
HMX Short Course - Immunology

Allergy and Asthma: Immunological Principles and Therapeutics

Learn about the immunological principles of allergic diseases, including asthma, food allergies, and atopic dermatitis, and explore how these conditions can be treated and prevented.

Allergic diseases are the most common type of immune disorder—they affect one in three people worldwide and can severely impact quality of life. This short course offers a unique way for professionals to learn from leading Harvard Medical School faculty about the immunological mechanisms underlying allergic diseases. It provides a thorough exploration of the cells and effector molecules that drive the distinct phases of the allergic response, from the initial sensitization to allergens to the immediate- and late-phase reactions that are characteristic of allergic diseases. Learning about these mechanisms is essential to understand how current treatments work and to identify new targets for therapeutic intervention.

Participants Will

- Understand the mechanisms that lead to the sensitization of individuals to allergens.
- Learn about type 2 immunity and the cellular and molecular players that elicit allergic reactions.
- Understand the pathophysiology of different allergic diseases and how they are treated.

Topics Covered Include

- Introduction to Allergy and Asthma: Immunological Principles and Therapeutics
- Type 2 Immunity
- Sensitization
- Mast Cells and the Allergic Effector Phase
- In Focus: Granulocytes
- Eicosanoids
- Epithelial Function and Remodeling in Allergic Disease
- Food Allergy, Anaphylaxis, Urticaria, and Drug Hypersensitivity
- Asthma, Atopic Dermatitis, and Allergic Rhinconjunctivitis
- Therapies for Allergic Diseases
- Clinical Linkage: Mastocytosis
- The Role of the Microbiome in the Development of Allergic Diseases
- In Focus: The Hygiene Hypothesis

HMX Short Courses feature targeted lessons on the latest medical science information and advancements to keep learners up to date.