**Biography**

Dr. Schotsaert obtained a master’s degree in bio-engineering (2003), a master’s degree in molecular medical biotechnology (2004) and a PhD in molecular biotechnology (2011) from Ghent University (Belgium). In 2013 he joined the lab of Dr. Adolfo García-Sastre for postdoctoral work as an immunologist and vaccinologist and has since established different vaccination and infection models (BSL2, BSL3 and BSL3+). Dr. Schotsaert’s work focuses on influenza, ZIKA and SARS-CoV-2 viruses and he has over fifteen years of experience with studying host-pathogen interactions in preclinical infection models to immunologically characterize and validate candidate vaccines, adjuvants and antiviral treatments. From an immunological point of view, his research focuses on the interplay and cross-talk between innate and adaptive immune responses during virus infection. Since January 2020, the Schotsaert laboratory is established in the Department of Microbiology and the Global Health and Emerging Pathogens Institute at the Icahn School of Medicine at Mount Sinai in New York, and together with his team he continues to study host-immune responses to infection and vaccination in the context of comorbidities like obesity, diabetes and advanced age.

List of all publications in Pubmed <https://pubmed.ncbi.nlm.nih.gov/?term=schotsaert&sort=date>

**Research topics**

**Skewing of host immune responses to infection by pre-existing immunity**

The Schotsaert laboratory focuses on how host-immune responses to infection are affected by pre-existing immunity provided by previous infection and/or vaccination. We have previously shown that the host immune response to influenza infection and Staphylococcus superinfection is different in vaccinated versus unvaccinated mice, and can affect protection during reinfection (Choi et al., 2019, 2020). We are currently investigating the immunological mechanisms that underlie this immune skewing by vaccination with a strong focus on myeloid cell biology.

**SARS-CoV-2 research**

We have established preclinical infection models for SARS-CoV-2 (Syrian Golden hamster and mice) to evaluate vaccines and adjuvants and to immunologically characterize host immune responses to vaccination and infection with the aim to find immune-correlates of protection (Rathnasinghe et al., 2020, Rathnasinghe, Jangra et al., 2021). We have established pipelines to study immune escape by SARS-CoV-2 variants of concern using microneutralization assays and animal vaccination/challenge models (Jangra et al., 2021).

**Viral infections in the context of comorbidities**

More recently we also started studying the impact of comorbidities like advanced age, obesity and diabetes on the host immune response to infection and vaccination in the context of influenza and SARS-CoV-2 (Rathnasinghe, Jangra et al., 2021).

**Adjuvant, antivirals and vaccine research**

The Schotsaert laboratory uses its expertise in immunology and preclinical animal models to compare, characterize, validate and optimize new and existing adjuvants, antivirals and vaccines to which it has access through strategic collaborations.