



# Seventh annual meeting of the Belgian Society for Virology

Thursday December 19, 2019

The Royal Academies for Science and the Arts  
Hertogsstraat/Rue Ducale 1, Brussels

## 8h45: welcome - Prof. Dr. Herman Favoreel

General Assembly of BELVIR -VZW/ASBL, with presentation of the annual accounts

**9h00-10h00: keynote lecture 1 – Prof. Dr. Thomas Mettenleiter** (Friedrich-Loeffler-Institute, Federal Research Institute for Animal Health, Greifswald – Insel Riems, Germany)

## "African Swine Fever - globalisation of an “exotic” infection”

10h00-10h30: 2 selected presentations (15 min each)

*Chairs:*

10h00-10h15: selected talk 1

Effects of new PKR phosphorylation sites on antiviral response

*Teresa Cesaro, Yohei Hayashi, Fabian Borghese, Didier Vertommen, Fanny Wavreil, Syrine Okbi, and Thomas Michiels*

10h15-10h30: selected talk 2

Protection of humanized mice from HBV/HDV co-infection using a novel PreS1 vaccination strategy

*Rani Burm, Panagiota Maravelia, Lieven Verhoye, Gustaf Ahlén, Lars Frelin, Matti Sällberg, Philip Meuleman*

10h30-11h00: *coffee break (Marble Room, first floor)*

11h00-11h30: 2 selected presentations (15 min each)

11h00-11h15: selected talk 3

The host microbiome negatively affects the infectivity and pathogenesis of arboviruses

*Lana Langendries, Sofie Jacobs, Rana Abdelnabi, Carolien De Keyzer, Elke Maas, Lieve Van Mellaert, Johan Neyts, Suzanne Kaptein, Leen Delang*

11h15-11h30: selected talk 4

Identification of host factors of EV-71 infection in human rhabdomyosarcoma cells and iPSC-derived motor neurons by CRISPR/Cas9 knockout screening

*Kristina Lanko, Maarten Jacquemyn, Wenting Guo, Catherine M. Verfaillie, Dirk Daelemans, Leen Delang, Carmen Mirabelli and Johan Neyts*

11h30-12h30: 12 pitch talks (5 minutes each/without discussion)

Chair:

1. Pseudorabies virus infection of epithelial cells leads to persistent but aberrant activation of the NF- $\kappa$ B pathway, inhibiting hallmark NF- $\kappa$ B-induced pro-inflammatory gene expression

Nicolás Romero, Cliff Van Waesberghe, & Herman W. Favoreel

2. Alcelaphine herpesvirus 1 genes A7 and A8 regulate viral spread and are essential for malignant catarrhal fever

Myster, E., Javaux, J., Suárez, N.M., Wilkie, G.S., Vanderplasschen, A., Davison, A.J., Dewals, B.G.

3. Exposing the secrets of the nephrocomplex; a major portal of entry for pathogens in shrimp

De Gryse G.M.A., Thuong V.K., Descamps B., Van Den Broeck W., Vanhove C., Cornillie P., Sorgeloos P., Bossier P., Nauwynck H.J.

4. An attenuated recombinant vaccine against Cyprinid herpesvirus 3 induces intraepithelial acquired immunity and prevents transmission of a virulent strain

Canale A., Boutier M., Gao Y. and Vanderplasschen A.

5. Varicella Zoster Virus ORF9p: hijacker of the autophagy pathway?

Lambert, J., Thiry, M., Sadzot-Delvaux, C. & Lebrun, M.

6. Ly6C<sup>hi</sup> monocytes are key orchestrators of gammaherpesvirus lifecycle

Maquet C., Loos P., Javaux J., Gillet L. and Machiels B.

7. Targeting of CXCR4+ Glioblastoma initiating cells with a retargeted oncolytic herpesvirus

Sánchez-Gil, Judit, Lebrun Marielle, Allegro Adrien, Rogister Bernard, Chevingé Andy & Sadzot-Delvaux Catherine

8. The Role of Type I Interferon in the Immunogenicity and Protection Efficacy of a Naked Self-Replicating mRNA-Based Zika Virus Vaccine

Zifu Zhong, João Paulo Portela Catani, Séan Mc Cafferty, Liesbeth Couck, Wim Van Den Broeck, Nina Gorié, Roosmarijn E Vandenbroucke, Bert Devriendt, Sebastian Ulbert, Lieselotte Cnops, Johan Michels, Kevin K. Ariën and Niek N. Sanders

9. Pseudorabies virus antagonizes type III interferon signaling by preventing phosphorylation of STAT1

Yue Yin, Nicolas Romero, Jonas L. Delva, Robert J. J. Jansens, Herman W. Favoreel

10. A gammaherpesvirus licenses CD8+ T cells to protect the host from pneumovirus-induced immunopathologies

Dourcy M., Maquet C., Gilliaux G., Javaux J., Desmecht D., Dewals B., Machiels B. and Gillet L.

11. Inhibition of arsenite-induced stress granules by cyprinid herpesvirus 3

Yunlong Hu, Mamadou Diallo, Alain Vanderplasschen

12. Footprint of the host restriction factor APOBEC3 on the genome of human viruses

Florian Poulain & Nicolas Gillet.

