

# SECTION OF INFECTIOUS DISEASES

## SECTION ACCOMPLISHMENTS

- Infectious Disease faculty have taken a leadership role in the national response to the novel coronavirus pandemic caused by Severe Acute Respiratory Coronavirus-2 (SARS CoV-2). The Vaccine Research Center at Baylor College of Medicine (BCM), led by Dr. Hana El Sahly, is a site for the Adaptive COVID-19 Treatment Trial (ACTT) studies and for the phase 3 study of the efficacy of the Moderna mRNA-1273 Vaccine. Dr. El Sahly, principal investigator of the Vaccine Research Center, is national co-principal investigator of the phase three study of the Moderna vaccine.
- Infectious Disease faculty have played major roles in BCM's response to the novel coronavirus pandemic, serving as leaders in the Incidence Command Center and sub-committees and in infection control at Baylor St. Luke's Medical Center (BSLMC), Ben Taub Hospital, and the Michael E. DeBakey VA Medical Center (MEDVAMC).
- The Section continues to contribute to national practice guidelines and national infectious diseases organizations, with members on the Advisory Committee on Immunization Practices and the Department of Health and Human Services Panel on Antiretroviral Guidelines for Adults and Adolescents; members on NIH review panels; and in leadership committees of the Infectious Diseases Society of America and the American Society of Tropical Medicine and Hygiene.
- Clinical highlights include participating in new "long COVID" multi-disciplinary services at Baylor Medicine and MEDVAMC, participating in multi-disciplinary transplant infectious diseases services at BSLMC.
- The Section's faculty continue to have leadership roles in undergraduate and graduate medical education for the Department of Medicine as well as for BCM's School of Medicine and National School of Tropical Medicine.
- The Infectious Diseases faculty were authors on 142 peer-reviewed publications and 13 book chapters and the primary members of the Section had more than \$13,533,835 in new funding during 2020-2021.



**SECTION CHIEF**

***Thomas Giordano, MD,  
MPH***

## FACULTY

### **Section Leadership**

- Thomas Giordano, MD, MPH, Chief of the Section of Infectious Diseases and Medical Director at Thomas Street Health Center (Harris Health System's HIV Clinic)
- Robert Atmar, MD, Chief, Ben Taub Hospital and Smith Clinic
- Muhammad Rizwan Sohail, MD, FIDSA, Medical Director for the Baylor Faculty Group Practice
- Maria Rodriguez-Barradas, MD, Chief, MEDVAMC
- Jose Serpa-Alvarez, MD, MS, Program Director for the Infectious Diseases fellowship training program
- Prathit Kulkarni, MD, FACP, Associate Program Director for the Infectious Diseases fellowship training program

### **Faculty**

#### **Primary**

#### **Distinguished Professor**

- Daniel Musher, MD

#### **Professor**

- Robert Atmar, MD
- Thomas Giordano, MD, MPH
- Richard Hamill, MD
- Maria Rodriguez-Barradas, MD
- Muhammad Rizwan Sohail, MD, FIDSA
- Edward Young, MD\*

#### **Associate Professor**

- Mayar Al Mohajer, MD, MBA
- Penny Jaffe, MD
- George Robert Parkerson, MD, MPH
- Jose Serpa-Alvarez, MD, MS

#### **Assistant Professor**

- Monisha Arya, MD, MPH
- Katherine Breaux, MS
- Galant Chan, MD
- Andrew Chou, MD
- Eva Clark, MD, PhD
- Bich Dang, MD

- Yuriko Fukuta, MD, PhD
- Melanie Goebel, MD
- Ahmed Hamdi, MD
- Marion Hemmersbach-Miller, MD, PhD
- Andrew Hunter, PharmD
- Prathit Kulkarni, MD
- Tyler Lambing, MD
- Cezarina Mindru, MD
- Shital Patel, MD
- Alison Robins, MD
- Stacey Rose, MD
- Shahriar Tavakoli Tabasi, MD
- Huan Xu, MD
- Instructor
- Oyebunmi Kutemi, NP, MS, MSN, AGNP-C
- Margaret White, NP, MSN, MPH

