Special Issue on

Translational Immunology: Immune Molecular Signatures Driving Precision Medicine in Children and Aging Populations

CALL FOR PAPERS

Recent technological advances, coupled with broader awareness and accessibility to technologies aiming at defining an unbiased and global profile of host-related molecular characteristics (Omics approaches), have driven an exponential growth in the contributions being made by systems biology to the field of translational research. These contributions have allowed scientists to design tailored personalized therapies. Within the last two decades, the field of oncology has been a pioneer in the implementation of Omics methods. Now the field of vaccinology has begun employing similar strategies in an effort to define and predict the efficacy of vaccination in order to improve immune responses in vulnerable populations including children, pregnant women, and immunocompromised and elderly patients. Omics profiles of immune cell subsets within secondary lymphoid organs and peripheral blood mononuclear cells can serve as important biomarkers for the diagnosis and discovery of novel targets for therapeutic interventions in the field of paediatrics. Furthermore, technology has allowed for large and comprehensive datasets ("big data") on immune profiles to be acquired from very small blood sample volumes. In overcoming this limitation, systems biology approaches have an increased potential to be able to identify clinical biomarkers and enable precision medicine and personalized interventions in the fields of paediatric medicine and the treatment and prevention of disease in other vulnerable populations.

The special issue aims to gather novel translational immunology studies that investigate a variety of topics related to the potential for personalized medicinal interventions in diverse paediatric scenarios and in vulnerable populations such as aging and immune compromised patients, with a focus on systems biology/immunology approaches and large data sets.

Potential topics include but are not limited to the following:

▶ The use of transcriptional signatures in various immune cells to drive personalized vaccination schedules in children and immune compromised patients
▶ Omics (transcriptomic, proteomic, metabolomic, and genomic) approaches in the field of inflammatory and autoimmune diseases
▶ The use of immune senescence, inflamm-aging (i.e., chronic low grade inflammation which develops with advanced age), and immune activation profiling to drive personalized medicine in aging and vulnerable populations
▶ Studies investigating the immunological signatures of responses to infection in children and vulnerable populations
▶ Possible diagnostic and prognostic markers from proteomics, transcriptomics, genetic, and epigenetic approaches
▶ Single-cell profiling of immune cells involved in inflammatory, autoimmune, and infectious diseases
▶ Identification of novel vaccine adjuvants and molecular disease-targets for personalized interventions deriving from Omics studies

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.wiley.com/submit?specialIssue=865783.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Editor

Nicola Cotugno, Ospedale Pediatrico Bambino Gesù, Italy
nicola.cotugno@opbg.net

Guest Editors

Jose G mez Rial, Translational Pediatrics and Infectious Diseases Hospital Cl nico Universitario de Santiago Santiago de Compostela Galicia Spain GENVIP Research Group Instituto de Investigaci n Sanitaria de Santiago Santiago de Compostela Galicia Spain, Spain
jose.gomez.rial@sergas.es

Lesley De Armas, University of Miami Miller School of Medicine, USA
ldearmas@med.miami.edu

Daniel O Connor, Oxford Vaccine Group Department of Paediatrics University of Oxford, UK
daniel.oconnor@paediatrics.ox.ac.uk

Submission Deadline
Friday, 21 August 2020

Publication Date
January 2021