In 2010, Dr. Robert Belshe, who developed our internationally renowned Center for Vaccine Development, stepped down from the position of Director, Division of Infectious Diseases and Immunology. In December of 2010, the Division of Infectious Diseases, Allergy & Immunology was created combining the former Division of Immunobiology and former Division of Infectious Diseases & Immunology into one unit. Dr. Daniel F. Hoft, MD, PhD was named the director of this new division and was provided generous start-up support to recruit new faculty. During the past year our Division has gained three new outstanding faculty members, and continues to recruit additional candidates. Clinical faculty within the Division of Infectious Diseases, Allergy & Immunology have expertise in medicine, infectious diseases as well as allergy & clinical immunology. Research strengths of our faculty include vaccinology, translational immunobiology, basic immunology, cell biology, molecular virology and molecular biology. This interdisciplinary group works together to provide state-of-the-art clinical care and conduct cutting edge research. Our overall goal is to maintain and amplify our existing strengths in clinical infectious diseases and allergy/immunology, as well as integrate our research faculty into a cohesive unit that focuses on translational research in areas of vaccinology and immunobiology. The Center for Vaccine Development remains a key focus of our work and will be expanded to include clinical and translational studies of new vaccines for infectious diseases and cancer, and immunotherapies for allergic diseases.

Clinical Activities in Infectious Diseases

The Division of Infectious Diseases, Allergy & Immunology faculty provide clinical care for persons hospitalized at Saint Louis University with infectious diseases. Because of the large number of severely ill patients who are immunosuppressed due to cancer, recent organ transplantation or rare or unusual infectious diseases, the consultation service is an extremely busy clinical service at Saint Louis University Hospital. As the acuity of illnesses seen at Saint Louis University Hospital continues to increase, the number of patients suffering secondary complications of infection also increases. The consult service evaluates patients, provides treatment and educates students, housestaff and other faculty in the diagnosis and management of complex infectious diseases. The educational component and the clinical care component of our clinical care mission are highly integrated.

The Saint Louis University Infectious Diseases / New Hope Clinic located in Suite 100 of Drummond Hall, is a state-of-the-art outpatient clinic that completes approximately 2,000 patient visits each year. Patients are commonly referred to the clinic by Saint Louis University Hospital inpatient and outpatient departments, as well as from community
physicians. Clinic is held 5 days a week. The clinic emphasizes ‘continuity of care’ so that the same physician sees the patient on each visit. In addition to the physicians, the Clinic is staffed with nurses who specialize in HIV care and HIV case managers. About 300 patients being managed long term in the clinic are being treated for HIV/AIDS, while others are treated for a variety of conditions, including: 1) complicated chronic infections such as osteomyelitis, endocarditis, liver or brain abscess, staphylococcus (especially MRSA), fungal, and other unusual infections, 2) individuals who are immunosuppressed as a result of transplant, cancer/chemotherapy, and HIV infection, 3) fever of unknown origin, 4) tuberculosis and 5) careful monitoring of outpatient intravenous antibiotic therapy.

Clinical Activities in Allergy/Immunology

The Section of Allergy and Clinical Immunology provides a comprehensive range of diagnostic, therapeutic and consultative services for allergic diseases, asthma and immune disorders. These include allergy skin testing to airborne allergens and foods, lung spirometry and a number of special services including direct challenge testing, and desensitization for inhalant, insect venom and drug sensitivities. A nasal and paranasal sinus laboratory is used to evaluate nasal and sinus problems with fiberoptic nasopharyngoscopy. With surgeons from the Department of Otolaryngology (ear, nose and throat disorders), the Section’s faculty physicians participate in a multidisciplinary comprehensive sinus clinic serving patients with chronic sinusitis.

The Section staffed the Allergy & Immunology Service at the John Cochran VA Medical Center. The Section also performs specialized diagnostic laboratory testing for allergic bronchopulmonary aspergillosis.

Research Activities within the Division of Infectious Diseases, Allergy & Immunology

The Division is the home of the Center for Vaccine Development, which is a multi-disciplinary research center designed to conduct basic and clinical research on new vaccines and biologics. We are a national resource for the study of new vaccines such as the novel H1N1 2009 influenza vaccine and vaccines against agents of bioterrorism. The Vaccine Center is comprised of highly trained researchers who have a long track record of successfully conducting basic research, clinical trials and translational vaccine studies. Researchers at the Center recognize the increasing need for a multidisciplinary approach to vaccine development which encompasses an understanding of pathophysiology, immunology, molecular biology and epidemiology. This diversity of expertise is found at the Saint Louis University Center for Vaccine Development.