\* deceased

#### **Co-Primary**

#### **Professor**

- Hana El Sahly, MD
- Mary Estes, PhD
- Wendy Keitel, MD
- Andrew Rice, PhD

#### **Assistant Professor**

- Jennifer Whitaker, MD

- Rojelio Mejia, MD
- Jill Weatherhead, MD, MS

#### **Secondary**

#### **Associate Professor**

- Kenneth Muldrew, MD, MPH

#### **Emeritus**

- Thomas Cate, MD\*
- Robert Couch, MD
- Temple Williams, MD

\*deceased

#### **Assistant Professor**

- Andrew DiNardo, MD, MS

## **HONORS AND ACHIEVEMENTS**

### **Mayar Al Mohajer, MD, MB**

- Election to Fellowship (F.A.C.H.E.), American College of Healthcare Executives (ACHE)
- Election to Fellowship (F.S.H.E.A.), Society for Healthcare Epidemiology of America (SHEA)
- Norton Rose Fulbright Faculty Excellence Award (Teaching and Evaluations)
- Norton Rose Fulbright Faculty Excellence Award (Development of Enduring Educational Materials)
- Selected to be chief of infectious diseases at BSLMC

### **Monisha Arya, MD**

- Selected to participate in and won a national two-day health campaign design contest sponsored by Society for Health Communication and Westat to promote HPV vaccination

### **Eva Clark, MD, PhD**

- Selected as Associate Director of Medical Education at BCM's National School of Tropical Medicine

### **Bich Dang, MD**

- Norton Rose Fulbright Faculty Excellence Award

### **Thomas Giordano, MD, MPH**

- Key Opinion Leader, Houston Fast-Track City Initiative, International Associate of Providers in AIDS Care, 2020 to present

### **Ahmed Hamdi, MD**

- Baylor Medicine Patient Experience “That’s the Way” Award

### **Prathit Kulkarni, MD, FACP**

- Professional Educator Appreciation and Recognition Award from the School of Medicine Curriculum Committee (August 2020)
- Served as faculty supervisor for first place poster in Educational Research category in the Henry JN Taub & JK Alexander Medical Student Research Symposium, Baylor College of Medicine (March 2021)

### **Stacey Rose, MD, FACP**

- Norton Rose Fulbright Faculty Excellence award: Teaching and Evaluation
- Norton Rose Fulbright Faculty Excellence award: Enduring Materials
- BCM Outstanding Faculty Award (one of five faculty selected by graduating medical students)
- Texas SuperDoctors Rising Stars 2020
- Top Doctors 2020, *Houstonia* Magazine

### **Jose Serpa-Alvarez, MD**

- Appointed Chair of the Intestinal and Tissue Helminths/Cestodes Subcommittee of the ASTMH Scientific Committee

## **RESEARCH ACTIVITIES**

### **Grants**

#### **Robert Atmar, MD**

- NIH UM1AI148684S2; SARS-COV-2 Vaccine and Therapeutic Development; \$28,333

#### **Andrew DiNardo, MD, MS**

- John S. Dunn Foundation; CRISPR/Cas9; \$100,000
- Texas A&M; BCG as Defense Against SARS-COVID19; \$372,854

#### **Yuriko Fukuta, MD**

- Department of Defense; Convalescent Plasma to Stem Coronavirus; \$1,521,539

#### **Thomas Giordano, MD, MPH**

- NIH/NIAID; Training Program in Infection and Immunity; \$1,184,466
- NIH/NIMH; Targeting HIV Retention and Improved Viral load through Engagement ('THRIVE'); \$450,000
- NIH; Texas Developmental Center for AIDS Research (D-CFAR); \$4,285,958

#### **Prathit Kulkarni, MD, FACP**

- Vessel Health, Inc.; Vessel at home testing platform using SARS-CoV-2 IgG/IgM rapid test kit sample matrix equivalency study; \$39,295
- Michael E. DeBakey VA Medical Center; Impact of COVID-19 on rounding patterns; \$50,000

- VA Office of Research and Development; VA CURES-1; \$126,621

**Maria Rodriguez-Barradas, MD**

- CDC; Active Surveillance to Quantify the Burden of Viral Gastroenteritis in US Veterans Affairs (VA) Patient Population; \$1,715,358

**Jose Serpa-Alvarez, MD**

- Janssen Scientific Affairs, LLC; 2020 IDSA Annual Meeting Travel Grant; \$2,025
- University of Texas Health Science Center at Houston; SRA; \$37,717

**Jennifer Whitaker, MD**

- NIH/NIAID (El Sahly VTEU PI); Site PI; Supplement funds for Gritstone SARS-CoV-2 phase 1 vaccine trial; \$444,364
- NIH/NIAID (El Sahly VTEU PI) ; Site Co-PI with C. Mary Healy; Supplement funds for Novavax SARS-CoV-2 phase 3 vaccine trial; \$3,486,400

