

## ONLINE SEMINAR

# SARS-COV-2 HYBRID IMMUNITY - INSIGHTS FROM THE SWEDISH COMMUNITY STUDY



Danderyds Spkhus



LIPPSALA  
UNIVERSITET



SciLifeLab



Karolinska  
Institutet

**COMMUNITY** study



### SPEAKER

Dr Charlotte Thälén, M.D., Ph.D.  
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COMMUNITY study  
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Kindly register via this link:  
<https://tinyurl.com/49ze5vcf>

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Friday, 17 December 2021

08:00 AM (SGT) / 1:00 AM (CET)

Via ZOOM Registration Required

The **COMMUNITY** (COVID-19 Immunity) study (<https://ki.se/en/kids/community>) was initiated at Danderyd Hospital, Stockholm, Sweden, April 2020 and comprises a large longitudinal cohort including 2149 healthcare workers and 118 covid-19 patients sampled every 4th month. The overall aim is to obtain deep understanding of the generation and dynamics of SARS-CoV-2 immunity (humoral, cellular) following primary infection and vaccination.

At inclusion, a large portion of study participants had been SARS-CoV-2 infected, of which the majority reported no or mild symptoms (Nature Commun 2020), thereby representing those generating the most transmissions. Importantly, anti-spike IgG remained detectable in the vast majority 8 months post-infection, and the presence of antibodies was associated with a strong protection against reinfection (J Intern Med 2021). >90% of study participants have now been vaccinated (with either the adenovirus vectored ChAdOx1 nCoV-19 or the mRNA BNT162b2 vaccines). The high portion of participants infected with SARS-CoV-2 prior to vaccination allows us to investigate so called hybrid immunity; the combination of infection- and vaccine-induced immune responses. We find that one dose ChAdOx1 nCoV-19 vaccine elicits similar or higher levels of neutralizing antibodies in SARS-CoV-2 recovered as compared to two doses in SARS-CoV-2 naive vaccinees (EBioMedicine 2021). Preliminary data furthermore demonstrate that the enhanced responses following hybrid immunity, including those against ten SARS-CoV-2 variants, remain over up to seven months following vaccination, and that responses are associated both with initial covid-19 severity and with time between infection and vaccination. The COMMUNITY study is conducted in close collaboration with several research groups within the Swedish SciLifeLab, bridging preclinical and clinical science and covering epidemiological, immunological, virological, and molecular expertise. We will now continue our unified efforts towards a better understanding of SARS-CoV-2 infection and vaccination..