The Center has demonstrated its ability to recruit large numbers of volunteers and participates in protocols with a wide spectrum of research designs, vaccine candidates, and the subject population. The Center’s large pool of experienced research nurses and staff coupled with an extensive population base of volunteers has enabled it to complete large
studies with speed and uncompromising quality. This flexibility, expertise, and experience have fostered collaboration with industry, government, and private foundations. Saint Louis University's Center for Vaccine Development has a strong record of cooperating with the NIAID, other vaccine evaluation units, outside investigators, and industry.

Additional research projects ongoing in the division include investigations of the basic mechanisms of mucosal and systemic immunity protections against mucosally transmitted, chronic intracellular pathogens. Molecular biological and immunological techniques are being used to develop and test new vaccines in animal models and human vaccine trials. Other research projects involve studies of regulatory T cells present among tumor-infiltrating lymphocytes, basic molecular studies of hepatitis C virus, and the biologic effects of IL-12 cytokine family members in infections, autoimmune disease and cancers.

**Education and Service**

The Division is actively involved in teaching of medical students and internal medicine residents by providing elective rotations that attract large numbers of trainees and a variety of didactic lectures. We offer 2-3 year subspecialty residency/fellowship training programs in Infectious Diseases, as well as in Allergy and Clinical Immunology. Both training programs are accredited by the American Council on Graduate Medical Education. The Infectious Disease training program provides outstanding training in general infectious diseases, clinical microbiology, hospital epidemiology and outpatient care of patients with a wide variety of infectious diseases including HIV. The Allergy and Clinical Immunology training provides outstanding training in all aspects of allergy and immunology and is highly sought after by graduates of internal medicine, pediatrics and medicine-pediatrics residency programs from around the country. Both training programs involve internists and pediatricians which provide a broad-based clinical education for our fellows.

Divisional faculty serve on the numerous Medical School and University Hospital committees, as well as being highly active nationally in subspecialty professional organizations, and providing service to the FDA, the National Institutes of Allergic and Infectious Diseases (NIAID), and the Aeras Global TB Vaccine Foundation.

**Honors and Recognition**

**2012 Best Doctors, St. Louis Magazine**
Robert Belshe, M.D.
Sharon E. Frey, M.D.
Sarah George, M.D.
Donald Kennedy, M.D.
Rodney Lusk, M.D.
Marcia L. Sokol-Anderson, M.D.

Robert B. Belshe, MD
Grant Winner Award for Excellence in Research, Saint Louis University, 2011

Daniel F. Hoft, MD, PhD
Invited Speaker: MGIA assays following immunization with rBCG. Aeras Headquarters Immunoassays Symposium, Rockville, MD. August 1-3, 2011

Donald J. Kennedy, MD
2011 Faculty Service Award

Ranjit Ray, PhD

Raymond G. Slavin, MD
Keynote Speaker – Saint Louis University Medical School 2012 Precommencement Ceremony

Grants and Contracts Held By Each Faculty Member

Robert Belshe, MD
- University of Kentucky, "Repetitive Thought, Stress, and Immunity in Older Adults", 2006-2012, $106,878.
DIVISION OF INFECTIOUS DISEASES, ALLERGY AND IMMUNOLOGY

- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine and Treatment and Evaluation Unit Option 6D-10-0016,” 2010-2012, $500,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine and Treatment Evaluation Unit Option 2 Core,” 2010-2012, $600,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine and Treatment Evaluation Unit Option 6C-09-0100,” 2010-2012, $500,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine and Treatment Evaluation Unit Option 6A-08-0066,” 2010-2012, $500,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine and Treatment Evaluation Unit Option 6B-09-0007,” 2010-2012, $500,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine Treatment and Evaluation Unit Option 11C-09-0100,” 2011-2012, $100,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine Treatment and Evaluation Unit Option 7A-08-0017-PPR,” 2010-2012, $1,000,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine and Treatment Evaluation Unit Option 7B-11-0034,” 2011-2013, $1,000,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine Treatment and Evaluation Unit Option 11D-11-0024,” 2011-2012, $100,000.
- National Institute Of Allergy & Infectious Diseases HHSN272200800003C, “Vaccine Treatment and Evaluation Unit Option 10C-01-643-UPEN,” 2011-2012, $500,000.
DIVISION OF INFECTIOUS DISEASES,  
ALLERGY AND IMMUNOLOGY

Anupma Dixit, PhD

Sharon Frey, MD

Sarah George, MD
- Washington University Subcontract, "Immunity to wild-type virus and immunodominant epitopes after dengue vaccination (ICTS)", 2012-2013, $50,000.

