

2022 ANNUAL REPORT

# The Margaret M. and Albert B. Alkek DEPARTMENT OF MEDICINE ACADEMIC ANNUAL REPORT 2022

Baylor College of Medicine

# **CHAIR'S MESSAGE**

# Dear Colleagues:

It is my pleasure to present to you the Department of Medicine's annual report for the year 2022. I am proud to say that we have achieved many significant milestones in the past year.

In the past year, we have made strategic investments in research, clinical care programs, medical education and training. These investments have allowed us to expand our capabilities and improve our offerings, which has resulted in a stronger competitive position for our patients, trainees and workers.



Hashem B. El-Serag M.D., M.P.H.

Looking ahead, we are optimistic about the future and are confident in our ability to continue delivering value to our patients and shareholders. We remain committed to innovation, integrity and excellence in our business practices and we are excited about the opportunities that lie ahead.

Sincerely,

Hashem B. El-Serag, M.D., M.P.H.

# 2022 ORGANIZATIONAL OVERVIEW

# **CHAIR**

Hashem B. El-Serag, M.D., M.P.H.

# OFFICE OF THE CHAIR

Vice Chair for Clinical Affairs

Vice Chair for Education

Vice Chair for Faculty and Staff Development

Vice Chair for Harris Health System/Ben Taub Hospital

Vice Chair for Quality Improvement and Innovation

Vice Chair for Research

Vice Chair for Veterans Affairs

Mandeep Bajaj, M.B.B.S.

Richard J. Hamill. M.D.

Sandra Haudek, Ph.D.

Hemant Roy, M.D.

Kyler Godwin, Ph.D.

Rolando Rumbaut, M.D., Ph.D.

Biykem Bozkurt, M.D., Ph.D.

# **SECTIONS**

Cardiology

Cardiovascular Research

Endocrinology, Diabetes, and Metabolism

**Epidemiology and Population Sciences** 

Gastroenterology and Hepatology

General Internal Medicine

Geriatrics and Palliative Medicine

Health Services Research

Hematology and Oncology

Immunology, Allergy, and Rheumatology

Infectious Diseases

Nephrology

Pulmonary, Critical Care and Sleep Medicine

Transition Medicine

# Chief of Section

Christie Ballantvne, M.D.

Christie Ballantyne, M.D.

Mark Herman, M.D.

Christopher Amos. Ph.D.

Fasiha Kanwal, M.D., M.S.H.S.

Joslyn Fisher, M.D., M.P.H.

Aimee Garcia, M.D.

Laura Petersen, M.D., M.P.H., F.A.C.P.

Martha Mims, M.D.

Rashmi Maganti, M.D.

Thomas Giordano, M.D., M.P.H.

Wolfgang Winkelmayer, M.D., Sc.D.

Ivan Rosas, M.D.

Cynthia Peacock, M.D.

The Department of Medicine at Baylor College of Medicine is the professional home to over 1,800 professionals distributed across 14 sections. We have campus sites at Baylor St. Luke's Medical Center, the McNair Campus, Michael E DeBakey VA Medical Center, Harris Health System, Texas Children's Hospital, and the Pavilion for Women. We also have strong associations with numerous centers, programs, and organized research units. Our team is thrilled to celebrate our departmental achievements in research, patient care, and medical education and training.

# THE DEPARTMENT OF MEDICINE

# RESEARCH

In 2022, the research efforts of our department faculty were supported by \$120.3M in total extramural research funding including:

- \$77.2M from the NIH
- \$8.5M from the Veteran's Administration
- \$12.2M from other federal agencies

- \$17.7M from state and other non-federal sources
- \$4.7M from industry support

Two of our sections have NIH T32 grants to support research training in the fields of gastroenterology and infectious diseases.

## **CLINICAL CARE**

Our physicians practice in Baylor St. Luke's Medical Center, the McNair Campus, Ben Taub Hospital, Michael E. DeBakey VA Medical Center and Houston Methodist Hospital. Many specialty and subspecialty services provided at these locations are nationally recognized as sites of premier clinical quality.

