



KNVM Virology News

Dear fellow virologist,

Wednesday November 17 there will be a new edition of the Dutch Young Virologists Seminar (**DYVS**). This time, Joanna Kaczorowska (Amsterdam UMC) will tell about her work on annelloviruses and Linda van Oosten (Wageningen University) will discuss her work on a SARS-CoV-2 nanoparticle vaccine. Make sure to note the DYVS in your agenda and don't forget to register [here](#) if you have not done so yet. Also, if you are a PhD-student, do not hesitate to **send in your abstract** for an opportunity to present your own work in one of the upcoming meetings!

The board of the Virology division of the KNVM

(Emmanuel Wiertz, Jolanda Smit, Ronald van Rij, Bart Haagmans, Katja Wolthers, Martijn Langereis, and Puck van Kasteren)

Virology events

Nov 16, 2021

PhD defense: Xumin Ou, Rotterdam ([info](#))
Peppelenbosch

Nov 17, 2021

PhD defense: Federica Sicca, Groningen ([info](#))
Huckriede/Hak

July 20-22, 2022

IUMS 2022
Rotterdam

Virology Double-Interview

Hilde van Tongeren

Head of Vector Generation
VectorY, Amsterdam

Giel Göertz

Senior virology specialist
MSD, Oss

What is your main research focus?

Recently, I joined the company VectorY. VectorY was founded a year ago and is a fully integrated gene therapy company focused on the development of innovative therapeutics based on its novel Adeno-Associated Virus (AAV)-based vectorized antibody and gene therapy platform. As Head of Vector Generation, I am involved in the molecular design, rescue, small scale generation and characterization of AAV vectors for our programs.

What is your favourite virus?

For more than a decade I have worked solely on positive-strand RNA viruses in an academic setting, studying mainly the mechanisms of cell entry and genome replication. But in the recent years, I was fortunate to broaden my horizon by working on negative-strand RNA viruses and DNA viruses in an industrial setting. Since each virus has its own fascinating peculiarities and challenges, I do not have a specific preference.

Why is your research important?

Following its approval by the European Medicines Agency, the first AAV vector reached the European market in 2012 for the treatment of lipoprotein lipase deficiency, a genetic disorder that disrupts the normal breakdown of fats in the body. While this was a milestone in the gene therapy field, clinical-grade AAV manufacturing remains challenging, in particular at large scale. The AAV technology needs to be optimized to improve the yield, the potency and the quality of AAV vectors for the treatment of various disease areas with high unmet medical need.

What is your main research focus?

The Center of Expertise for Microbiology and Adventitious viral agents is the knowledge center in microbiology and virology within the manufacturing division of MSD. As a virology specialist my focus is to improve viral control and safety of manufacturing processes for vaccines and biologics. This includes development of novel virus detection methods, providing virological knowledge to the internal and external network regarding adventitious viral agents, as well as offering virology training sessions.

What is your favorite virus?

The complexity of the toolkit viruses encode in a small genome is amazing, therefore I don't have one favorite virus in particular. Viral genetic 'creativity' seems endless, from precisely calibrated ribosome shifting elements producing exactly the right ratio of certain gene products, to production of a seemingly junk, but highly functional subgenomic RNAs (which I had the pleasure to dedicate four years of research on during my PhD). My current fascination is for virophages, which apart from using their own coding elements hijack the replication machinery of a co-infecting virus (often a giant virus such as the Mimivirus) for its own reproduction – how cool is that!

Why is your research important?

Safety of vaccines and biologics is paramount, and control of viral contamination is a key component of safety in biomanufacturing. My work contributes the essential virological knowledge and expertise to improve the control of adventitious viral agents, and to steer the development of viral detection techniques using state-of-the-art technologies. Interestingly, this includes virology in the broadest sense as adventitious viral agents range across nearly all virus families.

Recent publications

van Oosten L, Altenburg JJ, Fougereux C, Geertsema C, van den End F, Evers WAC, Westphal AH, Lindhoud S, van den Berg W, Swarts DC, Deurhof L, Suhrbier A, Le TT, Torres Morales S, Myeni SK, Kikkert M, Sander AF, de Jongh WA, Dagil R, Nielsen MA, Salanti A, Søgaard M, Keijzer TMP, Weijers D, Eppink MHM, Wijffels RH, van Oers MM, Martens DE, Pijlman GP. (2021) Two-Component Nanoparticle Vaccine Displaying Glycosylated Spike S1 Domain Induces Neutralizing Antibody Response against SARS-CoV-2 Variants. *mBio*. doi: [10.1128/mBio.01813-21](https://doi.org/10.1128/mBio.01813-21).

Joosten J, Overheul GJ, Van Rij RP, Miesen P. (2021) Endogenous piRNA-guided slicing triggers responder and trailer piRNA production from viral RNA in *Aedes aegypti* mosquitoes. *Nucleic Acids Res*. doi: [10.1093/nar/gkab640](https://doi.org/10.1093/nar/gkab640).

Giglia G, Agliani G, Munnink BBO, Sikkema RS, Mandara MT, Lepri E, Kik M, Ijzer J, Rijks JM, Fast C, Koopmans MPG, Verheije MH, Gröne A, Reusken CBEM, van den Brand JMA. (2021) Pathology and Pathogenesis of Eurasian Blackbirds (*Turdus merula*) Naturally Infected with Usutu Virus. *Viruses*. doi: [10.3390/v13081481](https://doi.org/10.3390/v13081481).

