



## News Letter, January 2020

Since a few years back in time, SSV highlights meetings, breakthroughs in virology research, jobs, grant calls and other relevant information for its members. In this newsletter, we e.g. inform about this year's annual SSV meeting in Smögen, winner of new SSV logotype contest, SSV is now a corporate member of ESV, and much more.

- 1) **Upcoming annual SSV meeting in Smögen:** The 17th Smögen Summer Symposium on Virology will take place August 20-22, 2020. This year we are again very excited to attract prominent Keynote speakers, including Dr. Peter Palese, Icahn School of Medicine at Mount Sinai, USA, Dr. Stephan Urban, University Hospital Heidelberg, Germany and Dr. Linda Dixon, Pirbright Institute, UK. The Second Circular with more information will be distributed closer to the opening of registration April 10, 2020. Keep eyes open!
- 2) **New SSV logotype contest:** After receiving several excellent suggestions for a new SSV logotype, the board took its time to carefully evaluate the different proposals and has now made its decision. We congratulate the winner, and creator of SSVs new logotype, Arash Hellysaz, Karolinska Institute. The publication of the new logotype will be coordinated with the launch of the new design of the SSV webpage during the spring.
- 3) **Nominate members of review panels in medicine and health 2020.** The Swedish Research Council's Scientific Council for Medicine and Health is welcoming proposals for members of the review panels for 2020. What is new for this year is that the previous C1 and C2 panels are now redesigned to be on: "bacterial and fungal pathogens", and "viral and parasitic pathogens", respectively. There will also be two new panels relating to immunology and inflammation. For more info go to: <https://www.vr.se/english/just-now/news/news-archive/2019-11-29-nominate-members-of-review-panels-in-medicine-and-health-2020.html> Submit your proposal no later than 15 February.
- 4) **SSV meets the parliament:** Members of the Society gave a minisymposium about "The impact of virus infections on society" for RIFO ("members of the parliament and researchers") in November. The meeting was well visited and there were many questions. In the best of

worlds, this will have some impact on the Government's research bill coming later during the spring.

- 5) **SSV and ESV.** SSV is now a corporate member of the European Society for Virology, to which Michael Kann, Göteborg University, recently has been appointed President of the ESV Executive Board, to which Ali Mirazimi also has been elected.
- 6) **Travel grants:** PhD student 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 [Mikael.Berg@slu.se](mailto:Mikael.Berg@slu.se)
- 7) **Research highlights:** We highlight two papers: "*An upstream protein-coding region in enteroviruses modulates virus infection in gut epithelial cells*" and "*A second open reading frame in human enterovirus determines viral replication in intestinal epithelial cells*". See our website [http://www.swedishvirology.se/virology\\_news.html](http://www.swedishvirology.se/virology_news.html), or below. Anyone that has suggestions on publications that should be highlighted, and are of interest for Swedish virologist, please send this information to [Tomas.Bergstrom@microbio.gu.se](mailto:Tomas.Bergstrom@microbio.gu.se)
- 8) **Post news on the homepage:** If you are interested to post information on meetings, courses, jobs or other relevant information about virology at our website, do not hesitate to contact SSV webmaster. [Marianne.Jansson@med.lu.se](mailto:Marianne.Jansson@med.lu.se).
- 9) **GDPR:** Information on GDPR (General Data Protection Regulation) and the relevance for you as member of SSV can be found at our website and at following link, <http://www.swedishvirology.se/webmaster.html>

**Best wishes for 2020 from SSV**

---

## Virology News

Communicated by: Kasturika Shankar & Lars-Anders Carlsson, Umeå University

### **An upstream protein-coding region in enteroviruses modulates virus infection in gut epithelial cells**

Findings from the Firth group at Cambridge University, UK, challenge the existing dogma of a single polyprotein gene expression of enteroviruses. Initiated by an upstream ORF in a second reading frame, a previously overlooked, due to small size and/or amount, putative transmembrane protein of around 75 amino acids was found to be expressed in the studied Echovirus 7 and Poliovirus 1. The sequence of this ORF was well conserved in enteric enteroviruses including PV1, but not in rhinoviruses or in respiratory enteroviruses. In EV7, the protein enhanced infection of human intestinal organoids. The authors suggest that this newly discovered enteroviral transmembrane protein is involved in virus particle release from intracellular vesicles during intestinal infection.

Lulla V, Dinan AM, Hosmillo M, Chaudhry Y, Sherry L, Irigoyen N, Nayak KM, Stonehouse NJ, Zilbauer M, Goodfellow I, Firth AE. An upstream protein-coding region in enteroviruses modulates virus infection in gut epithelial cells. *Nat Microbiol.* 2019 Feb;4(2):280-292. doi: 10.1038/s41564-018-0297-1. PMID: 30478287

<https://www.nature.com/articles/s41564-018-0297-1>

### **A second open reading frame in human enterovirus determines viral replication in intestinal epithelial cells**

This report from Wei and coauthors at the Jilin University in China replicates, broadens and deepens the findings reported above. By alanine scanning mutagenesis, they defined an essential functional domain (WIGHPV) in the N-terminal part of the same protein (ORF2p) expressed by EV-A71. Furthermore, they have pinpointed the functional role of ORF2p to the release of infectious virus particles from intestinal cell lines and from primary cultures of intestinal epithelial cells. Thus, the protein is a virulence factor that plays a critical role at the late egress stage of enteroviral replication in the gut.

Guo H, Li Y, Liu G, Jiang Y, Shen S, Bi R, Huang H, Cheng T, Wang C, Wei W. A second open reading frame in human enterovirus determines viral replication in intestinal epithelial cells. *Nat Commun.* 2019 Sep 6;10(1):4066. doi: 10.1038/s41467-019-12040-9. PMID: 31492846

<https://www.nature.com/articles/s41467-019-12040-9>