

Common Viral Infections and Research Opportunities at Kannerklinik

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The Kannerklinik, the national reference centre for paediatrics in Luxembourg, offers a uniquely powerful platform for research on paediatric viral diseases. It hosts the country's only paediatric intensive care unit and more than 85% of all paediatric hospital beds, providing unparalleled access to severe infections and a highly representative population for studying disease epidemiology, clinical outcomes, and determinants of disease severity.

Leveraging this unique national setting and our established collaboration with the Health Directorate, we have developed research activities generating timely, real-world evidence on major pediatric respiratory viruses, including SARS-CoV-2 and respiratory syncytial virus (RSV). Our research has contributed to characterizing the epidemiology and severity of these infections in children, while directly supporting evidence-based public health decision-making.

We have assessed emerging RSV immunization approaches, including long-acting monoclonal antibodies and maternal vaccination. These interventions have fundamentally changed the prevention landscape and substantially reduced severe RSV disease in young children.

The forthcoming implementation of pediatric influenza vaccination will create further opportunities to evaluate vaccine effectiveness, population-level impact, breakthrough infections, and determinants of severe disease.

By bridging clinical research, epidemiology, virology, and public health, our research aims to generate actionable evidence that can rapidly translate into improved prevention strategies and national vaccination policies, ultimately reducing the burden of severe viral infections in children.

Biosketch – Alexandros Popotas

Alexandros POPOTAS, MD, PhD Candidate

Pediatrician, Service National de Pédiatrie, Kannerklinik, Centre Hospitalier de Luxembourg

CURRENT AND PAST POSITIONS

Current: Pediatrician, Service National de Pédiatrie, Kannerklinik, Centre Hospitalier de Luxembourg, Luxembourg.

Current: PhD candidate, Laboratory of Paediatric Research and Laboratory of Translational Research, Université Libre de Bruxelles (ULB), Brussels, Belgium.

2024–2025: Pediatrician, Pediatric Emergency Department, Queen Fabiola Children's University Hospital (HUDERF), Brussels, Belgium.

Past: Member of the Ethics Committee, Queen Fabiola Children's University Hospital (HUDERF), Brussels, Belgium.

2020–2023: Former member of the Medical Council, Queen Fabiola Children's University Hospital (HUDERF), representing physicians in training.

EDUCATION

2023–2024: University Diploma (DU) in Perinatal Medicine, Université Paris Cité, France.

2016–2023: Specialized training in Pediatrics, Université Libre de Bruxelles (ULB), Brussels, Belgium. Master dissertation: "Comparative study of Paediatric Inflammatory Multisystem Syndrome temporally associated with SARS-CoV-2 (PIMS-TS) and sepsis."

2016: Doctor of Medicine (MD), Université Libre de Bruxelles (ULB), Brussels, Belgium. Master dissertation: "Lactic acid influence on polymorphonuclear neutrophil inflammatory response."

2012: Bachelor of Medicine, Université Libre de Bruxelles (ULB), Brussels, Belgium.

AWARDS AND HONORS

2023: Prix Van Buuren.

2023: Fonds Iris Recherche Grant – "Study of sex differences in inflammatory diseases in children."

2022: Prix de la diffusion scientifique, Université Libre de Bruxelles.

2021: Fonds Iris Recherche Grant – "Study of sex differences in inflammatory diseases in children."

2019: Best Oral Presentation Award, 4th International Symposium of Nutrition Research, Chaire J.A. DeSève.

2018–2022: Research funding, The Belgian Kids' Fund.

OTHER RELEVANT PROFESSIONAL ACTIVITIES AND ACCOMPLISHMENTS

Member and Investigator in the RESYNC project, an international research programme on paediatric respiratory diseases, including respiratory syncytial virus (RSV).

Adjunct Teacher, Bachelor in Midwifery, University of Luxembourg, Luxembourg.

BLS-AED Instructor, European Resuscitation Council.

Biosketch – Isabel de la Fuente

Isabel DE LA FUENTE GARCIA, MD, MSc

Head of the General and Specialized Pediatrics Department, Service National de Pédiatrie, Kannerklinik, Centre Hospitalier de Luxembourg

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CURRENT POSITIONS

Head of the General and Specialized Pediatrics Department, Service National de Pédiatrie, Kannerklinik, Centre Hospitalier de Luxembourg, Luxembourg.

Hospital Pediatrician, General/Specialized Pediatrics Department, Pediatric Infectious Diseases, Service National de Pédiatrie, Kannerklinik, Centre Hospitalier de Luxembourg, Luxembourg.

Affiliate Professor in Pediatrics, Faculty of Science, Technology and Medicine, Department of Health, Medicine and Life Sciences, University of Luxembourg.

EDUCATION

Postdoctoral medical studies.

2024: University degree in medical education and simulation in health sciences, University of Grenoble Alpes, France.

2011–2014: Specialized Studies Diploma (DES) in Infectious Diseases in Children. Fellowship in Pediatric Infectious Diseases. Research project: “Protection against vaccine preventable diseases in children treated for acute lymphoblastic leukemia.” University of Montreal, Canada.

2006–2011: FMH Diploma in Pediatrics, Geneva University Hospitals.

2009–2010: Interuniversity Diploma in Pediatric Infectious Diseases, Paris Descartes University.

2004–2006: Master of Science in Pathology and Cell Biology, specializing in Oncology, University of Montreal, Canada. Science thesis: “Characterization of basal phenotype breast carcinomas,” supervised by Dr. Gaboury, Department of Pathology, Centre Hospitalier de l'Université de Montréal (CHUM).

Doctoral medical studies.

2000–2004: Doctor of Medicine degree, Catholic University of Louvain (UCL), Brussels.

1997–2000: Diploma in Medicine, Centre Universitaire du Luxembourg – Catholic University of Louvain (UCL), Brussels.

OTHER RELEVANT PROFESSIONAL ACTIVITIES AND ACCOMPLISHMENTS

Clinical Lecturer at the UCL Louvain School of Medicine, Belgium.

Chair of the Higher Council for Infectious Diseases, Direction de la Santé, Ministère de la Santé – Gouvernement du Grand-Duché du Luxembourg.

Luxembourg representative at the European Centre for Disease Prevention and Control, Advisory Forum – ECDC.

ptbnet (Paediatric Tuberculosis Network European Trials Group) country representative.