

A photograph of the Baylor St. Luke's Medical Center building at dusk. The building is a large, modern structure with a glass facade that reflects the sky and surrounding environment. The text "Baylor St. Luke's Medical Center" is visible on the upper left side of the building. A dark blue rectangular box is positioned in the upper right corner of the image, containing the text "Baylor College of Medicine".

Baylor
College of
Medicine

Baylor St. Luke's
Medical Center

DEPARTMENT OF MEDICINE

2022 ANNUAL REPORT

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

Baylor College of Medicine

CHAIR'S MESSAGE

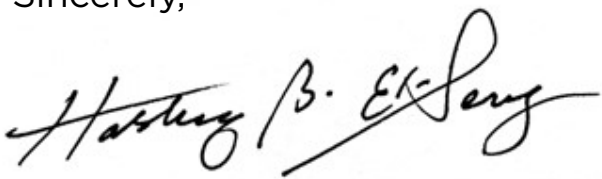
Dear Colleagues:

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.

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,

A handwritten signature in black ink, reading "Hashem B. El-Serag". The signature is fluid and cursive, with the first name "Hashem" and last name "El-Serag" being the most prominent parts.

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



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 Ballantyne, 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 ENDOCRINOLOGY, DIABETES, AND METABOLISM

SECTION ACCOMPLISHMENTS

- The Section of Endocrinology, Diabetes, and Metabolism continues to grow with the recruitment of Dongyin Guan, Ph.D., an expert in epigenomics and metabolism, and the recruitment of a new Section Chief, Mark A. Herman, M.D.. Dr. Herman is a physician scientist who practices general clinical endocrinology and is an expert in molecular nutrient sensing mechanisms and their role in the pathogenesis of cardiometabolic disease.
- The Section's faculty are published in top scientific journals, including the Journal of Clinical Investigation and Nature Communications, as well as the top journals related to our fields such as Cell Metabolism, Diabetes, Diabetes Care, Endocrinology, the Journal of Clinical Endocrinology and Metabolism, and Molecular Metabolism.
- The Section is expanding its specialty clinics with faculty taking on new leadership positions. Dr. Elina Trofimovsky is now leading the Baylor Young Adult Diabetes Clinic and Dr. Sara Bedrose has established the Baylor Adrenal Clinic.



SECTION CHIEF
Mark A. Herman, M.D.

FACULTY

Section Leadership

- Mark Herman, M.D., Chief
- Marco Marcelli, M.D., Interim Chief; Medical Director, Michael E DeBakey VA Medical Center
- Mandeep Bajaj, M.D., Medical Director, Faculty Group Practice
- Nalini Ram, M.B., B.S., Medical Director, Ben Taub Medical Center
- Ashok Balasubramanyam, M.D., Vice President for Academic Integration and Senior Associate Dean for Academic Affairs, Baylor College of Medicine
- Sanjay Mediwala, M.D., Endocrine Fellowship Program Director
- Ruchi Gaba, M.B., B.S., Endocrine Fellowship Program Deputy Director; Medical Director, Baylor Thyroid and Parathyroid Center
- Bahar Force, M.D., Medical Director, Baylor Pituitary Center

FACULTY

Professor

- Mandeep Bajaj, M.D.
- Ashok Balasubramanyam, M.D.
- Marco Marcelli, M.D.
- Massimo Pietropaolo, M.D.
- Nalini Ram, M.B., B.S.
- Rajagopal Sekhar, Ph.D.
- Dennis Villareal, M.D.
- Reina Villareal, M.D.

Associate Professor

- Ruchi Gaba, M.B.B.S. (M.D.)
- Sean Hartig, Ph.D.
- Mark Herman, M.D.
- Michael Liebschner, Ph.D.
- Pradip Saha, Ph.D.
- Zheng Sun, Ph.D.

Assistant Professor

- Inna Astapova, Ph.D.
- Sara Bedrose, M.D.
- Rui Chen, M.D.
- Dimpi Desai, M.D.

- Bahar Force, M.D.
- Bryan Jiang, M.D.
- Betty La, M.D.
- Sanjay Mediwala, M.D.
- Elina Trofimovsky, M.D.
- Madhuri Vasudevan, M.D., M.P.H.

Instructor

- Neeti Agarwal, Ph.D.
- Richard Cox, Ph.D.
- Nancy Greta Rene Dufrane, M.P.H., M.S.N.
- Wenjun Zhou, Ph.D.

HONORS AND ACHIEVEMENTS

Ashok Balasubramanyam, M.D.

- Chair, American Board of Endocrinology, Metabolism, and Diabetes
- Council Member, American Board of Internal Medicine
- Director, BCM Clinical Scientist Training Program

Richard (Aaron) Cox, Ph.D.

- Recipient, Bridge to Independence Award
- Scientific Reviewer, American Journal of Physiology

Bahar Force, M.D.