Patients receive state-of-the-art consultations, diagnoses and compassionate care from our world-renowned clinical staff. Our doctors specialize in diagnosing and treating various diseases ranging from heart disease, diabetes and allergies to breast cancer and cystic fibrosis. Teens with developmental disabilities transitioning into adult care receive personalized, quality care and social services through our unique Transition Medicine group.

#### **EDUCATION**

The Department of Medicine's education efforts train the next generation of leaders in medicine through medical school, graduate medical training, fellowships and internships. The Department of Medicine provides undergraduate medical education (UME) students a balance of training, exposure, and experience, which prepares them for graduate programs. Our faculty teaches two-thirds of the UME courses. Students first attend foundational sciences curriculum courses and then their clinical curriculum courses. Students choose one sub-internship, seven core clerkships and five or six clinical electives.

Students within the Internal Medicine sub-internship develop skills required for their internship. During these rotations, medical students experience increased autonomy, acting as interns supervised directly by senior residents and the attending physician. Students hone in on their history and physical skills, write orders and independently develop diagnostic and therapeutic plans. They expand their medical knowledge by using experiential and self-directed learning.

Our residencies are authorized by the Accreditation Council for Graduate Medical Education and its respective Residency Review Committees. We enroll highly competitive applicants each year and continue to match outstanding residents. Our graduates become leaders in Internal Medicine and its specialties, both academically and in clinical practice.

Beyond residency training, the Department of Medicine offers fellowships for two to four years of training in each major subspecialty, such as gastroenterology, cardiovascular disease, etc. This experience allows physicians to learn unique concepts, information and procedures for a particular subspecialty, with an opportunity to research if desired. Our department has more than 220 residents and more than 150 fellows.

Affiliations with leading research and healthcare institutions in the Texas Medical Center provide access to diverse people and resources. Our students and trainees can access numerous patients during these clerkships in various settings through our affiliation with eight leading healthcare institutions—all located in the world's largest medical center.

# SECTION OF PULMONARY, CRITICAL CARE, AND SLEEP MEDICINE

# SECTION ACCOMPLISHMENTS

- The section offers clinical services at five pavilions across the Medical Center: Baylor Medicine, Ben Taub Hospital, Baylor St. Luke's, and Texas Children's Hospital Pavilion for Women.
- The total direct and indirect research support of \$13.7 million in funding from federal and private research grants.
- The section was recognized for an outstanding clinical and research fellowship program that provides funded clinical, translational, and basic science research resources for training in lung diseases.
- Nationally ranked as a high performing level in Pulmonology and Lung Surgery by U.S. News Report.
- The section is known for being the country's first to provide long-term care for covid patients with our Post Covid and Clinic at Home programs.
- The lung transplant program has increased the number of transplants by 50%, a total of 189 patients underwent transplant from 2019-2022. The program has outstanding post-transplant outcomes, has adopted innovative donor techniques to reduce the median time to transplant, and cares for high-risk recipients that often are declined by other centers.
- The Interventional Pulmonary service provides several advanced diagnostic and therapeutic procedures, the team uses innovative tools like robotic navigation and procedures like bronchoscopic lung volume reduction. In collaboration with Oncology, the team is supporting a Lung Cancer Screening program at BSLMC.



**SECTION CHIEF** Ivan O. Rosas, M.D.

# **FACULTY**

# Section Leadership

#### Baylor Medicine/Baylor St. Luke's Medical Center

- Ivan O. Rosas, M.D., Section Chief
- · Fidaa Shaib, M.D., Chief Medical Officer
- Muhammad Asim Siddique, M.D., Chief of Clinical Operations
- Prasad Manian, M.D., Medical Director, Department of Medicine Faculty Group Practice
- Puneet Garcha, M.D., Medical Director for Lung Transplant Program

#### **Ben Taub Hospital**

- Nicola Hanania, M.D., Chief of Pulmonary and Critical Care Services at Ben Taub Hospital
- Philip Alapat, M.D., Pulmonary Critical Care Fellowship Director
- Kalpalatha Guntupalli, M.D., Critical Care Fellowship Director

# Michael E. DeBakey VA Medical Center

- Venkata Bandi, M.B.B.S., Service Line Chief for Pulmonary, Critical Care, and Sleep Medicine, Michael E. DeBakey VA Medical Center
- Supriya Singh, M.D., Sleep Fellowship Director

# **FACULTY**

# Baylor Medicine/Baylor St. Luke's Medical Center

#### **Professor**

- · James Herlihy, M.D.
- Prasad Manian, M.D.
- Ivan O. Rosas, M.D.