**Publications**

- *AIDS* (IF **4.511**): 2
- *American Journal of Medicine* (IF **4.76**): 2
- *American Journal of Public Health* (IF **6.464**): 1
- *Annals of Cardiothoracic Surgery* (IF **4.101**): 1
- *Annals of Internal Medicine* (IF **21.317**): 2
- *Annals of Rheumatic Diseases* (IF **12.35**): 1
- *Cell Medicine* (IF **38.637**): 1
- *Clinical Infectious Diseases* (IF **8.313**): 13
- *Clinical Microbiology and Infection* (IF **7.117**): 1
- *Emerging Infectious Diseases* (IF **6.259**): 1
- *European Respiratory Review* (IF **6.22**): 1
- *European Respiratory Journal* (IF **12.339**): 2
- *European Urology Oncology* (IF **6.3**): 1
- *Frontiers in Immunology* (IF **6.76**): 2
- *Heart* (IF **5.213**): 1
- *Hepatology* (IF **14.679**): 1
- *JACC Clinical Electrophysiology* (IF **4.086**): 1
- *Journal of Antimicrobial Chemotherapy* (IF **5.217**): 1
- *Journal of Biological Chemistry* (IF **5.157**): 1
- *Journal of Clinical Investigation* (IF **11.864**): 1
- *Journal of Infectious Diseases* (IF **4.603**): 8
- *Journal of Medicine Internet Research* (IF **5.03**): 1
- *Journal of the American Heart Association* (IF **4.66**): 1
- *Journal of Virology* (IF **4.501**): 2
- *Mayo Clinic Proceedings: Innovations, Quality and Outcomes* (IF **7.616**): 2

- *Mayo Clinic Proceedings* (IF **6.942**): 3
- *mBio Journal* (IF **6.784**): 1
- *MMWR* (IF **11**): 2
- *mSphere* (IF **4.282**): 1
- *Nature Immunology* (IF **20.479**): 1
- *New England Journal of Medicine* (IF **74.699**): 7
- *Pediatric* (IF **5.359**): 1
- *Proceedings of the National Academy of Sciences of the United States of America* (IF **9.412**): 2

## **Books and Book Chapters**

### **Eva Clark, MD, PhD**

- Toxocara. In: *Neglected Tropical Diseases - North America*, 1st Ed.
- Malignant Diseases in HIV. In: *Fundamentals of HIV Medicine 2020*
- Viral and Rickettsial Diseases. In: *Current Medical Diagnosis and Treatment 2021*, 60th Ed.

### **Yuriko Fukuta, MD**

- Recovery after acute SARS-CoV-2 infection: Review of long-term sequelae and approach to clinical management. In: *COVID 19 infection and Human health risks*.

### **Daniel Musher, MD**

- Etiology of Pneumonia. In: UpToDate
- Pneumococcal pneumonia in patients requiring hospitalization. In: UpToDate
- Pneumococcal vaccination in adults. In: UpToDate
- Invasive pneumococcal (*Streptococcus pneumoniae*) infections and bacteremia. In: UpToDate
- Resistance of *Streptococcus pneumoniae* to beta-lactam antibiotics. In: UpToDate
- Resistance of *Streptococcus pneumoniae* to the macrolides, azalides, lincosamides, and ketolides. In: UpToDate
- Resistance of *Streptococcus pneumoniae* to the fluoroquinolones, doxycycline, and trimethoprim-sulfamethoxazole. In: UpToDate

### **Stacey Rose, MD, FACP**

- Mycotic infections. In: *Current Medical Diagnosis and Treatment*, 2019, 2020, 2021 editions

### **Jennifer Whitaker, MD**

- Tuberculosis and HIV. Heartland National TB Center and Mayo Clinic, 2020: In: *The Spectrum of Tuberculosis from Infection to Disease, TB at a Glance, 3<sup>rd</sup> Ed.*

## CENTERS

### *The Texas Developmental Center for AIDS Research*

The **Texas Developmental Center for AIDS Research** (Texas D-CFAR) was funded by NIH in April 2021 and is administratively housed in the Section of Infectious Diseases. Dr. Giordano is Director of the Texas D-CFAR. The Texas D-CFAR supports the overall mission of the national CFAR program by facilitating high-priority HIV research and supporting the effort to end the HIV epidemic in the US. Three institutions collaborate in this D-CFAR: Baylor College of Medicine in Houston, The University of Texas Health Science Center at Houston and the Texas Biomedical Research Institute in San Antonio. The Texas D-CFAR has focused its activities in the five-year funding period on the research theme “Ending HIV and Optimizing HIV Health in Texas.”

