



National Institute
of Mental Health



CEPI



Vaccinopolis
University of Antwerp

Enabling the Evaluation of COVID-19 Vaccines with Correlates of Protection Vaccinopolis University of Antwerp, Belgium February 16 - 17, 2023



Ryan Thwaites, PhD

Lecturer in Respiratory Immunology
Imperial College London, U.K.

Address: Sy Mary's Medical School
Building, Imperial College London,
London, W2 1PG

Tel: +44 203 312 5730

E-mail: r.thwaites@imperial.ac.uk

Dr Ryan Thwaites is a Lecturer in Respiratory Immunology within the National Heart and Lung Institute, Imperial College London.

Dr Thwaites' postdoctoral research focused on the immune system of the human respiratory tract, incorporating studies of natural viral infections and 'challenge' studies in healthy adults. These challenge studies included non-infectious human models of innate immune activation (such as Toll-like receptor agonists), allergens and experimental human infection models with respiratory viruses such as Respiratory Syncytial Virus (RSV) and SARS-CoV-2 (the cause of COVID-19). These studies furthered the development of non-invasive techniques for sampling the airways, including the development of nasosorption as a tool for studying respiratory viral infections in children. This postdoctoral work challenged the existing dogmas of viral disease severity in children, developed the minimally-invasive endophenotyping of chronic respiratory diseases, and identified the role of neutrophils in governing susceptibility to respiratory viral infections.

During the COVID-19 pandemic Dr Thwaites worked within the ISARIC4C consortium to profile the immunopathogenic response to SARS-CoV-2 infection in cases of severe disease. These studies continued into monitoring the nature and longevity of immunity to SARS-CoV-2 after natural infection and vaccination. These studies sought to identify





National Institute
of Mental Health



CEPI



Vaccinopolis
University of Antwerp

the elements of the immune response to infection that contributed to disease severity, versus those that contribute to clearing infection.

In October 2021 Dr Thwaites established an independent research group at the NHLI. This group continues to study the immune response to respiratory viral infections, with particular interests in the drivers of disease severity and the factors governing susceptibility to viral infections.

