

# I3V & CCfV Symposium on **THE IMMUNOLOGY OF MATERNAL VACCINATION**

## + Satellite Meeting on **Cell Mediated Immune Assays**

This public event explores how our understanding of immune responses can lead to better diagnostics, treatments, and healthier beginnings for the next generation.



July 3 2025  
10:30 a.m. - 2:30 p.m.



IWK Health  
Women's Building  
Classroom G2280  
5980 University Ave, Halifax



Dalhousie University  
IWK Health  
Nova Scotia Health



# AGENDA

## Satellite Meeting on Cell Mediated Immune Assays

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10:35 a.m. - 11:05 a.m.	Dr. Jun Wang, Dalhousie University Laboratory Assessment of Cell-Mediated Immunity in Vaccine Studies
11:05 a.m. - 11:35 p.m.	Dr. Rym Ben Othman, RAN Biolinks AIM Assay: Activation-Induced Marker Assay to Analyze Cell- Mediated Immune Responses
11:35 a.m. - 12:05 p.m.	Dr. Simon Van Haren, Boston Children's Hospital Single-Cell RNASeq to Analyze Cell-Mediated Immune Responses (virtual presentation)

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## LUNCH

## I3V & CCfV Symposium on the Immunology of Maternal Vaccination

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10:35 a.m. - 11:05 a.m.	Dr. Bahaa Abu-Raya, Dalhousie University, IWK Health Maternal Vaccination: The Past, Present and Future
11:05 a.m. - 11:35 p.m.	Dr. Michelle Giles, Monash University The Non-specific Effect of Maternal Vaccination on Adverse Pregnancy Outcomes

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## Dr. Tobias Kollmann

Dalhousie University | IWK Health  
Event Organizer

Dr. Tobias Kollmann earned his MD and PhD from the Albert Einstein College of Medicine, followed by a residency in pediatrics and a fellowship in pediatric infectious diseases at the University of Washington. He has held leadership roles at the University of British Columbia and the Telethon Kids Institute in Australia.

He is currently a Professor of Microbiology & Immunology and Pediatric Infectious Diseases at Dalhousie University in Halifax, and the founder and CEO of the Born Strong Initiative, a global network focused on reducing adverse pregnancy outcomes.

Dr. Kollmann's research focuses on immune ontogeny and early-life host responses, utilizing advanced technologies to analyze small biological samples. As a clinician-scientist, he is deeply aware of the vulnerability of infants to infection and the challenges of applying systems vaccinology during early development. His work has shown that systems biology can be effectively applied to small-volume samples to study early immune responses.

Over the past two decades, he has built strong collaborations across low- and middle-income countries, enabling research on immune development in diverse global contexts. His work has identified key molecular drivers of age-dependent immune changes and supports large international cohort studies, including with NIAID and the Human Vaccines Project.



## Dr. Jun Wang

Dalhousie University

Dr. Jun Wang is an immunologist with more than 25 years of experience in the fields of infection, immunity, vaccinology, and cancer. She is interested in understanding molecular and cellular immune mechanisms underlying the disease pathogenesis as well as protective immunity to various infectious agents using animal models, Controlled Human Infection Models (CHIMs), and human clinical trials

Dr. Wang has had a long-standing interest in mucosal immunology and mucosal vaccination. During her PhD and postdoctoral work at McMaster University, she developed a viral-based tuberculosis vaccine (AdAg85A), which has been licensed to Cansino Biotechnologies Inc. in China and currently in Phase 2/3 human clinical trials. Compared to the systemic immunity induced by parental immunization, Dr. Wang has demonstrated in a series of studies that mucosal immunity induced by intranasal immunization is vital for superior vaccination efficacy against pulmonary. Subsequently, Dr. Wang's research group at Dalhousie university has further demonstrated that intranasal immunization also induces protective immunity against vaginal Chlamydia challenge. These studies have provided a foundational basis to justify the development of mucosa-delivered vaccines against respiratory pathogens as well as sexually transmitted infections (STI).

In addition to animal studies, Dr. Wang's research team at CCfV has also built-up strong capacities and SOPs to assess cellular immune responses induced by vaccination in human clinical trials and/or following microbial infections in CHIM models. These include comprehensive design, performance and analysis of high dimensional flow cytometry analysis, intracellular cytokine staining, immune phenotyping, Luminex assay and ELISPOT assay on human specimens under Good Clinical Laboratory Practices (GCLP).



