



SSV Newsletter, December 2021

Dear fellow virologists,

Two years have now passed since a previously unknown coronavirus crossed the species barrier and caused the still ongoing COVID-19 pandemic. With another new variant challenging public health, healthcare and our way of life, our research area is more important than ever. Research makes a difference. Thanks to Nobel Prize-awarded research we have PCR-tests, ability to differentiate new variants, and soon we will also have access to antiviral drugs. Thanks to research we also have vaccines that protect us from an even worse disaster.

The board is happy to announce that we now can present the first Sigvard Olofsson Award in virology, to be shared between Ka-Wei Tang at Sahlgrenska Academy, and Mahmoud M Naguib at Uppsala University. Ka-Wei's research is about the genetics of EBV and Mahmoud's research is on the genetics of zoonotic viruses including influenza A virus. Congratulations to both!

Finally, we are happy to inform that "Virus- och pandemifonden" will launch a Society Advisory Board in January, with prominent members of different sectors of the society.

I wish you all a relaxing holiday. Stay safe!

Niklas Arnberg, Chairman

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- 1) Feel free to help us by spreading the message and sharing the **Christmas campaign #julutanvirus** -

Campaign Video: <https://www.youtube.com/watch?v=YINyJX9AFco>

Our Instagram: <https://www.instagram.com/pandemifonden/>

Read more: <https://www.pandemifonden.se/jul-utan-virus>

You are also welcome to set up your very own campaign on our Facebook page.

You do it here: <https://www.facebook.com/Pandemifonden/fundraisers>

- 2) Would you like to engage in "Virus- och pandemifonden" as a volunteer, together with us/others who share the vision and ambition of "Virus- och pandemifonden"? Contact niklas.arnberg@pandemifonden.se. Together we can make a difference, and, it will be fun!
- 3) Book the calendar: The 19th **Smögen Summer Symposium** on Virology, will be held **August 25-27, 2022**.
- 4) Open position: **Postdoctoral Fellowship in Virology**, in the Fors-Connolly group at Umeå University, [see link](#). Deadline January 16.

Open position: **Microbiologist** within research and development on food-borne

viruses, Swedish Food Agency, Uppsala, [see link](#) . Deadline January 10.

- 5) **Travel grants:** PhD students and postdocs are welcome to apply for the SSV travel grants. See guidelines and how to apply on our [website](#), or if you have questions contact Ali.Mirazimi@ki.se
- 6) Anyone that has suggestions on virology publications that should be highlighted, and are of interest for Swedish virologist, please send this information to Tomas.Bergstrom@microbio.gu.se
- 7) **Virology News:** This time we would like to highlight publications from Johan Neyts, former keynote speaker at the Smögen meeting, on **“A pan-serotype dengue virus inhibitor targeting the NS3-NS4B interaction”**, and from Ali Mirazimi and colleagues, on **“Virus-derived DNA forms mediate the persistent infection of Tick cells by Hazara virus and Crimean-Congo hemorrhagic fever virus”**. For links and more details, see below under “Virology News”
- 8) **Reminder!** We kindly ask you to post, in your neighborhood, the attached “Virus- och pandemifonden” poster, with information on how to donate money.

**Happy Holiday wishes to all members
from SSV**

Virology News:

Kaptein SJF, Goethals O, Kiemel D, et al. **A pan-serotype dengue virus inhibitor targeting the NS3-NS4B interaction.** Nature. 2021 Oct;598(7881):504-509. [see link](#)

This article, from the research group of Johan Neyts, demonstrates a novel antiviral mechanism against denguevirus, one of the clinically most important viruses on our planet, according to WHO. Of special interest is that a nonstructural protein of an RNA virus can be targetted by antivirals, a finding which may be of general importance.

Salvati MV, Salaris C, Monteil V, et al. **Virus-Derived DNA Forms Mediate the Persistent Infection of Tick Cells by Hazara Virus and Crimean-Congo Hemorrhagic Fever Virus.** J Virol. 2021 Nov 23;95(24):e0163821. [see link](#)

How can ticks establish persistent infections of RNA viruses such as Crimean-Congo hemorrhagic fever (CCHF)? This virus, which is a biosafety level (BSL)-4 pathogen, utilizes ticks of the genus *Hyalomma* as its viral reservoir. Here, the authors instead study the Hazara virus (HAZV) as a BSL-2 model virus of CCHFV, in order to study virus-vector interactions. Interestingly, they found a presence of short viral-derived DNA forms (vDNAs) after HAZV infection that could downregulate viral replication to promote cell survival. Synthesis of vDNA might therefore constitute a strategy to allow persistent viral infection in ticks, through control of the viral RNA replication