#### **Associate Professor**

- Puneet Garcha, M.D.
- Muralidhar Kondapaneni, M.B.B.S.
- Sara Nowakowski, Ph.D.
- Fidaa Shaib, M.D.

#### **Assistant Professor:**

- Fatima Adhi, M.D.
- Jairo Barrantes-Perez, M.D.
- Tara Barto, M.D.
- Andrea Braun, M.D.
- Sunjay Devarajan, M.D.
- Modi Dipaben, M.D.
- Muhammad Hayat Syed, M.D.
- Timothy Hotze, M.D.

# Ben Taub Hospital

#### **Professor**

- Kalpalatha Guntupalli, M.D.
- Nicola Hanania, M.D.

#### **Associate Professor**

- Muhammad Adrish, M.D.
- Francesca Polverino, M.D., Ph.D.

#### **Assistant Professor**

- Philip Alapat, M.D.
- Elizabeth Guy, M.D.

- Christopher Howard, M.D.
- · Gloria Li, M.D.
- Anupam Kumar, M.D.
- Thomas Monaco, M.D.
- Christopher Morgan, M.D.
- Madhu Nair, M.D.
- Ali Omranian, M.D.
- Javeryah Safi, M.D.
- Justin Segraves, M.D.
- Mourad Senussi, M.D.
- · Muhammad Asim Siddique, M.D.
- Sergio Trevino Castillo, M.D.
- Helina Wakwaya, M.D.
- Annise Wilson, M.D.
- Tianshi David Wu, M.D.

#### Instructor

- Jessica Farrell, N.P., Cystic Fibrosis
- Magdalena Deaton, N.P., Sleep Medicine
- Amy Heibel, M.D.
- Babith Mankidy, M.D.
- Dharani Narendra, M.D.
- Elaine Palacios, M.D.
- Purvesh Patel, M.D.
- Pralay Sarkar, M.D.
- Stalcup, Stephanie Stalcup, M.D.

# Michael E. DeBakey VA Medical Center

#### **Professor**

- Venkata Bandi, M.B.B.S.
- Farrah Kheradmand, M.D.
- Rolando Rumbaut, M.D., Ph.D.
- · Amir Sharafkhaneh, M.D., Ph.D.

#### **Associate Professor**

- Christina Kao, M.D., Ph.D.
- · Charlie Lan, M.D.
- Kanta Velamuri, M.D.

## Pavilion for Women

#### **Assistant Professor**

- Fatima Adhi, M.D.
- Jairo Barrantes-Perez, M.D.
- Christopher Howard, M.D.
- Thomas Monaco, M.D.

# Non-Clinician Research Faculty

#### **Professor**

Aladin Boriek, Ph.D.

#### **Assistant Professor**

- · Lindsay Celada, Ph.D.
- Freddy Romero, Ph.D.

#### **Assistant Professor**

- Ritwick Agrawal, M.D.
- Uma Ayyala, M.D.
- Stephen Bujarski, M.D.
- · Ray Lazarus, M.D.
- Shahram Moghtader, M.D.
- Lavannya Pandit, M.D.
- Supriya Singh, M.D.
- Christopher Morgan, M.D.
- Muhammad Asim Siddique, M.D.
- · Amir Shamshiraz, M.D.
- Sergio Trevino Castillo, M.D.
- Helina Wakwaya, M.D.

• Konstantin Tsoyi, Ph.D.

#### Instructor

- Mustafa Atik, M.D., Ph.D.
- Rene Plascencia, M.D.
- Joselyn Rojas, M.D., M.S.

