Introduction to immunology at Feinstein Institute for Medical Research (FIMR)

Betty Diamond¹ · Frances Santiago-Schwarz¹

Published online: 16 October 2015
© Springer Science+Business Media New York 2015

This volume provides an overview of the immunology research at the Feinstein Institute for Medical Research (FIMR). The institute was founded in 1999 as the North Shore-LIJ Research Institute, an independently chartered not-for-profit research institute in Manhasset, New York. It expanded significantly by acquiring laboratory and other assets, including a graduate training program and a peer-reviewed journal, *Molecular Medicine*, when the Picower Institute ceased operation. In 2005, the name was changed to The Feinstein Institute for Medical Research in recognition of a significant gift from Leonard Feinstein, cofounder of Bed Bath & Beyond, and his wife Susan. The Institute mission is to perform basic and clinical research to transform medical care. A major focus of research at the FIMR is the immune system and the nervous system and the connections between them. This focus has led to the identification of the inflammatory reflex; a brain-imaging signature of the placebo effect; mechanisms of neuropsychiatric lupus; cellular biomarkers for chronic lymphocytic leukemia; genetic risk factors for autoimmune diseases; the role of maternal gut microbiome in forming the fetal blood brain barrier; the role of HMGB1 in sterile and infectious inflammation, and more.

Investigators at the FIMR study disease to identify molecular targets and develop pharmacologic or non-pharmacologic interventions. This approach has led to the development of small molecule inhibitors of MIF currently in clinical trial and to electrical nerve stimulators, also in clinical trial, and to numerous other therapeutics targeting autoimmune and autoinflammatory diseases, also proceeding to clinical trial. The articles in this volume demonstrate how this approach to basic molecular medicine is applied to defining disease pathogenesis leading to discovery of novel therapeutic strategies.

Betty Diamond
Frances Santiago-Schwarz

✉ Betty Diamond
bdiamond@nshs.edu

Frances Santiago-Schwarz
Fsantiago1@nshs.edu

¹ Center for Autoimmune and Musculoskeletal Diseases, The Feinstein Institute for Medical Research, 350 Community Drive, Manhasset, NY 11030, USA

More recent studies examine the contribution of the immune system to pain, spinal cord injury and repair, degenerative disc disease and other conditions not routinely thought to be immunologically mediated. There is a current strong interest in modulating inappropriate immune inflammation or quiescence through central or peripheral nerve stimulation.

The FIMR is home to three degree-granting programs. For 20 years, it has been the principle training site of the Elmezzi graduate school, an independently chartered degree-granting institution in the University of the State of New York that provides PhD training to individuals who already have an MD and have during the course of their medical training decided to pursue research careers. In partnership with the Feinstein, The Hofstra North Shore Medical School opened 4 years ago and initiated both a combined MD/PhD and a PhD program with the Institute.

The educational philosophy of the FIMR is to empower students to take risks, explore new paradigms, utilize the full spectrum of scientific technologies, and constantly ask how their studies can improve human health. This philosophy has led to accelerated training programs and, we believe, to more adventurous scientists.

The FIMR enjoys important collaborations and affiliation agreements with the Karolinska Institute, the University of Notre Dame, and the Cold Spring Harbor Laboratory.

To the established scientists who peruse this volume, we hope you will find topics for discussion and collaboration. To trainees who read this volume, we hope you will consider advancing your careers at the FIMR.

Finally, enormous thanks to Frances Santiago-Schwarz who played an indispensable role in putting together this volume.