



“As infectious diseases become increasingly global, where epidemics can quickly turn pandemic, and when biologic agents can become weapons, never has the study of infection been so vital to human health,” asserts Mary Klotman, MD, Irene and Dr. Arthur M. Fishberg Professor of Medicine.

Division of Infectious Diseases

Dr. Klotman’s primary objective as Division Chief is to recruit the best and the brightest clinicians as well as clinical and translational scientists in the field. “Without great science,” she says, “the discipline fails to advance.”

Robert Klein, MD, Professor, was jointly recruited with the newly formed Institute for Epidemiology, Biostatistics, and Prevention to serve as Director of Clinical Research. He will be helping to build a clinical trials program and developing his own research program on epidemiology of the metabolic complications of HIV.

Dr. Klotman notes with particular pride the recruitment of Gopi Patel, MD, Instructor, a recent graduate of the Division’s fellowship program and a graduate of Mount Sinai’s General Internal Medicine Residency Program. “She will be leading clinical research projects in the Transplant Infectious Disease Program, focusing on multi-drug resistant bacterial infections in hospitalized patients.”

In addition to continuing to recruit and mentor junior and senior scientists, Dr. Klotman notes that her long-term goals include facilitating multi-investigator translational research projects, strengthening collaborative projects involving basic and clinical researchers, enhancing clinical care and research in travel medicine and HIV/hepatitis coinfection, and establishing a strong ambulatory infectious disease program.

The following short list touches upon only a few of the Division’s research, education, and clinical activities and the many accomplishments of its faculty over the past year.

- Dr. Klotman co-authored, with Daniel Caplivski, MD, Assistant Professor and Director of the Travel Medicine Program, a comprehensive review article in the *American Journal of Medicine* on the safety and efficacy of travel medicine-related vaccines for HIV-positive travelers. She was also elected President of Duke University Medical Alumni Association.
- Mount Sinai became the only recognized NIH Center of Excellence for Influenza Research and Surveillance in New York City, and one of only six in the country. Principal investigator for the Center for Research in Influenza Pathogenesis is Adolfo García-Sastre, PhD, Professor of Microbiology, and Irene and Dr. Arthur M. Fishberg Professor of Medicine.

- Benjamin Chen, MD, PhD, Assistant Professor, received the Irma T. Hirschl-Monique Weill-Caulier Career Scientist Award for work in HIV virology. He was also named a Burroughs Wellcome Fund Investigator in the Pathogenesis of Infectious Diseases. Dr. Chen recently received a grant from the National Institute of Allergy and Infectious Diseases (NIAID) to study viral transmission-enhancing structures called virological synapses, which may be key factors in allowing HIV to evade antibody-based immunity.
- Theresa L. Chang, PhD, Assistant Professor, is the principal investigator on a grant from NIAID to examine the function of defensins, tiny antimicrobial peptides, in HIV-1 pathogenesis and transmission.
- Lubbertus Mulder, PhD, Assistant Professor, is principal investigator on a NIAID grant to study genomic stability in early HIV-1 infection.
- Shirish Huprikar, MD, Assistant Professor, published a review article on the latest advances in treatment of infectious diseases in liver transplant recipients in *Clinical Liver Disease*.
- The Division’s Travel Medicine Program is now a major referral center for patients with leishmaniasis and the United Nations is increasingly using the program to prepare employees for travel evaluations. Dr. Caplivski

has also partnered with Mount Sinai’s Global Health Center to prepare residents, students and attending physicians for living and working in Liberia, Honduras, and Brazil.

- Alpha-defensins were the topic of research published in the *Journal of Infectious Diseases* by Mirella Salvatore, MD, Associate. The article reported on the antiviral activity of human alpha-defensin-1 (or, HNP-1) against influenza virus in vitro.
- Dr. Mulder and colleagues published a study of HIV-1 integrase, a viral enzyme essential for HIV-1 infection, in the journal *Virology*.
- “HIV/AIDS epidemiology, pathogenesis, prevention, and treatment” is a review article that offers a global perspective on the HIV/AIDS pandemic. It was published in the *Lancet* by Viviana Simon, MD, MPH, Assistant Professor, and colleagues.
- Richard MacKay, MD, Assistant Professor, offered free HIV screening with a new rapid assay at several local community health fairs in 2007. He has also been working to increase the use of rapid testing throughout the Mount Sinai community.

WHEN IT COMES TO INFECTIOUS DISEASES, Education Must Be Ahead of the Bugs!

To ensure that the Fellowship Program in Infectious Diseases remains several steps ahead of the ever-changing nature of communicable disease, the program was redesigned to offer the most in-depth and comprehensive training available.

After completing the two-year fellowship program, notes Dr. Klotman, “the training in epidemiology, microbiology and related disciplines bestows an extremely high level of competence. The program offers a global, multidisciplinary perspective, which Dr. Huprikar (Assistant Director of the Infectious Disease Fellowship

Program) helped foster.”

Division faculty members are also involved in efforts to enhance Mount Sinai’s Masters in Public Health (MPH) Program. Most recently, two courses were added to the curriculum, designed by Stephanie Factor, MD, MPH, Assistant Professor.

“Now, this is an exciting new course,” effused Dr. Klotman about Dr. Factor’s course in epidemiology. “The list of topics and speakers is fascinating. Students are taught to measure disease frequency, describe patterns of disease occurrence, investigate outbreaks, identify the causes or risk factors for disease, assess the utility of diagnostic tests, and test the effectiveness of treatments.”

Another course designed by Dr. Factor addresses the growing threat of zoonotic diseases,

which are transmitted from vertebrate animals to humans. “Special Topics in Zoonoses,” features guest lecturers from varied backgrounds—ecology, history, journalism, law, medicine, microbiology, and veterinary medicine—to provide a multidimensional view of factors contributing to the emergence of zoonotic diseases.

“With the majority of emerging infections in the recent decades arising as zoonoses and the potential to use these microbes as biologic weapons, this is an extremely timely and exciting course,” declares Dr. Klotman.