12h30-13h30: sandwich lunch (Marble Room, first floor)

13h30-14h45: 5 selected presentations (15 min each)

*Chairs:*

13h30-13h45: selected talk 5

Retargeting of cellular kinases by the L protein of Cardioviruses

Belén Lizcano Perret, Fanny Wavreil and Thomas Michiels

13h45-14h00: selected talk 6

A gammaherpesvirus infection blocks the functionality of type 2 innate lymphoid cells in the context of HDM-induced airway allergy

Loos P., Maquet C., Javaux J., Machiels B. & Gillet L.

14h00-14h15: selected talk 7

An antique origin for measles

Düx, A., Lequime, S., Patrono, L.V., Vrancken, B., Gogarten, J., Hilbig, A., Merkel, K., Prepoint, B., Santibanez, S., Schlotterbeck, J., Suchard, M.A., Ulrich, M., Widulin, N., Mankertz, A., Leendertz, F., Harper, K., Schnalke, T., Lemey, P. & Calvignac-Spencer, S.

14h15-14h30: selected talk 8

Isolation and characterization of a new population of nasal surface macrophages and their susceptibility to PRRSV-1 subtype 1 (LV) and subtype 3 (Lena)

Dayoung Oh, Jiexiong Xie, Nathalie Vanderheijden, Hans J. Nauwynck

14h30-14h45: selected talk 9

Development of thermostable and easy to produce dual-target Ebola/yellow fever vaccine candidate

Viktor Lemmens, Lorena Sanchez-Felipe, Johan Neyts and Kai Dallmeier

14h45-15h00: 3 pitch talks (5 minutes each/without discussion)

*Chair:*

13. Antigenic and genetic evolution of H1 swine influenza viruses isolated in Belgium and the Netherlands between 2014 and 2019

Chepkwony S, Parys A, Brookes S, Lewis N, Vandoorn E, Stadejek W, Everett H, Reid S, Brown I, Van Reeth K

14. A yellow fever vaccine virus-based therapeutic hepatitis B vaccine candidate

Robbert Boudewijns, Ji Ma, Johan Neyts, Kai Dallmeier

15. Zika virus: the African threat

Fabien Aubry, Sofie Jacobs, Stéphanie Dabo, Leen Delang, Natapong Jupatanakul, Sebastian Lequime, Albin Fontaine, Claudia M. Romero-Vivas, Van-Mai Cao-Lormeau, Richard G. Jarman, Cheikh T. Diagne, Oumar Faye, Ousmane Faye, Amadou A. Sall, Johan Neyts, Suzanne J.F. Kaptein, Louis Lambrechts

15h00-15h30: coffee break (Marble Room, first floor)

15h30-16h15: 9 pitch talks (5 minutes each/without discussion)

16. Development of a small animal model for adenovirus-vectored oral vaccination against Canine Distemper Virus.

Du X., Goffin E., Machiels B., Gillet L.

17. Optimizing a duck hepatitis B model to study inter-individual difference among antiviral immune response and B-cell ontology during vertical transmission.

Apolônio Silva de Oliveira, D., Dieryck, I., Cova, L., Tinel, S., Paeshuyse, J.

18. Using pseudotypes for immunogenicity testing of universal influenza vaccines

Temperton, N.J.

19. Systems vaccinology of YF17D immunization in mice.

Ji Ma, Niraj Mishra, Robbert Boudewijns, Dieudonné Buh Kum, Jana Grenelle, Lorena Sanchez Felipe, Thomas Vercausse, Hendrik Jan Thibaut, Johan Neyts, Kai Dallmeier

20. Illumination of Anguillid herpesvirus 1 pathogenesis in European eel using in vivo imaging system

Delrez N., Haiyan Z., Denoël M., Lieffrig F., Boutier M., Suarez N., Davison A. and Vanderplasschen A.

21. Transcriptomic comparison of zebrafish and carp larvae after inoculation with Cyprinid Herpesvirus-3

Donohoe O., Morvan L., Streiff C., Canale A., Manfroid I., Vanderplasschen A.

22. Stable birth-cohort specific HEV IgG seroprevalence in Belgium between 2006-2014

E. Ho, J. Schenk, V. Hutse, V. Suin, A. Lizroth, S. Blaizot, S. Herzog, V. Verburgh, M. Jacques, A. Rahman, P. Michielsens, P. Van Damme, S. Van Gucht, H. Theeten, N. Hens, T. Vanwollegem

23. A novel class of norovirus inhibitors that target the viral polymerase elicit an inhibitory effect *in vitro* and in an *in vivo* human norovirus infection model.

Jana Van Dycke, Valentina Naccarato, Giuseppe La Regina, Eloise Mastrangelo, Delia Tarantino, Romano Silvestri, Johan Neyts, Joana Rocha-Pereira.

24. Helminth infection is associated with the accumulation of lung interstitial macrophages and increased susceptibility to gammaherpesvirus infection in C57BL/6 mice

Amira Preure, Marion Rolot, Annette M. Dougall, Justine Javaux, Benjamin G. Dewals

**16h15-17h00: keynote lecture 2 – Prof. Dr. Benjamin Dewals** (Immunology-Vaccinology, Faculty of Veterinary Medicine, University of Liège, Belgium), *laureate of the 2019 bi-annual Scientific Prize Princess Joséphine-Charlotte for Virology Research*

**"Helminth-induced interleukin 4 expands bystander memory T cells for early control of viral infection"**

17h00-18h15: *reception (Marble Room, first floor)*

**For medical doctors and pharmacist-biologists:**

Accreditation of the meeting has been approved by RIZIV-INAMI for Clinical Biology (5 credit points, 5 hours).