Geoffrey Gorse, MD
- U.S. Department Of Veteran Affairs, "IPA with the St. Louis VAMC for Mary Donovan," 2010-2011, $39,449.
- U.S. Department Of Veteran Affairs, "IPA with the St. Louis VAMC for Mary Donovan," 2011-2013, $93,374.

Daniel Hoft, MD, PhD
- National Institute Of Allergy & Infectious Diseases 5R01AI04839108, “Role Of Gammadelta T Cells In Vaccine-Induced Immunity,” 2007-2013, $1,810,293.
DIVISION OF INFECTIOUS DISEASES, ALLERGY AND IMMUNOLOGY

- National Institute Of Allergy & Infectious Diseases 1R21AI099514-01, "Development of Novel Chagas Vaccines", 2012-2014, $225,000.

Jianguo Liu, PhD
- National Institutes of Health 5R03AR05535302, "PARP-1 in Juvenile Idiopathic Arthritis-associated IL-10 Promoter Polymorphisms," 2009-2013, $217,553.

Guangyong Peng, PhD
- American Cancer Society RSG-10-160-01-LIB, "Functional role of tumor-infiltrating gamma/delta T cells in breast cancer.,” 2010-2014, $720,000.
- National Institute Of Allergy & Infectious Diseases 1R21AI097852-01, "Commitment and Plasticity of Th17 Cells and Tregs within the Tumor Microenvironment”, 2012-2014, $225,000.

Ranjit Ray, PhD
- National Institute Of Allergy & Infectious Diseases 5R01AI06876904, “Qualitative Nature Of Antibodies To HCV Glycoprotein Subunit Vaccine In Humans,” 2006-2012, $1,282,020.

Marcia Sokol-Anderson, MD

During fiscal year 2012 the Division of Infectious Diseases Allergy and Immunology had 23 active studies with various industry sponsors. Due to confidentiality agreements and non-publicity clauses in contracts with sponsors, specific information pertaining to industry sponsored research may not be released in public documents.
DIVISION OF INFECTIOUS DISEASES, ALLERGY AND IMMUNOLOGY

Faculty

Professor and Director  
Daniel F. Hoft, M.D., Ph.D.

Assistant Professor  
Sarah L. George, M.D.

Professor and Chief  
Section of Allergy & Clinical Immunology  
Raymond G. Slavin, M.D.

Assistant Professor  
Jianguo Liu, M.D., Ph.D.  
Guangyong Peng, M.D., Ph.D.  
James Temprano, M.D.

Professor  
Dianna and J. Joseph Adorjan Endowed Chair  
Robert B. Belshe, M.D.  
Sharon E. Frey, M.D.  
Geoffrey J. Gorse, M.D.  
Donald J. Kennedy, M.D.  
Ranjit Ray, Ph.D.

Visitng Assistant Professor  
Anupma Dixit, Ph.D., MPH

Professor  
Dianna and J. Joseph Adorjan Endowed Chair  
Robert B. Belshe, M.D.  
Sharon E. Frey, M.D.  
Geoffrey J. Gorse, M.D.  
Donald J. Kennedy, M.D.  
Ranjit Ray, Ph.D.

Clinical Instructor  
Barry Zeffren, M.D.

Research Professor  
Edwin L. Anderson, M.D.

Research Associate  
Jian Ye, Ph.D.

Clinical Professor, Secondary  
Michael R. Borts, M.D.

Visitng Scientist  
Lin Wei, Ph.D.

Associate Professor  
Rodney Lusk, M.D.  
Marcia Sokol-Anderson, M.D.

Post Doctoral Fellow  
Arup Banerjee, Ph.D.  
Hangeum Kim, Ph.D.  
Gu Ling, Ph.D.  
Chunling Ma, Ph.D.  
Budhaditya Mazumder, Ph.D.  
Huan Ning, M.D.  
Isaac Sakala, Ph.D.  
Steven Truscott, Ph.D.  
Jidong Zhang, M.D., Ph.D.

Associate Professor, Secondary  
Bradley Becker, M.D.  
Ratna Ray, Ph.D.

Business Manager  
Ms. Tammy Grant, M.B.A.