

WEBINAR SUMMARY



This International Alliance for Biological Standardization COVID-19 webinar brought together a broad range of international stakeholders, including academia, regulators, funders and industry, with a considerable delegation from low- and middle-income countries, to provide an update on the virology, epidemiology and immunology of, and the vaccine development for SARS-CoV-2, six months after the previous webinar.

EPIDEMIOLOGY by Prof. Arnaud Fontanet



Age-specific SARS-CoV-2 infection incidence rates in Paris, France, show that the incidence was low from mid-May to beginning of August, after which the incidence quickly rose in the 20-29-year age group. This slowly spread over time to older age groups, only affecting people aged 60 years and older a month later. This was mistakenly interpreted as more benign infection in the second wave since young individuals rarely experience severe forms of disease.

VIROLOGY by Prof. Bruno Lina



Although SARS-CoV-2 shows limited evolution since its emergence, which is beneficial for vaccine development, recombination events with other human coronaviruses (CoV) may occur. It is speculated that a recombination of the SARS-CoV-2 virus ancestor with another CoV occurred probably in the last trimester of 2019 leading to a virus that acquired human-to-human transmissibility.

IMMUNOLOGY by Prof. Arnaud Marchant



Defective production of or response to type I interferons and excessive production of inflammatory cytokines contribute to severe COVID-19 pathogenesis. Neutralizing antibodies are likely contribute to control of SARS-CoV-2 disease and a mucosal immune response (development of IgA in nasal mucus or saliva) may be a useful correlate of protection. The durability and impact of infection-induced immunity is currently under investigation.

VACCINE DEVELOPMENT by Dr. Melanie Saville



Of the more than 300 vaccine candidates, 39 are in clinical testing with ten in phase 3 studies. Submission to regulatory authorities for emergency use authorization is expected before the end of the year 2020 for three vaccines. The objective of COVAX – an end to end partnership of Research and Development, manufacturing, procurement and fair allocation – is aiming to deliver 2 billion doses of vaccine by the end of 2021, to be distributed in a fair and equitable allocation process to all the countries around the world.

Our thanks for their support for this webinar



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