



KNVM Virology News

Dear fellow virologist,

As the board of the Virology division of the Royal Dutch Society for Microbiology (KNVM), our aim is to stimulate interaction and collaboration of virologists in the Netherlands. Via this newsletter, we would like to keep you informed of virology-related events (e.g. symposia, thesis defences, inaugural lectures) and of your colleagues' latest publications. In addition, each newsletter will contain a short double-interview with virologists at various stages in their career. Starting off this series are the chair of the KNVM Virology board Prof. Emmanuel Wiertz and former Beijerinck premium laureate Prof. Debbie van Baarle.

If you are planning an event, defending your thesis, or want to share your latest publication, please let us know via KNVM.Virology@gmail.com. The same email address can be used to (un)subscribe to/from this newsletter. Finally, don't forget to follow us on LinkedIn and Twitter!

We hope to hear from you!

The board of the Virology division of the KNVM

(Emmanuel Wiertz, Hélène Verheije, Jolanda Smit, Bart Haagmans, Katja Wolthers, and Puck van Kasteren)

Upcoming events

November 6, 2018

PhD defence:
Jacqueline Staring (UU)

January 1, 2019

Abstract deadline
ECV2019, Rotterdam

March 8, 2019

DAVS, Amsterdam

April 28 - May 1, 2019

ECV2019, Rotterdam

Organising an event?

Let us know at

KNVM.Virology@gmail.com



Virology Double-Interview

Emmanuel Wiertz

Professor
Medical Microbiology
UMC Utrecht



Debbie van Baarle

Professor
Immune Mechanisms
RIVM/UMC Utrecht

What is your main research interest?

Virus-host interactions, viral immune evasion mechanisms, and novel strategies to combat viral infections.

Why is your research important?

Most people are infected with multiple herpesviruses for life. In healthy individuals, these are without serious consequences most of the time. However, under certain conditions, herpesviruses can cause serious disease. For example, keratitis due to herpes simplexvirus type 1 is a major cause of blindness. Human cytomegalovirus is the most prevalent viral cause of congenital defects. Epstein-Barr virus is a very common tumor virus, causing a broad range of malignancies including gastric carcinoma, Hodgkin's disease, lymphoma's in transplant recipients, nasopharyngeal carcinoma and many others.

At present, no vaccines or cures are available against these viruses, but these are needed urgently. Our research aims at facilitating the development of novel strategies to cure and -preferably- prevent diseases associated with these viruses. An example is the application of CRISPR/Cas technology for the elimination of herpesvirus infections. A study lead by Robert Jan Lebbink demonstrates the feasibility of this approach (van Diemen *et al.*, PLOS Pathogens, 2016).

What is your favourite virus?

I have many favorites, but if I have to choose: herpesviruses such as herpes simplexvirus type 1, varicella zoster virus, human cytomegalovirus and Epstein-Barr virus. Poxviruses and HIV are amazing viruses, too. It's fascinating to see how they manipulate the immune system.

What is your main research interest?

Understanding the immunological mechanisms underlying protection against viral infections, specifically the (T cell-mediated) adaptive immune system, in order to improve vaccination strategies for rapidly evolving viruses and for protecting elderly against (severe) disease. In addition, we study the factors that influence proper immune responses with ageing, especially in the context of chronic viral infections with an impact on our immune system, such as cytomegalovirus (CMV).

Who inspired you in your scientific career?

As a young girl, I was fascinated by new 'things' and it seemed most inventions were done by men. I started looking in the library for female 'inventors' and stumbled upon the most important female scientist of the past century: Marie Curie.

Later on, one of my female colleagues, Prof. Linde Meyaard, was a role model in how to stay curious (*nieuwsgierig*), how to climb back when you are in a valley, and how to manage a career with having a family.

What is your favourite virus?

Tricky question. My first 'love' was the Epstein-Barr virus. I was intrigued by its mechanisms to survive in the host, the many clinical manifestations, and the enormous immune responses raised against this virus during (symptomatic) acute infection. More recently, I got interested in CMV, a virus with a huge impact on the immune system throughout life. Although less clearly associated with clinical manifestations, this virus can teach us a lot about the host-virus balance and how virus and host co-evolve.

Recent publications

van Erp EA, Feyaerts D, Duijst M, Mulder HL, Wicht O, Luytjes W, Ferwerda G, van Kasteren PB (2018). Respiratory syncytial virus (RSV) infects primary neonatal and adult natural killer cells and affects their antiviral effector function. *J Infect Dis.* doi: 10.1093/infdis/jiy566.

Stalin Raj V, Okba NMA, Gutierrez-Alvarez J, Drabek D, van Dieren B, Widagdo W, Lamers MM, Widjaja I, Fernandez-Delgado R, Sola I, Bensaid A, Koopmans MP, Segalés J, Osterhaus ADME, Bosch BJ, Enjuanes L, Haagmans BL. 2018. Chimeric camel/human heavy-chain antibodies protect against MERS-CoV infection. *Sci Adv.* 4(8):eaas9667.

Brouwer L, van der Sanden SMG, Calis JCJ, Bruning AHL, Wang S, Wildenbeest JG, Rebers SPH, Phiri KS, Westerhuis BM, van Hensbroek MB, Pajkrt D, Wolthers KC. 2018. High frequency of Polio-like Enterovirus C strains with differential clustering of CVA-13 and EV-C99 subgenotypes in a cohort of Malawian children. *Arch Virol.* 163(10):2645-2653.

Got published? Let us now at KNVM.Virology@gmail.com

