# IUIS Webinar: Role of cellular responses in COVID-19


*IUIS webinar by Sharon Lewin and Katherine Kedzierska show how immunity to SARS-CoV2 has demonstrated the breadth of concomitant immune responses associated with recovery in patients with mild to moderate COVID-19 requiring hospitalisation. Their study indicates that robust multi-factorial immune responses can be elicited towards the newly-emerged SARS-CoV-2 and early adaptive immune responses might correlate with better clinical outcomes.*

Highlights from the webinar include:

- The epidemic peaked in late March, via significant social & travel restriction and physical distance among other interventions Australia was able to "curb" epidemic to <30 cases/day since 21st April. Speakers also gave an overview COVID-19 scientific preparedness for emerging infectious diseases in Australia.
- *Katherine Kedzierska* began her talk by highlighting an article, Thevarajan *et al.*, 2020, which demonstrate the induction of robust multi-factorial immune responses, including adaptive immunity during early stages of SARS-CoV-2 infection in one of the first COVID-19 patients in Australia (Read our summary: Kinetics of Immune Response in a Mild COVID-19 Patient for more details). She also presented research that implicate cytokine release

syndrome, characterised by high levels of IL-6 and IL-8, in severe COVID-19 pathology. (Read our summaries: Cytokine Release Syndrome & COVID-19 & COVID-19 – Cytokine storm syndromes and immunosuppression). Additionally, *Katherine Kedzierska also discussed other cohort studies established to understand immunity to influenza and other respiratory viruses. This established cohort enabled researchers to understand immune responses associated with COVID-19 in almost 100 patients. Unpublished results are similar to findings presented in* Thevarajan *et al.*, 2020, where acute COVID-19 is associated with an increase in Ab secreting cells, T-follicular helper cells and activated T cells, which suggestively decrease during convalescence.

- Finally, she presented findings from collaborative research with Mount Sinai, that described the development of A serological assay to detect SARS-CoV-2 seroconversion in humans. Read our summary of this study, as well as other related studies.

Sharon Lewin is the inaugural director of the Peter Doherty Institute for Infection and Immunity. Katherine Kedzierska is Laboratory Head in Department of Microbiology and Immunology, at the Peter Doherty Institute for Infection and Immunity.