# HONORS AND ACHIEVEMENTS

#### Annise Wilson, M.D.

- · Participant, American Academy of Neurology Diversity Leadership Program
- Top Doctor, Houstonia Magazine

#### Andrea Braun, M.D.

- Member, Fellow of the American College of Critical Care Medicine, Society of Critical Care Medicine
- Recipient, Women of Excellence Award, Baylor College of Medicine
- · Recipient, Early Career Faculty Award for Excellence in Patient Care, Baylor College of Medicine
- Member, Fellow of the American College of Physicians

#### Babith Mankidy, M.D.

Recipient, CCM Fellows BT Faculty of the Year Award

# Christopher Howard, M.D.

- Recipient, STAR Clinical Excellence Award
- Recipient, NRF Education Award

#### Christopher Morgan, M.D.

- Recipient, 2022 Southwestern University Alumni Distinguished Professional Award
- Recipient, Early Career Faculty Award for Excellence in Patient Care
- Top Doctor, Houstonia Magazine
- Recipient, Norton Rose Fulbright Faculty Excellence Award for Teaching and Evaluation

#### Fidaa Shaib, M.D.

- Recipient, Women of Excellence Award, Baylor College of Medicine
- Member, Alpha Omega Alpha Honor Medical Society
- Top Doctor, Houstonia Magazine
- Panel Member, ACCP CHEST Obstructive Sleep Apnea in Pregnancy guideline
- Member, Revision Workgroup, AASM International Classification of Sleep Disorders (ICSD-3: the authoritative clinical text for the diagnosis of sleep disorders)

#### Francesca Polverino, M.D., Ph.D.

- · Recipient, ATS Rising Star of Research
- · Recipient, ERS COPD GOLD Medal Award
- Recipient, Medal of Honor, Scientific Research, President of Italian Republic

#### Gloria Li, M.D.

- Colleague of the Quarter, Second Quarter 2022
- Committee Member, Chest Lung Transplant Section

## Javeryah Safi, M.D.

- Member, Diversity and Inclusion Committee,). American Association of Bronchology and Interventional Pulmonology (AABIP)
- Expert Reviewer, Journal of Bronchology and Interventional Pulmonology, JOBIP
- Member, ITPAC Baylor St. Luke's, Information Technology Provider Advisory Committee
- Physician Champion, Comprehensive Lung Cancer Screening & Smoking Cessation Core Team, BSLMC

#### Konstantin Tsoyi, Ph.D.

- Recipient, DoD Discovery Award
- · Recipient, R21 Grant, NIAMS

#### Mourad H. Senussi, M.D.

- Recipient, Critical Care Faculty of the Year Award
- Recipient, Critical Care Faculty of the Year Award
- Recipient, Pulmonary & Critical Care Faculty Award
- · First year and second year running Faculty Recipient, N.B. Award

#### Muhammad Adrish, M.D.

- Distinguished CHEST Educator 2021
- Recipient, Faculty of the year 2021-2022- Ben Taub Hospital, Pulmonary and Critical Care Medicine
- Vice Chair, Airway Disorders Network, American College of CHEST Physicians
- Chair, Asthma & COPD Section, American College of Chest Physician
- Member, Scientific Program Committee, American College of Chest Physicians
- Member, Tele-Critical Care Committee, Society of Critical Care Medicine

#### Muhammad Khyzar Hayat Syed, M.D.

- Vice Chair, CHEST Critical Care Network
- Recipient, CHEST Foundation Diversity Travel Grant

#### Muhammad Asim Siddique, M.D.

- Top Doctor, Houstonia Magazine
- Chief of Clinical Operations, Pulmonary, Critical Care, and Sleep Medicine

#### Morgan Christopher, M.D.

- Recipient, 2022 Southwestern University Alumni Distinguished Professional Award
- Recipient, Early Career Faculty Award for Excellence in Patient Care

#### Nicola Hanania, M.D.

- Top Doctor, Houstonia Magazine
- Recipient, Master Clinician Award, BCM
- Recipient, Distinguished CHEST Educators

# Pralay Sarkar, M.D.

Recipient, STAR Award, BCM

#### Prasad Manian, M.D.

- · Recipient, "HealthCare Innovations Grant," Department of Medicine
- Top Doctor, Houstonia Magazine
- Super Doctor, Texas Monthly

#### Ritwick Agrawal, M.D.

- Member at Large, Sleep Medicine Steering Committee, American College of Chest Physicians
- Member, Foundation Grant Review Committee, American College of Chest Physicians Evaluation
- Member, Sleep Medicine Board Item Writing Committee, American Board of Internal Medicine,
- Fellow, CXO
- Recipient, Faculty of the Year Award, Sleep Medicine Fellowship