- Teacher of the Year award, Endocrinology, Diabetes & Metabolism Fellowship Program, BCM

Ruchi Gaba, M.B., B.S.

- Top Doctor, *Houstonia Magazine*
- Top Doctor, Texas Rising Star Award
- Recipient, Faculty Innovation Award
- Member, Planning Committee, Texas Endocrine Association
- Invited Lecturer, Annual Texas Chapter of American College of Clinical Endocrinology-Role of multidisciplinary clinics in management of Thyroid cancer

Dongyin Guan, Ph.D.

- Editorial Board Member, *International Journal of Biology*
- Recipient, V Scholar Cancer Research Award, V foundation
- Session Chair, Chinese American Diabetes Association, Annual Meeting
- Scientific Reviewer, NIH Analytics and Statistics for Population Research Panel B (ASPB)
- Member, NIH Early Career Reviewer Program

Sean Hartig, Ph.D.

- Editorial Board Member, *Diabetes*
- Recipient, Norton Rose Fulbright Faculty Excellence Award, BCM
- Invited Lecturer, Columbia University, Naomi Berrie Diabetes Center
- Scientific Reviewer, NIH Cell Signaling and Molecular Endocrinology Study Section
- Course Director, GS-CC-6204 Regulation of Energy Homeostasis and GS-CC-6208 Cellular Signaling

Mark Herman, M.D.

- Associate Editor, *Diabetes*
- Session Chair, American Diabetes Association Scientific Sessions
- Scientific Reviewer, Columbia University, Naomi Berrie Diabetes Center
- Scientific Reviewer, NIH Pathophysiology of Obesity and Metabolic Disease Study Section
- Scientific Reviewer, North Carolina Diabetes Research Center Awards

Bryan Jiang, M.D.

- Top Doctor, *Houstonia Magazine*
- Recipient, Early Career Award for Excellence in Patient Care
- Recipient, Internal Medicine Residency Inpatient Subspecialty Teaching Award

Nalini Ram, M.B., B.S.

- America's Best Physician
- Top Doctor, Castle Connolly
- Exceptional Women in Medicine, Castle Connolly
- Invited Lecturer, Texas Endocrinology Association meeting on "Thyroid in Pregnancy"
- Invited Lecturer, TREND 2021: India-Annual Endocrine meeting
- Section Liaison Endocrinology, Vice Chair Group for Faculty and Staff Development

Rajagopal Sekhar, M.D.

- Invited Reviewer, Journal of Nutrition, GlyNAC and Aging
- Invited Lecturer, 13th International Conference on One-Carbon Metabolism
- Invited Lecturer, Annual Scientific Meeting of the European Geriatrics Medical Society
- Invited Lecturer, Medicine Grand Rounds, Methodist Hospital Research Institute
- Scientific Reviewer, NIH Special Emphasis panel ZAG1-ZIJ2 (J1) on Oxidative stress

Reina Villareal, M.D.

- Associate Editor, *Frontiers in Endocrinology*
- Invited Lecturer, Endocrine Society 2022
- Invited Lecturer, Washington University School of Medicine, September 23, 2021.
- Scientific Reviewer, Endocrinology-Bone (ENDB) Scientific Merit Review Panel, Department of Veterans Affairs
- Scientific Reviewer, Rehabilitation Research and Development Service grant proposals, Department of Veterans Affairs

Dennis Villareal, M.D.

- Associate Editor, *Journal of Nutrition in Health, and Aging* and *Journal of Nutrition in Geriatrics and Gerontology*
 - Invited Lecturer, NIA-NIH Virtual Workshop—Development of Function Promoting Therapies: Public Health Need, Molecular Targets, and Drug Development
 - Panelist, NIH/NIA Clinical Trials Advisory Panel (CTAP)
 - Member, Joint Biomedical Laboratory Research & Development/Clinical Science Research & Development, Scientific Merit Review Board, Department of Veterans Affairs
 - Member or Chairperson, Data and Safety Monitoring Board – ZEST II, STEP-HI Study, DAMES, INTERCEDE Trial
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RESEARCH ACTIVITIES

Grants

Claudia Ramirez Bustamante, M.D. (3rd Year Fellow)

- Roderick Duncan MacDonald Research Fund Award. Molecular Mechanisms of HIV Associated Adipose Tissue Fibrosis; \$50,000

Jessica Felix (Graduate Student)

- NIH/NIDDK; Metabolite Regulation of Adipocyte Differentiation in Obesity; \$173,781

Dongyin Guan, Ph.D.

- CPRIT; First-Time, Tenure-Track Faculty Member Award; \$2,000,000
- NIH/NIDDK; Defining the role of non-clock genes in circadian physiology and pathophysiology; \$378,244
- NIH/NIDDK-Texas Medical Center Digestive Diseases Center Pilot/Feasibility Award; Define the role of circadian clock in liver macrophages; \$35,000

Zheng Sun, Ph.D.