## Dr. Rym Ben Othmam

RAN Biolinks

Dr. Ben Othman, CSO at RAN BioLinks, is a scientist with 20+ years of expertise in research on host-pathogen interaction and multi-omics projects in the context of neonatal infectious disease and vaccination through her collaboration with various teams.

Through her work in clinical research, she has implemented standardized laboratory protocols, team training, and project management for multi-sites clinical trials in high, low, and middle-income countries.

Rym has led diverse teams in different settings to run projects efficiently within time, budget, and deliverable constraints. In her role at RAN BioLinks, she provides comprehensive support and expertise in project management, biobanking, monitoring, and data platforms to accelerate research outcomes and drive significant advancements in the field.



## Dr. Mohamed Radhouane Aniba

RAN Biolinks

Dr. Aniba, CEO at RAN BioLinks, is a data leader with 20 + years of experience in leadership roles in data strategy and business transformation. His background includes bioinformatics and data science at NIH and UBC, as well as roles such as business analyst at AMGEN and head of data strategy and governance at a non-profit organization. Through these experiences, he has supported researchers in both academia and industry.

Rad excels in assisting organizations in planning, designing, and executing data strategies by seamlessly integrating business strategy, management, technology, data, and people. His expertise lies in pioneering innovative approaches that unlock the full potential of data, drive business growth, and foster a data-centric culture within organizations.





## Simon Van Haren

Boston Children's Hospital

Simon van Haren's research is focused on better understanding the molecular basis of age-specific immune responses to vaccines. Understanding how the human immune system changes with age in how it responds to vaccination can ultimately inform the development of novel vaccines to provide early life protection against pathogens such as Respiratory Syncytial Virus (RSV).

Dr. van Haren has modeled the immune systems of newborns, 6-month old infants, adults, and elderly individuals in different in vitro settings, such as whole blood, monocytes, monocyte-derived DCs, B-and T-cells and a microphysiological tissue construct. Using state-of-the-art mass-spectrometry and cell biology techniques he aims to unravel the ontogeny of the human immune response to vaccines at the molecular level, with the goal to provide novel insights relevant to future vaccine development.

Simon van Haren obtained his Ph.D at Utrecht University in The Netherlands, where he conducted immunological and biochemical research studying the formation of Factor VIII-neutralizing antibodies in patients with hemophilia A. His research project was focused on the mechanism of endocytosis of Factor VIII by human dendritic cells, the presentation of antigenic peptides on MHC class II and the identification of antigen-specific CD4<sup>+</sup> T cells.

He undertook postdoctoral training in the lab of Dr. Ofer Levy in the Division of Infectious Diseases at Boston Children's Hospital.



## Dr. Bahaa Abu-Raya

Dalhousie University | IWK Health

Dr. Abu-Raya is a Pediatric Infectious Diseases Clinician-Scientist at the Canadian Center for Vaccinology. His research during the past decade has mainly been in the field of maternal pertussis immunization. Specifically, identifying the ideal timing of vaccination in pregnancy; the need to vaccinate during each pregnancy; the induction of anti-Bordetella pertussis antibodies in breast milk; the effect of maternal vaccination on avidity of anti-Bordetella pertussis antibodies using a novel laboratory approach; and the effects of pertussis immunization in pregnancy on infants' vaccine immune responses.

Many of the studies he has led have contributed to practice-changing immunization policies in Canada and several other countries. He has also been a leader of several consensus papers and authored textbook chapters and commentaries in the field of maternal immunization.

Dr. Abu-Raya's research program at the Canadian Center for Vaccinology uses laboratory-based cutting-edge assays that measure the functions of antibodies that are induced after vaccination and infection to answer clinically-relevant and translational questions in the field of vaccination in pregnancy to protect mother-infant dyads.

His work focuses on developing and evaluating ways to improve vaccines and make them better able to fight infectious diseases. Dr. Abu-Raya is an international expert leader in his field and collaborates on several studies nationally with scientists and healthcare providers at Dalhousie University, the IWK, Nova Scotia Health, other Canadian institutions and internationally.



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# Dr. Michele Giles

Monash University

Professor Giles is an adult infectious diseases physician with clinical appointments at three tertiary Hospitals in Melbourne, Australia. She also holds academic appointments in the Department of Obstetrics and Gynaecology, Monash University and in the Department of Infectious Diseases, University of Melbourne.

Professor Giles' clinical and research focus is on infections in pregnancy and maternal immunisation. Her research in maternal immunisation has covered uptake, safety, access, cost effectiveness and non-specific protective effects on preterm birth. She is the current Deputy Chair of Australia's NITAG, and a member of the Technical Advisory Group on GBS vaccines to the World Health Organization.