#### Rumbaut Rolando, M.D., Ph.D.

 Member, Department of Veterans Affairs Office of Research & Development Post-COVID Conditions Collaborative Merit Award Review Group

#### Sara Nowakowski, Ph.D.

- President Elect, Society of Behavioral Sleep Medicine,
- President, Society of Behavioral Sleep Medicine

# RESEARCH ACTIVITIES

#### Research Grants

#### Aladin Boriek, Ph.D.

- National Science Foundation; \$112,000
- National Science Foundation; \$297,642

#### Sunjay Devarajan, M.D.

- Cystic Fibrosis Foundation; \$121,106
- Biomx (Israel); \$79,331\*

#### Puneet Garcha, M.D.

- Zambon Company S.P.A.; \$185,000\*
- Zambon Company S.P.A.; \$190,000\*
- Pulmocide LTD (UK); \$135,740\*
- Ansun Biopharma, Inc. (US); \$225,000\*

#### Kalpalatha Guntupalli, M.D.

Boehringer Ingelheim Pharmaceutical, Inc; \$702,000\*

#### Nicola Hanania, M.D.

- OT2 National Institutes of Health; \$68,066
- American Lung Association; \$314,000
- Teva Branded Pharmaceutical Products R&D, INC.; \$192,790\*
- Teva Branded Pharmaceutical Products R&D, INC.; \$141,010\*
- AstraZeneca Pharmaceuticals; \$179,638\*
- Genentech. Inc: \$270.938\*
- Glaxosmithkline; \$131,418\*

#### Christopher Howard, M.D.

- Hamilton Medical AG; \$206,956\*
- Cellenkos LLC; \$192,105\*

#### Farrah Kheradmand, M.D.

Ansun Biopharma, INC; \$296,000\*

#### Sara Nowakowski, Ph.D.

Bridge Grant; \$50,000

#### Francesca Polverino, M.D., Ph.D.

R01 National Heart, Lung and Blood Institute; \$2,764,003

# Ivan Rosas, M.D.

- National Institutes of Health; \$1,950,736
- National Institutes of Health; \$300,366
- Department of Defense; \$1,071,671
- CSL Behring LLC; \$227,564\*
- United Therapeutics Corporation; \$131,064\*
- Boehringer Ingelheim Pharmaceutical, Inc; \$141,760\*

- Pliant Therapies; \$250,000\*
- Genentech, Inc.; \$630,240\*

#### Fidaa Shaib, M.D.

- Department of Defense; \$252,667
- Health Resources & Services Administration; \$1,099,755

#### Konstantin Tsoyi, M.D.

- R21 National Institutes of Health; \$387,200
- Department of Defense Congressionally Directed Medical Research Programs; \$320,000

#### Tianshi David Wu, M.D.

- American Lung Association; \$94,458
- \*Pharmaceutical studies, projected amounts are based on enrollment.

## **Publications (56)**

- The New England Journal of Medicine (IF 91.245): 1 •
- Journal of Global Antimicrobial Resistance (IF 4.035): 1
- ASM Journal Antimicrobial Agents and Chemotherapy (IF 5.191): 1
- ATS Journal Annals of the American Thoracic Society (IF 8.785): 4
- The Journal of Heart and Lung Transplantation (IF 10.247): 1
- Dovepress Journal of Asthma and Allergy (IF 4.258): 1
- Respiratory Medicine (IF 4.582): 4
- Nicotine & Tobacco Research (IF 5.825): 1
- Postgraduate Medicine (IF 4.379): 1
- CHEST Journal (IF 10.262): 7
- The Journal of Allergy and Clinical Immunology (IF 14.290): 3
- MDPI Antioxidants (IF 7.675): 1
- Intensive Care Medicine (IF 41.79): 2
- Scientific Reports (IF 4.996): 3
- Respiratory Medicine Case Reports (IF 4.582): 1
- American Journal of Respiratory and Critical Care Medicine (IF 30.53): 10
- Anaesthesia Critical Care & Pain Medicine (IF 4.386): 1
- American Journal of Physiology-Lung Cellular and
   Molecular Physiology (IF 5.464): 1
- American Journal of Respiratory Cell and Molecular Biology (IF 7.748): 2
- Frontiers in Medicine (IF 5.091): 2
- European Respiratory Journal (IF 16.67): 4
- The Lancet Respiratory Medicine (IF 60.9): 3

