

**ENDOCRINOLOGY,
DIABETES AND METABOLISM
2020 ANNUAL REPORT**

SECTION OF ENDOCRINOLOGY, DIABETES AND METABOLISM



INTERIM SECTION CHIEF

Marco Marcelli, M.D.

The year 2020 has been another outstanding one for the section of Endocrinology, Diabetes and Metabolism. This year, the output of new papers has increased from 39 to 63. Our faculty have published in some of the top scientific journals, including *Molecular Cell*, *Nature Medicine*, *PNAS*, *JCI*, and some of the top journals related to our discipline, including *Diabetes*, *Diabetes Care*, *Diabetologia*, and the *Journal of Bone and Mineral Research*. In 2020, our faculty were awarded two additional federal grants from the National Institutes of Health (NIH) and the Veterans Administrations. Thanks to this, we now rank second in NIH-funded grants awarded to the Department of Medicine's sections and centers. We have submitted what we think is a very competitive application for a P30 Nutrition and Obesity Research Center grant, with Dr. Dennis Villareal as PI. This is a difficult grant to obtain, as another currently funded national center has to be knocked out for it to be awarded to BCM. We feel very good about our effort and the department's strong support during the

18 months of work that preceded the application.

Sadly, on April 9, 2020, our beloved colleague and senior faculty member Dr. Alan Garber passed away. Dr. Garber was a world-famous diabetologist, author of 350 peer-reviewed publications, as well as book chapters and monographs on diabetes and its complications. One of his many contributions to the treatment of diabetes was providing clinical trial designs and evidence that finally convinced the U.S. Food and Drug Administration of the safety of metformin, which led to its approval to be utilized in the USA. Metformin has been the # 1 most used drug for diabetes in the USA for the last several years.

It is evident our faculty remains committed to advance the science and clinical practice of endocrinology, diabetes & metabolism to the next level, despite these trying times. Please enjoy the following annual report for FY20, and thank you for your interest.

A handwritten signature in black ink that reads "Marco Marcelli".

Marco Marcelli M.D.

Interim chief

Section of Endocrinology, Diabetes & Metabolism

HIGHLIGHTS

- Dr. Dennis Villareal received the prestigious Michael E. DeBakey Excellence in Research award.
- The renowned "Endocrine University" was brought to Houston by our faculty member Dr. Susan Samson, the co-chair of this national conference. Almost 300 first-year endocrinology fellows attended the meeting, which is focused on endocrinology skills.
- Dr. Samson was also the chair of the American Association of Clinical Endocrinologists' (AACE) Annual Meeting, which was held in Los Angeles, CA.
- Six members of our section have been promoted: Dr. Pradip Saha and Zheng Sun to Associate Professor, Dr. Nalini Ram to Professor and Drs. Maria Acevedo, Richard Cox, and Zhou Wenjung to Instructor.
- Three outstanding women of our section received the BCM Women of Excellence Award: Drs. Nalini Ram, Susan Samson, and Madhuri Vasudevan.
- Dr. Zheng Sun was awarded the Young Investigator Award from the Chinese-American Diabetes Association.
- The Section of Endocrinology, Diabetes and Metabolism is home to a new national Center for the Study of Atypical Diabetes, which will conduct RADIANT (Rare and Atypical Diabetes Network) at 15 sites around the country. The design of RADIANT permits involvement of all faculty and fellow physicians within the section, and provides considerable resources for their career advancement (active participation in a precision medicine initiative, learning to order and interpret detailed genomic and phenotypic workup of their patients, opportunities for publications and presentations). It also provides an opportunity for sustained enhancement of the section's national reputation in precision diabetes.
- The Section of Endocrinology, Diabetes and Metabolism organized the 18th Annual Symposium on Advanced Diabetes Management for Endocrine Fellows under the directorship of Alan Garber, M.D.

FACULTY

Section Leadership

- Mandeep Bajaj, M.D. – Medical Director, Faculty Group Practice
- Siripoom McKay, M.D. – Medical Director, Young Adult Diabetes Clinic
- Nalini Ram, M.B., B.S. – Medical Director, Ben Taub Medical Center
- Susan Leanne Samson, M.D., Ph.D. – Fellowship Director

Faculty

Primary

- Maria Acevedo, Ph.D.
- Neeti Agarwal, Ph.D.
- Mandeep Bajaj, M.D.
- Ashok Balasubramanyam, M.B.B.S.
- Jasmine Boparai, M.B.B.S.
- Rui Chen, M.D.
- Richard Cox, Ph.D.
- Emilia Cordero, M.S.

- Nancy Greta Rene Dufrane, M.P.H., M.S.N.
- Ruchi Gaba, M.B.B.S.
- Alan Garber, M.D., Ph.D.
- Sean Hartig, Ph.D.
- Bryan Jiang, M.D.
- Marco Marcelli, M.D.
- Siripoom McKay, M.D.
- Sanjay Navin Mediwala, M.D.
- Ha Nguyen, M.D.
- Massimo Pietropaolo, M.D.
- Nalini Ram, M.B.B.S.
- Pradip Saha, Ph.D.
- Susan Leanne Samson, M.D., Ph.D.
- Rajagopal Viswanath Sekhar, M.B.B.S.
- Zheng Sun, Ph.D.
- Madhuri Vasudevan, M.D., M.P.H.
- Dennis Villareal, M.D.
- Reina Villareal, M.D.
- Li Zhang, M.D., Ph.D., M.Sc.

- Wenjun Zhou, Ph.D.

