



# KNVM Virology News

## Dear fellow virologist,

After many years of service to the KNVM and the virology division in particular, H       Verheije has decided to end her boardmemberships. We are very thankful for all her efforts and wish her all the best in her new endeavors. A vacancy to fill her position in the Virology board will be available shortly, so keep an eye out (or contact us) if you are interested!

Our [LinkedIn page](#) has recently reached 250 followers! If you are not yet one of them, now is the time to join. Postings include thesis defenses, symposia, vacancies, and news relating to Dutch virology research. If you have anything to share, don't hesitate to let us know!

These are exciting times for virologists, with the situation concerning the novel coronavirus [changing by the minute](#). We have seen many media appearances by our virology colleagues, including (but not limited to): [Bart Haagmans](#), [Mari   Feltkamp](#), [Eric Snijder](#), [Marion Koopmans](#), [Raoul de Groot](#), and [Anke Huckriede](#).

Finally, [registration](#) has opened for the 5<sup>th</sup> annual meeting of the Dutch Arbovirus Research Network (DARN) which will take place on Wednesday May 20<sup>th</sup>, 2020 in Leiden.

The board of the Virology division of the KNVM

(Emmanuel Wiertz, Jolanda Smit, Jeroen Kortekaas, Bart Haagmans, Katja Wolthers, and Puck van Kasteren)

## Virology events

**Dec 18, 2019**

[Thesis](#) defense Sandra Echavarria  
Prof Reggiori, Prof Smit  
Groningen University

**Feb 12, 2020**

[Thesis](#) defense Robert Knaap  
Prof Snijder, Dr. Kikkert  
Leiden University

**Mar 26, 2020**

[DAVS](#) | Amsterdam

**Mar 31-Apr 1, 2020**

[KNVM/NVMM meeting](#)  
Papendal

**May 10-14, 2020**

[Nidovirus meeting](#)  
Egmond aan Zee

**May 20, 2020**

[DARN](#) | Leiden



## Virology Double-Interview

**Tabitha Hoornweg**

Postdoc

Faculty of Veterinary Medicine  
Utrecht University

**Jelke Fros**

Postdoc

Laboratory of Virology  
Wageningen University  
and Research



### What is your main research focus?

Although I previously worked on different emerging human viral infections (among others chikungunya virus, dengue virus, tick-borne encephalitis virus and the hantaviruses), I recently switched to a medically important veterinary virus: Elephant Endotheliotropic Herpesvirus (EEHV). EEHV is an elephant-specific herpesvirus that can cause an acute, often lethal, hemorrhagic disease in young elephants. As EEHV is the major cause of mortality in young elephants, we are aiming to develop better treatments and, ultimately, a vaccine.

### How do you engage with the lay public?

We try to reach out to Zoo veterinarians and elephant caretakers, as involvement of and good relationships with the people that take care of the elephants is of utmost importance for this project to succeed. Additionally, in response to our recently started [crowd-funding campaign](#), we got the opportunity to pitch our project and its importance on Dutch [national television](#), radio and in different newspapers!

### Why is your research important?

Elephants are endangered species and their numbers are declining. An infectious disease such as EEHV, which has killed nearly 20% of all elephants born in Western Zoos over the last 30 years and also affects elephants in the wild, puts even further stress on the current populations. An effective treatment or a vaccine against this disease is needed to aid the efforts to preserve this species.

### What is your main research focus?

Innate antiviral responses and viral evasion strategies. Currently I focus mostly on newly discovered antiviral responses that detect specific sequence motifs in viral RNA, which can effectively attenuate virus replication. Interestingly, evolutionary distant host organisms (e.g. humans and mosquitoes) place very different constraints on viral genomes. I aim to understand the underlying molecular mechanisms and investigate how viruses that are transmitted between evolutionary distant hosts cope with two distinct environments.

### What is your favourite virus?

As the host cell's antiviral responses are often central in my research I try not to have favourite viruses. However, not so secretly I do prefer to work with alphaviruses and flaviviruses. These genera contain both mosquito-transmitted viruses and insect-specific viruses allowing me to investigate the antiviral responses and selective constraints presented by both vertebrate and invertebrate host species.

### Why is your research important?

Broad acting antivirals and platform technologies for the production of novel vaccines are required to adequately respond to future outbreaks of viral disease. Understanding the constraints that shaped the genomes of viruses is important when we try to activate some of the conserved underlying antiviral responses. For example, the introduction of hundreds of specific synonymous mutations can expose viruses to these antiviral responses creating live-attenuated virus vaccines. Theoretically this approach can be applied to a large variety of viruses as a universal strategy for rapid vaccine design.

## Recent publications

Oymans J, Wichgers Schreur PJ, van Keulen L, Kant J, Kortekaas J. Rift Valley fever virus targets the maternal-foetal interface in ovine and human placentas. *PLoS Negl Trop Dis*. 2020;14(1):e0007898. doi:[10.1371/journal.pntd.0007898](#)

Munster VJ, Koopmans M, van Doremalen N, van Riel D, de Wit E. A Novel Coronavirus Emerging in China - Key Questions for Impact Assessment. *N Engl J Med*. 2020;10.1056/NEJMp2000929. doi:[10.1056/NEJMp2000929](#)

Bouwman KM, Parsons LM, Berends AJ, de Vries RP, Cipollo JF, Verheije MH. Three Amino Acid Changes in Avian Coronavirus Spike Protein Allow Binding to Kidney Tissue. *J Virol*. 2020;94(2):e01363-19. Published 2020 Jan 6. doi:[10.1128/JVI.01363-19](#)