- Alzheimer's Association; Altered Susceptibility to Alzheimer's Disease Due to Pregnancy History; \$150,000

Dennis Villareal, Ph.D.

- NIH/NIDDK; A Planning Project to Pilot, Test, and Optimize Dietary Approaches to Slow Aging and Design a Long-Term Trial; \$63,933

Publications (34)

- | | |
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| • The American Journal of Clinical Nutrition (IF 7.045): 1 | • Clinical Nutrition (IF 6.72): 1 |
| • Antioxidants (IF 7.38): 2 | • Diabetes (IF 9.461): 4 |
| • Biomolecules (IF 5.88): 1 | • Diabetes Care (IF 19.112): 2 |
| • Cell Metabolism (IF 27.29): 1 | • Elife (IF 8.14): 1 |
| • Cellular and Molecular Gastroenterology and Hepatology (IF 9.225): 1 | • Endocrinology (IF 5.051): 1 |
| • Cell Reports (IF 9.64): 2 | • Experimental Gerontology (IF 4.032): 1 |
| • Circulation: Genomic and Precision Medicine (IF 6.054): 1 | • Frontiers in Endocrinology (IF 5.555): 1 |
| • Circulation (IF 14.18): 1 | • Genetics in Medicine (IF 8.822): 1 |
| | • The Journal of Clinical Endocrinology and Metabolism (IF 5.958): 2 |

- The Journal of Clinical Investigation (IF **19.456**): 1
- The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences (IF **5.58**): 1
- Journal of Molecular Endocrinology (IF **4.869**): 1
- Journal of Neuroscience (IF **6.709**): 1
- The Journal of Nutrition (IF **4.798**): 1
- The Journal of Nutritional Biochemistry (IF **6.048**): 1
- The Journal of Nutrition, Health and Aging (IF **5.285**): 2
- Mediators of Inflammation (IF **4.711**): 1
- Molecular Metabolism (IF **8.568**): 3
- Molecular Psychiatry (IF **13.44**): 1
- Nature Communications (IF **14.919**): 1
- Nutrients (IF **5.429**): 2
- Pediatric Diabetes (IF **4.267**): 4
- Science Advances (IF **14.14**): 1
- Scientific Reports (IF **4.996**): 1
- Seminars in Liver Disease (IF **6.115**): 1
- Trends in Neurosciences (IF **12.21**): 1

Books and Book Chapters

Bahar Force, M.D.

- Surgical risk and outcomes for pituitary masses in the elderly. In: *Pituitary Disorders throughout the Life Cycle - A Clinical Handbook*

Ruchi Gaba, M.B.B.S., M.D.

- Hyperaldosteronism. In: *Conn's Current Therapy*

Sanjay Mediwala, M.D.

- Obesity, Osteoarthritis, and Bone Disorders. In: *Handbook of Obesity*

Nalini Ram, M.D.

- Syndromes of Ketosis Prone Diabetes. In: *UpToDate*

Rajagopal Sekhar, M.D.

- Endocrine Disorders in HIV Patients. In: *Fundamentals of HIV Medicine*
- HIV-associated Lipodystrophy and Lipoatrophy. In: *Fundamentals of HIV Medicine*

Dennis Villareal, M.D.

- Obesity, Osteoarthritis, and Bone Disorders. In: *Handbook of Obesity*

CENTERS

The Thyroid and Parathyroid Center

The Thyroid and Parathyroid Center is a world class medical facility in Houston, TX where patients can be seen by co-located surgeons and endocrinologists for the treatment of both benign and malignant tumors of the thyroid, parathyroid, adrenal and endocrine pancreas assessments. Endocrinologists work closely with a multidisciplinary team including specialists in surgery, radiology, pathology, nuclear medicine, ENT and oncology to provide personal treatment plan. From routine medical endocrinology to complex cancer care to surgery of the thyroid, parathyroid, adrenal, and endocrine pancreas, the Thyroid & Parathyroid Center offers the highest quality patient care with excellent outcomes. The center is located at the Baylor St. Luke's Medical Center Dan L. Duncan Comprehensive Cancer Center at the McNair Campus.

The Pituitary Center

The Pituitary Center is a multidisciplinary center that offers state-of-the-art, comprehensive and expert care for patients with all pituitary-related disorders, including all tumors of the pituitary and sellar region. The Baylor Pituitary Center features a team of physicians from various medical specialties that are most relevant to pituitary problems, including neurosurgery, neuroendocrinology, otolaryngology, neuro-ophthalmology, neuro-oncology and radiation oncology. Our physicians work closely with referring physicians to provide the best patient care. Together, we create tailored treatment plans that utilize our professional experience, collaborative nature and motivation to provide exceptional patient care. The center is located at the Baylor St. Luke's Medical Center at the McNair Campus.

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