Allergic diseases have been on the rise globally in recent decades. Although it has long been known that IgE-mediated immune responses are associated with the manifestations of a wide spectrum of allergic disorders (asthma, atopic dermatitis, atopic rhinitis, food allergy, eosinophilic esophagitis), the exact factors leading to these aberrant immune responses are not well understood. Recent insights into disease origins support a broader realm of factors that may predispose, initiate or exacerbate altered immunity in allergic diseases such as inherent epithelial barrier dysfunction, loss of immune tolerance at central and specific sites, disturbances in gut and organ specific microbiomes, diet and age. However, these studies are in their infancy and have only been considered in a reductionist, disease or tissue-specific manner to date. Few studies have addressed the cross-talk between various organs leading to the concept of allergy as a system disease. A better understanding of the distinct or shared complex web of factors underlying the spectrum of allergic disorders and the successes/failures of the current armature of therapies may lead to the development of safer, disease-modifying interventions in the future. Thus, the major goal of this conference is to explore the potential microbial-epithelial-immune interactions underlying the etiology of allergic disorders in order to promote the development of novel disease prevention or intervention strategies.

Session Topics:
• Allergic Disease Phenotypes
• Workshop 1: Novel Approaches to Defining Epithelial-Microbial Interactions in Allergy
• Immunological Mechanisms of Allergic Disease and Tolerance
• Early-Life Origins of Allergic Disease
• Microbes, and Metabolites Controlling Tolerance in Allergic Disease
• Barrier Dysfunction in Allergic Diseases
• Workshop 2: Exploring the System Disease Concept of Allergic Disorders
• Immunotherapeutic Opportunities in Allergic Disease

Scholarship/Discounted Abstract Deadline: Dec 4, 2018; Abstract Deadline: Dec 13, 2018; Discounted Registration Deadline: Jan 23, 2019
Visit www.keystonesymposia.org/19M3 for more details.
SUNDAY, MARCH 24
Arrival and Registration

MONDAY, MARCH 25
Welcome and Keynote Address
Cezmi A. Akdis, Swiss Institute of Allergy and Asthma Research, Switzerland
Origins of Allergic Disease: Microbial, Epithelial and Immune Interactions

Allergic Disease Phenotypes
Kari Nadeau, Stanford University, USA
Is There a Scientific Basis for Allergy as a “Systems Disease”?

Sally Wenzel-Morganroth, University of Pittsburgh, USA
A Wounded Epithelium in the Cross Hairs of Asthma Pathogenesis

Hugh A. Sampson, Icahn School of Medicine at Mount Sinai, USA
Phenotypes and Endotypes of Food Allergy

Short Talk(s) Chosen from Abstracts

Workshop 1: Novel Approaches to Defining Epithelial-Microbial Interactions in Allergy

Short Talks Chosen from Abstracts

Immunological Mechanisms of Allergic Disease and Tolerance
Marsha Wills-Karp, Johns Hopkins Bloomberg School of Public Health, USA
Dysfunction in Epithelial-Cell Dectin-1/IL-33 Signaling and Susceptibility to Allergic Disorders

Steven F. Ziegler, Benaroya Research Institute, University of Washington School of Medicine, USA
Epithelial Cytokines and Type-2 Inflammation

Willem van de Veen, Swiss Institute of Allergy and Asthma Research, Switzerland
The Role of B Cells in the Induction and Maintenance of Allergen Tolerance

Short Talk(s) Chosen from Abstracts

Poster Session 1

TUESDAY, MARCH 26
Early Life Origins of Allergic Disease
Fernando D. Martinez, University of Arizona, USA
Molecular Basis of Asthma Protection

James E. Gern, University of Wisconsin, USA
Rhinoviruses, Allergy and Asthma

Maria G. Dominguez-Bello, Rutgers University, USA
Delivery Mode, Gut-Microbiota Structure and Metabolic Function

Susan Prescott, University of Western Australia, Australia
An Exposome Perspective: Early-Life Events and Immune Development

Short Talk(s) Chosen from Abstracts

Microbes, and Metabolites Controlling Tolerance in Allergic Disease
Eran Elinav, Weizmann Institute of Science, Israel
Host Microbiome Interactions in Health and Disease

Cathryn Nagler, University of Chicago, USA
The Microbiome, Timing, and Barrier Function in the Context of Allergic Disease

Benjamin J. Marsland, Centre Hospitalier Universitaire Vaudois, University of Lausanne, Switzerland
Influence of Diet, Microbes and Metabolites on Allergic Disease

Short Talk(s) Chosen from Abstracts

Poster Session 2

WEDNESDAY, MARCH 27
Barrier Dysfunction in Allergic Diseases
Alan Irvine, Trinity College Dublin, Ireland
Role of Filaggrin and Epidermal Differentiation Complex in Atopic Dermatitis

Donald YM Leung, National Jewish Health, USA
Role of Lipids in Skin Barrier Function

Marc E. Rothenberg, Cincinnati Children's Hospital Medical Center, USA
Barrier Dysfunction in Eosinophilic Esophagitis

Gideon Lack, King’s College London, UK
Targeting the Epithelial Barrier to Prevent Food Allergy

Short Talk(s) Chosen from Abstracts

Workshop 2: Exploring the System Disease Concept of Allergic Disorders

Short Talks Chosen from Abstracts

Immunotherapeutic Opportunities in Allergic Disease
Corinne Keet, Johns Hopkins School of Medicine, USA
Successes and Failures of Immunotherapy in Allergic Diseases

Dale T. Umetsu, Genentech, USA
Modulation of IgE in Atopic Diseases Reveals the Critical role of IgE

George D. Yancopoulos, Regeneron Pharmaceuticals, Inc., USA
IL-4R Modulation in Atopic Dermatitis and Asthma

Short Talk Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

THURSDAY, MARCH 28
Departure