

Post-doctoral fellowship in COVID-19 Immunology CHU Sainte-Justine Research Center

Principal Investigator: Dr. H el ene Decaluwe

Project duration: 2-3 years

Start date: Immediately

Title: T cell responses in COVID-19 patients following infection and/or vaccination.

Research project description

Dr. H el ene Decaluwe is a clinical researcher at the CHU Sainte-Justine and her laboratory's research mainly focuses on the role of cytokines and their signaling pathways in the regulation of CD8 T lymphocyte responses during chronic viral infection or cancer. In the context of the current COVID-19 pandemic, her laboratory has developed expertise to study the response of T lymphocytes to Sars-CoV-2 and has been involved in the Canadian response to the pandemic, advising the COVID-19 Immunity Task Force (CITF) leadership on immune science priorities related to the COVID-19 pandemic and working intensively into harmonizing and providing cell-mediated immune assays across funded Canadian COVID-19 seroprevalence studies.

Dr. Decaluwe research is performed in an interdisciplinary setting with strong collaborations, and she is seeking one Immunologist for a 2/3-year Postdoctoral fellowship to contribute to granted COVID-19 related research projects on:

- 1) the possible reinfection of healthcare workers who contracted COVID-19 over a period of one year, as well as the study of the T response of these recovering patients who had or not been vaccinated with Pfizer-BioNTech or Moderna (RE-Infection in COVID-19 Estimation of Risk, RECOVER, CIHR funded project).
- 2) the study of the T response of children infected with SARS-CoV-2 over the course of a year (Persistence of T cell Immunity in Children with SARS-CoV-2 and Household contacts, PITCH, project funded by the CHAMO and PSI Innovation Funds).
- 3) the study of the T response of COVID-19 infected or vaccinated individuals (funded by the COVID-19 Immunity Task Force, CITF).
- 4) the relationship between the SARS-CoV-2 epitope-associated mutational landscape and T cell responses in COVID-19 patients (Deciphering the immunopeptidomic landscape of COVID-19 disease, CIHR funded project).

The applicants' interests and experience will be considered to determine the exact projects that he/she will undertake.

Required training and profile

The ideal candidate must have a PhD in immunology. He/she must be highly motivated, pro-active, and autonomous, with great scientific rigor, and excellent organizational skills, and be able to work independently within a very collaborative environment. The applicant must be result-driven, be able to manage several experiments head-on, actively participate in the laboratory activities in a collegiate way, work in collaboration with one junior PhD student and occasionally supervise junior students or trainees and collaborate to the laboratory's grant applications. He/she must have a very good team spirit, be proficient in written and oral English and be an excellent communicator. His/her knowledge of French is an asset but is not necessary. The applicant must have demonstrated significant scientific



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contributions and published in high impact journals. He/she must have a solid expertise in multiparametric flow cytometry and cell culture. Expertise in bioinformatics is a significant asset.

Conditions of internship

The selected candidate will join Dr. Decaluwe's team at the CHU Sainte-Justine and work within the Research Center.

1 year contract, renewed according to the progress and needs of the project.

The remuneration is based on the experience of the candidate.

Submit your application

Interested candidates must submit the following documentation to H el ene Decaluwe at

helene.decaluwe@umontreal.ca.

√ Curriculum vitae

√ Transcripts

√ Statement of research background and interest

√ Two reference letters including from prior PhD mentor

Dr H el ene Decaluwe, MD, PhD, FRCPC

Service d'immunologie et rhumatologie p diatrique

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