- MDPI Journal Cells (IF 7.675): 3
- AHA Journals Circulation Research (IF 17.367): 1
- American Society for Microbiology (IF 6.97): 1
- Critical Care Medicine (IF 9.296): 2
- Journal of Clinical Immunology (IF 8.317): 1
- eBioMedicine Part of THE LANCET Discovery Science (IF **11.205**): 1
- American Association for Cancer Research -Cancer Research (IF 13.312): 1
- Seminars in Oncology (IF 4.929): 2
- BMC Respiratory Research (IF 4.916): 5
- Immunity: Cell Press (IF 43.474): 1
- npj Precision Oncology (NF 10.092): 1
- Current Opinion in Microbiology (IF 7.934): 1
- JCI insight Resource and Technical Advance (IF 9.484): 1
- JCI insight Immunology (IF 9.484): 1
- JCI insight Pulmonology (IF 9.484): 1
- Journal of Inflammation (IF 6.922): 1
- Nature Communications (IF 17.69): 3
- MDPI Environmental Research and Public Health (IF 4.614): 1
- JAMA Internal Medicine (IF 21.873): 1
- JAMA Network Original Investigation (IF 13.37): 2
- Frontiers in Physiology (IF 6.6): 2
- Current Psychiatry Reports (IF 8.081): 2
- Annual Review of Pathology: Mechanisms of Disease (IF 32.350): 1
- BMC Stem Cell Research & Therapy (IF 5.985): 1
- Journal of Sleep Research (IF **5.296**): 1

- Aging (IF 5.955): 1
- Matrix Biology (IF 11.583): 1
- The FEBS Journal (IF 5.622): 1
- Oxford Academic Rheumatology (IF 7.046): 1
- eClinicalMedicine Part of THE LANCET

Discovery Science (IF 17.033): 1

- Med Clinical and Translational Article (IF 8.554): 1
- BMJ Journals Thorax (IF **9.250**): 2
- Frontiers in Public Health (IF 6.461): 1
- Annals of Surgery (IF 13.79): 1

# **Books and Book Chapters**

#### Muhammad Adrish, M.D.

• Adrish M, Anand MP, Hanania NA. Phenotypes of Asthma-Chronic Obstructive Pulmonary Disease Overlap. Immunol Allergy Clin North Am. 2022 Aug;42(3):645-655. doi: 10.1016/j.iac.2022.04.009. Epub 2022 Jun 30. PMID: 35965051.

#### Christopher Howard, M.D.

- Rali AS, Howard CM, Herlihy JP, Shafii AE, Chatterjee S. "Optimal Management of Respiratory Failure and Mechanical Ventilation during Extracorporeal Membrane Oxygenation." The Practice and Principles of Extracorporeal Membrane Oxygenation edited by M. Firstenberg, Nova Science Publishers, Publication Feb 2021. ISBN 978-1-53618-960-5. pp 47-71.
- Wilson A. "Narcolepsy" and "Periodic Limb Movement Disorder." Ferri's Clinical Advisor: Instant Diagnosis and Treatment. 2023 ed. St. Louis: Mosby, 2023.

#### Sara Nowakowski, Ph.D.

- Cuddihy, L.J., Nowakowski, S., Grandner, M.A., Meers, J.M., & Smith, M.T. (2022). Adapting CBT-I for chronic pain. In: S. Nowakowski, S. Garland, M. Grandner, & L. Cuddihy (Eds.), Adapting Cognitive Behavioral Therapy for Insomnia, Academic Press (Elsevier), San Diego.
- Meers, J.M., Dawson, D., & Nowakowski, S. (2022). Adapting CBT-I for peri and post-menopause. In: S. Nowakowski, S. Garland, M. Grandner, & L. Cuddihy (Eds.), Adapting Cognitive Behavioral Therapy for Insomnia, Academic Press (Elsevier), San Diego.
- Rorh, J.C., Nowakowski, S., Orff, H.J., & Parry, B.L. (2021). Sleep in women during pregnancy and postpartum. Neuroscience and Biobehavioral Psychology.