To accomplish its goals, the Texas D-CFAR:

- Provides organizational and financial management and facilitates activities and programs that strengthen and enrich the D-CFAR research and intellectual environment
- Supports targeted high-priority interdisciplinary pilot research projects, assists in responding to new HIV-related research initiatives, and facilitates research on ending HIV and improving health of PWH in Texas
- Provides state-of-the-art expertise, advice, and services to facilitate the range of HIV-related research for D-CFAR investigators.

The Texas D-CFAR has an Administrative Core, a Developmental Core, a Basic Science Core and a Clinical and Biostatistics Core to meet investigator needs and catalyze innovative research. The scientific Cores build on outstanding strengths in virology, non-human primate resources, clinical trials research and biostatistics. The D-CFAR will engage a Community Advisory Board and Internal and External Advisory Boards for guidance. The Community Advisory Board is expected to be seated by December 2021. Coupled with outstanding institutional support, the D-CFAR stimulates new research and collaborations among basic, translational, clinical, health services and public health researchers. The D-CFAR significantly advances knowledge needed to end HIV and improve the health of PWH in Texas and similar areas, train the next generation of scientists, and grow into a full CFAR, thereby contributing to ending the HIV epidemic in Texas, the US South, and beyond.

### *Vaccine Research Center at Baylor College of Medicine*

The **Vaccine Research Center** promotes human health by developing effective methods for the treatment and prevention of infectious diseases through clinical and laboratory research and educational activities. This center is focused on supporting existing vaccine and antimicrobial research programs that are ongoing at Baylor, including preclinical and clinical programs; supporting investigators/clinical collaborators who have expertise and capabilities for developing cutting edge programs in systems biology, immunogenetics, molecular virology and cellular immunology; expanding vaccine and antimicrobial development programs in both animal models and human volunteer research programs so that hypothesis-driven research can be initiated and supported; providing a critical mass in bioinformatics expertise for analyzing and providing statistical support for systems biology and immunogenetics

research; and expanding and codifying an educational program designed to train the next generation of vaccinologists.

The Vaccine Research Center is home to one of nine NIH-sponsored Vaccine and Treatment Evaluation Units (VTEUs); one of five U.S. Influenza Vaccine Effectiveness Units (laboratory component); a U01 grant for evaluation of predictors of recurrent wheezing/asthma in infants; a site for screening and evaluation of antivirals and vaccines for prevention and treatment of paramyxovirus infections (such as respiratory syncytial virus, or RSV) using in vitro and animal models. It has taken a leadership role in the US response to the novel coronavirus pandemic caused by the Severe Acute Respiratory Coronavirus-2 (SARS CoV-2). It is a site for the Adaptive COVID-19 Treatment Trial (ACTT) studies and for the phase 3 study of the efficacy of the Moderna mRNA-1273 Vaccine. Dr. Hana El Sahly, PI of the Vaccine Research Center, is Co-PI of the phase 3 study of the Moderna vaccine.

Infectious Diseases faculty who are members of the Vaccine Research Center include Drs. Hana El Sahly (PI), Robert Atmar, Wendy Keitel, and Jennifer Whitaker.

### ***Center for Innovations in Quality, Effectiveness & Safety***

The **Center for Innovations in Quality, Effectiveness & Safety (IQuEST)** is a combined Baylor and a VA Health Services Research & Development Center of Innovation. It conducts high-quality scientific research that improves the health of patients across the nation by helping to ensure the patient-centered delivery of scientific discoveries. The research extends from patient experience, to clinical practice and outcomes of care, to the development of health care policy, and has been disseminated to key policy makers, health care administrative leaders, influential stakeholders, the mainstream media, as well as the best academic journals and professional scientific societies. IQuEST is focused on improving the health and well-being through:

**Innovation:** To conduct research on health care delivery that impacts policy, practice and the health of patients and populations; **Implementation:** To disseminate and implement these innovations in health care delivery; and **Mentorship:** To train and mentor researchers and leaders in healthcare delivery science.

Infectious Diseases faculty who are members of IQuEST include Drs. Monisha Arya, Eva Clark, Bich Dang, and Thomas Giordano.