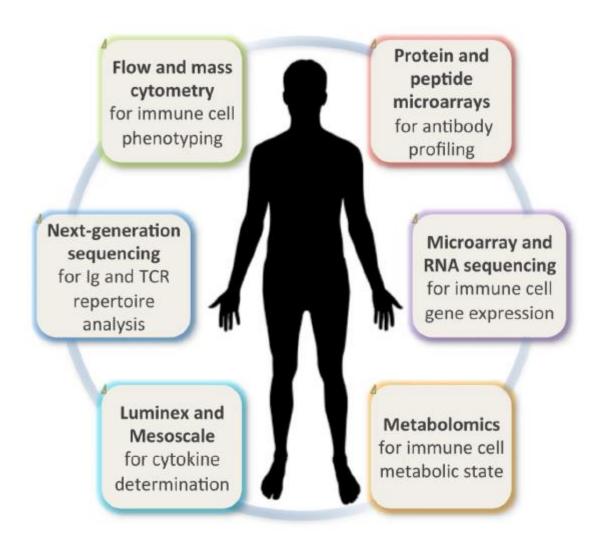
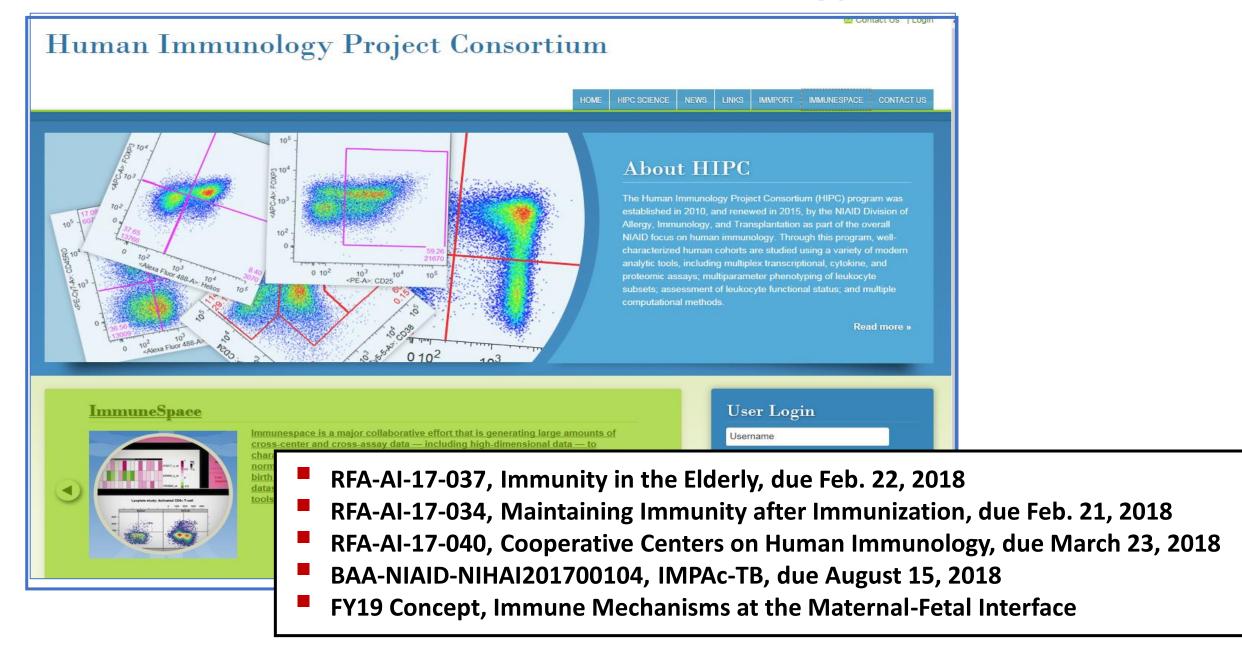
## **New Approaches to Understanding Human Immunity**



## **NIAID Supports Human Immunology Research**









## **Human Immunology Initiative**

About us

Initiatives

Scientific Director

Strategic research priorities

Deficiencies in the immune system, either genetic or acquired, are key contributors to most chronic conditions and diseases. Our understanding of the immune system and of new preventive and therapeutic approaches is due, in large part, to the use of animal models (mostly mice), however, the animal and human immune systems are often very different. For this reason, it is generally agreed that the translation of immunology research from animals to humans is challenging and that focused studies with the human

Following a number of consultation workshops with collaborating Institutes and the research community, it was concluded that analysis of the human immune system lacks standardization. As such, there is an urgent need to develop and apply standard operating procedures (SOPs) and common approaches for translational research and its application to cohorts in Canada.



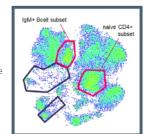
Systems Immunology

The Bill and Melinda Gates Foundation (BMGF) has established and funded a Systems Biology/Systems Immunology Consortium to discover and validate molecular, immunological, and clinical signatures of vaccine efficacy for infectious diseases.

Study Selection

Due to limited capacity and resources, not all study requests with available or planned samples can be analyzed by the Consortium. Requests for the following types of studies will be considered:

- Phase IIB/III efficacy studies, human challenge studies, and studies with primary clinical endpoints from which correlates of vaccine-induced protection from infection or disease could be derived
- Natural history (human) studies from which correlates of risk for disease or infection (or 'natural/innate' protection, if populations can be found) could be derived
- Treatment monitoring studies from which correlates of treatment success or failure could be derived
- · Preclinical studies critical for informing future efficacy study design or from which candidate correlates of protection or risk can be derived
- Early phase clinical studies in endemic populations that can inform later-stage trial design, via a kinetic analysis, and/or from which correlates of immunogenicity and reactogenicity can be derived





The Stanford Human Systems Immunology Center was established in January 2015 with a grant from the Bill and Melinda Gates Foundation (BMGF). The \$50 million grant over 10 years builds on existing technology developed at Stanford and housed in the Human Immune Monitoring Core. The center aims to better understand how the immune system can be harnessed to develop vaccines for the world's most deadly infectious diseases.