#### Lavannya Pandit, M.D.

- Cardiology Secrets, 6th Ed.
- Part of: Secrets (59 Books) | Ed. by Glenn N. Levine MD FACC FAHA
- Chapter Pulmonary Hypertension. C. Graziani and L. Pandit

#### **CENTERS**

Baylor Medicine pulmonary, critical care, and sleep medicine experts provide comprehensive services for patients with illnesses that affect the lungs and breathing, including lung cancer, chronic obstructive pulmonary disease, asthma, interstitial lung disease, bronchiectasis and chronic lung infections.

This integrated clinic provides one site for virtually all aspects of ambulatory pulmonary patient care, including a full pulmonary function-testing lab, complete radiology services, echocardiography, laboratory and nuclear medicine services.

# Airways Clinical Research Center (ACRC)

The American Lung Association has funded the ACRC at BCM since 1999 to conduct multicenter clinical trials in asthma and COPD. The Center includes faculty from the Section of Pulmonary Critical Care, Department of Medicine and the Section of Pediatric Pulmonary Medicine, Department of Pediatrics. Nicola A. Hanania, M.D., M.S. serves as the director. The ACRC has a productive record of accomplishment of large scale clinical research studies. The ACRC of 15 Clinical Centers with multiple consortium recruitment sites (38 sites) with broad geographic representation each led by a center director with significant experience in respiratory disease. Each Center receives support from the ALA, which is used to fund a partial effort of the Center Director and provides core support for personnel, supplies, and other infrastructure required to complete studies, which are NIH funded. The ALA-ACRC has an experienced and effective data-coordinating center (Johns Hopkins University), and an established biorepository center (Nemours Children's Hospital). Through the infrastructure of the ALA and its local offices, the Centers have a robust mechanism to engage stakeholders and the community in our efforts to recruit patients for the different studies.

# Recent Accomplishments

The ACRC Network is conducting a large prospective Lung Health Cohort to form the first national cohort of young adults focused on lung health defined by symptoms, lung function and chest imaging. The study will recruit 4,000 community-dwelling adults, at the age of peak lung health (25 to 35 years old), from 29 metropolitan regions across the U.S. and determine lifetime ambient pollution exposures at home, work and school, health behaviors and blood biomarkers to identify targets for the interception of lung disease at the earliest stages. In addition, the ACRC completed two large NIH funded studies, the first to investigate the effects of Losartan on the progression of emphysema (LEEP) and the second study that investigated the role of weight loss using behavioral interventions on patients with COPD (INSIGHT).

# The Lung Institute

The Lung Institute provides comprehensive diagnostics and treatments to patients with illnesses that affect the lungs and breathing, including lung cancer, chronic obstructive pulmonary disease, cystic fibrosis, asthma, interstitial lung disease, bronchiectasis, benign and malignant neoplasms, and lung transplantation.

The Lung Institute has developed a comprehensive program across specialties with one site for all aspects of ambulatory pulmonary patient care, including a full pulmonary function testing lab, complete radiology services, echocardiography, laboratory and nuclear medicine services.

Our physicians and surgeons are national and international experts in lung disease. Together, they offer comprehensive services, including highly specialized care to patients.

# Interventional Pulmonology

Baylor Medicine's Interventional Pulmonology Program offers advanced diagnostic and therapeutic procedures using state of the art technology. Our dedicated team of interventional pulmonologists provide comprehensive patient care in close collaboration with oncologists, thoracic and head and neck surgeons. Together, they offer a multidisciplinary approach essential to managing patients with complex airway, lung and pleural diseases. We pride ourselves in patient centered growth and have successfully added a comprehensive lung cancer screening program, bronchoscopic lung volume reduction program and a comprehensive benign airway disorders program to our armamentarium.

