

Global Human Milk Research Consortium – challenging the science, pushing the knowledge boundaries



Family Larsson-Rosenquist Foundation Postdoctoral Fellow in Human Milk and Immune Development

Overview of Role

We are looking to appoint a highly motivated and dynamic postdoctoral researcher to undertake interdisciplinary collaborative research at the University of California, San Diego and the University of Western Australia. The aim of this research is to elucidate how human milk components impact immune-mediated disease prevention.

The postdoctoral fellow will determine whether specific components of human milk, which are known to be critical in altering immune responses (with a specific focus on oligosaccharides and microbiota), are associated with better immune health outcomes in breastfed infants.

It is expected that the candidate will have a background in biology, biochemistry, nutrition, immunology, or a related field. Supervision will be provided jointly by Prof. Lars Bode at the University of California, San Diego and by Prof. Verhasselt at the University of Western Australia, Perth.

The post will be offered on a fixed-term contract for 24 months with the option to extend on extramural funding.

Scientific Background

Immune function is driven by environmental factors, where diet plays a key role. While the physiological food for a newborn is human milk, knowledge of the role of this newborn-tailored food in immune development is in its infancy.

The aim of this project is to fill this major knowledge gap and promote child health through evidence-based recommendations on breastfeeding practices and maternal intervention during breastfeeding.

Research Centres

Larsson-Rosenquist Foundation Mother-Milk-Infant Center of Research Excellence (LRF MOMI CORE) is located on the main campus of UC San Diego in La Jolla and focuses on biomedical research and education research around all aspects of human milk. MOMI CORE is driving the frontiers of human milk research by engaging and activating researchers, clinicians and educators from ostensibly unrelated disciplines and backgrounds to apply their unique perspectives and expertise to human milk. MOMI CORE's mission is to create an engine of discovery focused on understanding human milk by fostering collaborative investigation across research, education and clinical practice to improve the health and development of infants, mothers, and society as a whole.

Larsson-Rosenquist Foundation Centre for Immunology and Breastfeeding (LRF CIBF) is located in Perth at the Telethon Kids Institute, a world-leading centre of research promoting child health and is affiliated to the University of Western Australia. The team establishes the matches and, importantly, the possible mismatches, between what the infant needs for healthy development and the nutrition that they are provided with. Importantly, CIBF aims to reveal what is required to make breastmilk more likely to prevent conditions such as allergy, malaria or growth failure. The knowledge is generated through basic and clinical research to inform changes in clinical practice and drive policy changes.

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Responsibilities

- Develop and lead a project plan for both human cohort study analysis as well as mouse models
- Analyze human milk samples for concentrations of human milk oligosaccharides, microbiota and other bioactive compounds
- Conduct mouse studies addressing the role of maternal intervention during breastfeeding on immune development
- Utilize statistical methods to analyse associations between milk components and immune health outcomes
- Attend appropriate scientific seminars and meetings and remain up to date with developments in the relevant fields
- Work collaboratively with team members at the University of California, San Diego, and the University of Western Australia
- Contribute to the supervision of students
- Present results of analyses at internal academic meetings as well as national and international scientific conferences
- Prepare scientific publications arising from the research

Essential Selection Criteria

- A PhD in a field related to biomedical research, e.g., biochemistry, biology, nutrition, immunology
- Ability to work in highly collaborative, multi-disciplinary environments across continents
- Knowledge of immunology, allergic and infectious diseases
- Excellent communication skills both verbal and in writing
- Experience in contributing to high-impact scientific papers as evidenced by publications

Desirable Selection Criteria

- Knowledge of and experience with liquid chromatography
- Knowledge of and experience with flow cytometry, multiplex, ELISA, cell culture
- Knowledge of and experience with animal models
- Highly collaborative. Willing to undertake multi-disciplinary research across continents
- Ability to develop a long-term, holistic research vision for the topic
- Ambition to write grant proposals and to seek new grants to further develop interdisciplinary research topic
- Capacity to anchor the topic to the Sustainable Development Goals (SDGs) and understanding how it applies in low-resource settings
- Willingness to integrate the work/vision within the key WHO and UNICEF initiatives
- Motivation to identify collaboration opportunities and build collaborations
- Drive to develop yourself as a leader within your field
- Capable of establishing the topic's value with potential funders
- Envision the road to implementation – from basic research to application and social impact

Have we sparked your interest? Then we look forward to receiving your electronic application (including CV, letter of motivation and names and contact details of 3 professional referees): fellowship@flrf.org

**If you have any questions about the role, please contact us at: fellowship@flrf.org
or T: +41 510 05 12**