriers to influenza pandemics
Wendy Barclay (Imperial College London)



Chair: Lieve Naesens (KU Leuven) & Benoît Muylkens (UNamur)

Session I **Viral genomics and evolution**

Chairs: Owen Donohoe (ULiège) & Simon Dellicour (ULB)

Short talks

9:45 - 10:00 **Ulcerative colitis patients possess an unstable gut virome, and faecal microbiota transplantation only results in a minimal phage engraftment dominated by microviruses**
Daan Jansen (KU Leuven)

10:00 - 10:15 **The prevalence of back-and-forth substitutions in the evolutionary landscape of human viruses**
Florian Poulain (UNamur)

Pitch talks

10:15 - 10:20 **Optimization of a long-read sequencing assay for near full-length HIV-1 proviral genome characterization**
Sofie De Braekeleer (UGent)

10:20 - 10:25 **Predicting viral modules of “mass” transmission: Learning novelties in the functional roles of intrinsically disordered regions, folding dynamics and allostery in biologically diverse viral glycoproteins via explainable AlphaFold2-generated conformational ensembles across evolution**
Rachid Tahzima (ILVO)

10:25 - 11:00 *Coffee break in the Marble Room*

Session II Viral pathogenesis and immune response

Chairs: Nick De Regge (Sciensano) & Nicolas Gillet (UNamur)

Short talks

11:00 - 11:15 **Establishment of a novel HEV infection model using human intestinal enteroids**

Nanci Ferreira (KU Leuven)

11:15 - 11:30 **Virus host-interaction networks to identify cellular factors required for the adaptation of avian influenza viruses to humans**

Antoine Gerodez (Sciensano)

11:30 - 11:45 **Gammaherpesvirus infection shape the development and functional programming of bone marrow monocytes**

Arthur Poncelet (ULiège)

11:45 - 12:00 **Comparative analysis of Asian-lineage derived Zika virus strains reveals differences in fetal brain pathogenicity**

Mailis Darmuzey (KU Leuven)

12:00 - 12:05 **Role of goblet cells and intestinal mucus in human norovirus infection and pathogenesis in zebrafish larvae**

Emma Roux (KU Leuven)

12:05 - 12:10 **Respiratory gammaherpesvirus infection exacerbates experimental model of inflammatory bowel disease**

Alexis Balthazar (ULiège)

12:10 - 12:15 **Impact of the phosphorylation of viral RNA-dependent RNA polymerase on viral replication**

Camille Duflos (UCLouvain)

12:15 - 12:20 **IL-4 receptor signaling regulates lung macrophages during helminth coinfection resulting in enhanced gammaherpesvirus permissiveness**

Georgios Petrellis (ULiège)

12:20 - 12:25 **Survival of shrimp (*Litopenaeus vannamei*) during an infection with white spot syndrome virus by behavioral fever**

Mostafa Rakhshaninejad (UGent)

12:25 - 12:30 **Opposite innate immune signatures in VZV- and SeV-infected hiPSC-derived neurospheroids**

Jonas Govaerts (UAntwerp)

Pitch talks

12:30 - 13:30 *Lunch in the Marble Room*

13:30 - 14:15 **KEYNOTE LECTURE**

Using multidisciplinary approaches to improve the understanding of varicella-zoster virus pathophysiology

Benson Ogunjimi (University of Antwerp)



Chairs: Peter Delputte (UAntwerp) & Bénédicte Machiels (ULiège)

Session III Clinical virology, epidemiology and surveillance

Chairs: Philip Meuleman (UGent) & Koen Vercauteren (ITM)

Short talks

14:15 - 14:30 **New insights into the honeybee virome, bacteriome and immune priming by an epidemiological follow-up of a honeybee apiary, using third-generation nanopore sequencing**
Cato Van Herzele (UGent)

14:30 - 14:45 **Phenotypic and genomic variability among contemporary clinical RSV isolates is limited, but noticeable**
Kim Stobbelaar (UAntwerp)

Pitch talks

14:45 - 14:50 **How do successive vaccinations and SARS-CoV-2 infections impact humoral immunity dynamics: an 18-month longitudinal study**

Claire Gourzones (ULiège)

14:50 - 14:55 **Surveillance of SARS-CoV-2 variants in wastewater of aircrafts**
Elke Wollants (KU Leuven)

14:55 - 15:00 **Bovine herpesvirus 4 infection impacts the immune response of its host to vaccination**
Célia Darimont (ULiège)

15:00 - 15:30 *Coffee break in the Marble Room*

Session IV Antiviral therapy and prevention

Chairs: Leen Delang (KU Leuven) & Isabelle Desombere (Sciensano)

Short talks

15:30 - 15:45 **A novel class of small molecule SARS-CoV-2 inhibitors that target the M-protein with activity in a SCID mouse infection model**

Manon Laporte (KU Leuven)

15:45 - 16:00 **Broadly protective single-domain antibodies targeting influenza B hemagglutinin**

Arne Matthys (UGent)

16:00 - 16:15 **Drug-based inhibition of ER co-translational polyprotein translocation of Dengue virus**

Marijke Verhaegen (KU Leuven)

16:15 - 16:30 **Inhibition of Chikungunya virus replication in mosquitos by dsRNA-triggered RNA interference**

Koen Bartholomeeusen (ITM)

16:30 - 16:35 **New antivirals against human parainfluenza virus**

Iebe Rossey (UGent)

16:35 - 16:40 **Preclinical antiviral profile of ALG-097558, a novel pan-coronavirus 3CL protease inhibitor**

Jochmans Dirk (KU Leuven)

16:40 - 16:45 **Antiviral and biochemical mechanism of action of a novel nucleoside analogue possessing dual activity against coronavirus and influenza virus**

Nikolai Bakirtzoglou (KU Leuven)

16:45 - 16:50 **CD4 T cell targeting lipid nanoparticles in the search for a genetic HIV cure**

Maaïke De Cock (UGent)

16:50 - 16:55 **Molecular mechanism of latency reactivating versus latency promoting activities of BRD4 modulators JQ1 and ZL0580**

Eline Pellaers (KU Leuven)

16:55 - 17:00 **Combination therapy with approved drugs potentiate antiviral activity against CHIKV in human skin fibroblasts and mice**

Sam Verwimp (KU Leuven)

17:00 - 17:15 Closing words and declaration of best presentation awards by Lieve Naesens

17:15 - 18:30 Reception

Pitch talks