#### Sleep Medicine

Our team of experts specialize in the evaluation, workup and management of sleep disorders including complex sleep disorders and sleep disorders in special populations. We provide patients with access to an alternative to positive airway pressure and advanced therapeutics to manage obstructive sleep apnea. Behavioral Sleep Medicine is available to our patients, offering long term solutions for the full range of behavioral sleep disorders, including insomnia. Our experts are also researchers who focus on sleep in special populations including women, patients with Post COVID-19 conditions, individuals with developmental disabilities, the effectiveness of cognitive behavioral therapy for insomnia on sleep and functional outcomes, and headaches and sleep disorders. We are also collaborating with researchers at Rice University and Houston Methodist on developing technology that noninvasively measures and modulates the flow of cerebrospinal fluid as it circulates through the brain and clears waste.

#### Post COVID Care Clinic

COVID-19 has affected many individuals resulting in a devastating loss of life and a significant number of survivors with residual symptoms and long-term health issues, most of which are not well defined or understood.

Baylor Medicine has been on the front line of the fight against COVID-19 to prevent its spread and treat affected individuals with different disease severity. At the Post-COVID Clinic, our multidisciplinary team provides care in a compassionate and holistic approach to those inflicted.

In addition to providing clinical care to patients from Texas and other parts of the country, our team has been leading in research on Post COVID including patient registry, treatment of interstitial lung disease related to COVID-19 (ENDCOV-I), and electrical stimulation to regain lower extremity perfusion and muscle endurance. We have also been developing the Baylor College of Medicine Long-COVID Model System of Care and recently awarded a HRSA grant to establish a primary care based long COVID model system of care that will serve the 29th Congressional District of Texas.

# **Lung Transplant Program**

Our Baylor St. Luke's Medical Center's Lung Transplant Program is one of the busiest in the country. We have performed 79 lung transplants in the last 12 months, leveraging several state-of-the-art procedures and technologies that set us apart from other transplant centers. Additionally, Baylor St. Luke's is consistently recognized as high performing in pulmonology and lung surgery by U.S. News & World Report.

We have continued to perform lung transplants during the crisis at about the usual pre-pandemic rate. By implementing a rigorous screening protocol that has resulted in no transmission of COVID-19, we can continue safely and compassionately conducting transplants through this unprecedented crisis.

As the national leaders in Ex vivo lung perfusion and the first to utilize the portable organ care system in Texas, we can transport lungs from anywhere in the country using a device that keeps the lungs "breathing" with blood pumping through the vessels during transport. This ensures a greater supply of donor lungs for our patients.

# Cystic Fibrosis Center

The Baylor Medicine Maconda Brown O'Connor, Ph.D., Adult Cystic Fibrosis Center provides the highest quality care in a compassionate, patient-centered setting. Our Center, which the Cystic Fibrosis Foundation accredits, is one of the largest in the United States and is the only accredited CF center in Harris County and the surrounding counties.

In addition to providing comprehensive, multidisciplinary care to adult Cystic Fibrosis (CF) patients and their families, we have completed a Learning and Leadership Collaboration with the CF Foundation and our sister transplant program at Baylor St Luke's Medical Center. Additionally, our team members have been prolific with several publications.

Our Center has been designated a Therapeutic Development Network site by the CF Foundation, promoting the conduct of cutting-edge clinical research and providing a forum for collaboration with other organizations to advance the care of cystic fibrosis. Currently, we are participating in 10 investigational trials (phases 1b-3) and eight observational studies.

## Interstitial Lung Disease

The Interstitial Lung Disease (ILD) program at Baylor College of Medicine-St. Luke's Hospital is a specialized clinic that offers comprehensive multi disciplinary care to patients with a spectrum of interstitial lung diseases. ILDs are a set of unique conditions with variable degrees of inflammation and scarring of the lungs. There are about 200 different conditions that are categorized under ILD. The conditions commonly considered as ILDs include various disorders such as idiopathic pulmonary fibrosis (IPF), connective tissue disease-ILD (CTD-ILD), chronic hypersensitivity pneumonitis and sarcoidosis. Our ILD Clinic brings together a unique team of physicians of different subspecialties for patients with a spectrum of interstitial lung diseases. The clinic is designed to provide a multidisciplinary approach to the care of our patients. The ILD program stands out for the high level of medical expertise and the collaborative nature of the team which is fundamental to providing comprehensive care for our patients with a multitude of needs. The center also offers opportunities for patients to access state-of--the-art treatment modalities for their condition, including being able to participate in the latest research trials.

Baylor College of Medicine