To Division Chief Lloyd Mayer, MD, Dorothy and David Merksamer Professor of Medicine, Chief of the Division of Clinical Immunology, and Co-Director of the Immunology Institute, it is abundantly clear that the discovery of new treatments for primary immunodeficiency disease, autoimmune diseases, and asthma depends upon developing "highly interactive research programs that study human tissues and develop new models of human disease."

THE JEFFREY MODELL

Division of Clinical Immunology

At monthly Division faculty meetings preliminary research is presented, areas of individual expertise defined, and frequently exciting research ideas probed and cultivated. Dr. Mayer notes that new collaborations are forming, leading to new areas of investigation.

As an example, Dr. Mayer cites the collaborative research between Charlotte Cunningham-Rundles, MD, PhD, Professor, and Adrian Ting, MD, Assistant Professor, examining the effects of gene mutations on B cell function and their potential role in primary immunodeficiency. He also notes the work of Sergio Lira, MD, PhD, Professor and Co-Director of the Immunology Institute, who has developed a number of animal models from which to study the role of molecules known as chemokines and cytokines in a variety of biological processes including inflammatory/autoimmune disorders and cancer. A number of investigators at Mount Sinai are working with Dr. Lira to utilize his models for cutting edge and novel studies. Dr. Mayer is also involved in several collaborative projects including work with researchers from Mount Sinai's Jaffe Food Allergy Institute on two new grants to study basic mechanisms involved in the development of food allergies.

Dr. Mayer points out that, "Dean Charney (Dennis Charney, MD, Dean of Mount Sinai School of Medicine) established the Immunology Institute to provide a home for just this sort of collaborative science. We have built a solid foundation for this and now, as co-directors of the Institute, Dr. Lira and I are broadening these efforts throughout Mount Sinai."

TARGETING ASTHMA OUTREACH AND MANAGEMENT FOR UNDERSERVED POPULATIONS

Much of the Division's work in asthma research is fueled by increasing prevalence of the disease—especially in urban communities like those surrounding Mount Sinai.

Dr. Maitland directs the Division's Asthma Surveillance Project, a community outreach program targeting inner city children and adults. Screening sessions are held in church halls, community centers, street fairs and other neighborhood locations.

To increase the number of screenings annually, Dr. Maitland is training volunteers to use spirometers. "Our hope is, with more screenings, we can make substantive inroads into the disease and improve residents' quality of life," she says.

While most asthma outreach is geared to children and young adults, Dr. Busse is focused on an often ignored population—the elderly. Last year, Dr. Busse published an article in the *American Journal of Medicine* noting that asthma often remains undiagnosed in older people. Her article addressed the complexities of identifying and managing asthma and other allergic respiratory diseases in this population.

In promising basic research, Dr. Busse is studying lung inflammation, mucus cell changes and airway hyperresponsiveness in mouse models of allergic asthma, comparing younger versus older mice. Her findings thus far demonstrate that pulmonary inflammation and changes in the airway occurred more frequently in older mice while, surprisingly, hyperresponsiveness occurred less. Her work is revealing that new approaches may be needed to manage asthma in elderly patients.

Following are highlights of the many outstanding accomplishments taking place within the Jeffrey Modell Division of Clinical Immunology over the past year.

- Dr. Lira was elected to membership in the Association of American Physicians. Dr. Lira joins Dr. Mayer in this esteemed organization along with 13 other Mount Sinai Department of Medicine colleagues.
- Dr. Mayer was elected Chairman of the National Scientific Advisory Committee of the Crohn's and Colitis Foundation of America, whose mission is to fund cutting-edge research at major medical institutions.
- Anne Maitland, MD, PhD, Assistant Professor, and Rosalia Ayuso, MD, Instructor, both graduates of the Division's Clinical Immunology Fellowship Program, joined the faculty.
- Dr. Cunningham-Rundles was elected to the board of directors of the American Academy of Allergy, Asthma and Immunology, the largest professional medical organization in the United States devoted to allergy and immunology. She also chairs the organization's Task Force for Clinical Immunology Fellowships.
- Dr. Mayer is the principal investigator in a clinical trial to determine whether inhibition of interleukin-17 is effective in the treatment of Crohn's disease. He is also the principal investigator in clinical trials of abatacept (Orencia®), an injectible antibody, for treating ulcerative colitis and Crohn's disease.
- Drs. Cunningham-Rundles, Mayer, Lira, and Patricia Cortes, PhD, Assistant Professor, were recently awarded a program project grant from the National Institute of Allergy and Infectious Diseases for a collaborative effort to study defects in B cell function in primary immune deficiency.
- Paula J. Busse, MD, Assistant Professor, is leading a clinical trial investigating a new therapy for angioneurotic edema, a hereditary form of the syndrome that causes swelling within the deep layers of the skin.
- Dr. Cunningham-Rundles and coworkers reported in the *Journal of Allergy and Clinical Immunology* on a new genetic defect found in patients with common variable immunodeficiency who do not produce normal amounts of antibodies and are therefore susceptible to recurrent infections.
- A patent was filed by Dr. Mayer describing a strategy with which to develop oral vaccines through blockade of a group of proteins involved in suppression of immunity at mucosal surfaces.
- Julie Magarian Blander, PhD, Assistant Professor, was awarded a grant from the National Institute of Allergy and Infectious Diseases to study innate immune regulation of immunologic memory.