Secondary

- David Moore, Ph.D.
- Kazuhiro Oka, Ph.D., M.S.
- Bert O'Malley, M.D.
- Joanne Richards, Ph.D.
- Jeffrey Rosen, Ph.D.
- Ming-Jer Tsai, Ph.D.
- Sophia Tsai, Ph.D.

Adjunct

- Fareed Elhaj, M.D.
- Robert Gagel, M.D.
- Jose Manuel Garcia, M.D., Ph.D.
- Dinakar Iyer, Ph.D., M.S.
- Medhavi Jogi, M.D.
- Steven Sherman, M.D.
- Vijay Yechoor, M.B., B.S.

HONORS AND ACHIEVEMENTS

Richard Cox, Ph.D.

- Oral presentation, American Diabetes Association Meeting, June 2020
- Pilot Award, Nutrition and Obesity Research Center Pilot & Feasibility Award

Ruchi Gaba, M.B.B.S.

- Led the Thyroid Hands-On Practicum at the Endocrine University, Feb 16th 2020

Sean Hartig, Ph.D.

- 2020 Texas Academy of Medicine, Engineering, Science, and Technology Protégé
- Texas Heart Institute Cardiovascular Seminar Series, 01/2020, Host: AJ Marian
- Ad hoc reviewer for Endocrinology, Cell Death and Disease, Molecular Metabolism, American Journal of Physiology-Endocrinology and Metabolism, Diabetes, JCI Insight, Nature Metabolism

Brian Jiang, M.D.

- Fellowship Teaching Award 2019-2020

Sanjay Navin Mediwala, M.D.

- Teaching award from Endocrine fellowship graduating class of 2019
- Accepted into Baylor's Master Teacher Fellowship Program

Nalini Ram, M.B.B.S.

- Promotion to Professor of Medicine: October 2019
- Women of Excellence BCM 2019
- America's Best Physicians 2019-2020
- Exceptional Women in Medicine Castle Connolly Awards 2019

Zheng Sun, Ph.D.

- Young Investigator Award, Chinese-American Diabetes Association
- John S. Dunn Collaborative Research Award, Gulf Coast Consortia
- Clifford Elder White Graham Endowed Research Award

Dennis Villareal, M.D.

- 2020 Michael E. DeBakey Excellence in Research Award

PROFESSIONAL ORGANIZATIONS/ASSOCIATIONS OFFICES HELD

Ashok Balasubramanyam, M.B.B.S.

- Chair, Endocrinology and Metabolism Board, American Board of Internal Medicine
- Council Member, American Board of Internal Medicine
- Member, American Clinical and Climatological Association

Richard Cox, Ph.D.

- Member, American Diabetes Association
- Member, Endocrine Society

Ruchi Gaba, M.B.B.S.

- Planning Committee, Local Texas AACE chapter, August 2019
- AACE Diabetes, Obesity and Nutrition and Thyroid Disease network member – May 2019-present
- Reviewer for educational content related to neck ultrasound for National AACE (American College of Endocrinology) – May 2020 and case report CME/MOC questions as a part of National AACE Education Projects, February 2020
- National AACE Annual Meeting Abstract Subcommittee member for reviewing abstract submissions for E-poster or oral presentations, December 2019

Sean Hartig, Ph.D.

- Member, American Diabetes Association
- Member, American Heart Association
- Member, Endocrine Society
- Faculty, The Endocrine Society Career Development Workshop
- Abstract reviewer, The Endocrine Society's 102nd Annual Meeting, San Francisco, CA
- Ad-hoc member, NIH Center for Scientific Review (CSR) Diabetes, Endocrinology and Metabolic Diseases B Subcommittee Study Section

- Ad-hoc member, Chair, NIH/NIAAA CSR Special Emphasis Panel ZAA1 JJ(01)
- Ad-hoc member, Peer Review, Medical Research Council, United Kingdom Research and Innovation

Marco Marcelli, M.D.

- Member: Endocrine Society
- Fellow: Southern Society Clinical Investigation
- Director: BCM committee to organize Endocrine Grand Rounds
- Member: DoM FAP committee

Massimo Pietropaolo, M.D.

- Chair NIH study section: “Biomarkers for Diabetes, Digestive, Kidney and Urologic Diseases Using Biosamples from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Repository (R01),” June 2020
- Reviewer for the NIDDK Diabetes, Endocrinology and Metabolic Diseases B Subcommittee Study Section (T32, K99/R00, K01, and R03 awards), October 2019
- Chair, Immunology Sessions, Planning Committee, 2019 American Diabetes Association National Conference

Nalini Ram, M.B.B.S.

- Endocrine Society
- AACE
- American Diabetes Association

Susan Leanne Samson, M.D., Ph.D.

- Elected Secretary of the Executive Council of the AACE (2020-2021) and Board of Trustees of the American College of Endocrinology. AACE has 6,500 members in the US and 99 other countries, AACE is a professional community of physicians specializing in endocrinology, diabetes, and metabolism committed to enhancing the ability of its members to provide the highest quality of patient care.
 - AACE Finance Committee
 - AACE Annual Meeting Committee, Advisor as Past Annual Meeting Chair 2019-2020
 - AACE Fellows’ Education Committee
 - Co-Chair, Endocrine University 2019-2020
 - AACE Education Oversight Committee
 - Editor, Endocrine Society, Residency Curriculum Committee
- Accreditation Council for Graduate Medical Education, Endocrinology, Diabetes, and Metabolism Milestones 2.0 Taskforce
- American Board of Internal Medicine, Item Writing Taskforce
- Elected Secretary-Treasurer of the Association of Program Directors for Endocrinology and Metabolism (2019-2020)
 - Chair, Finance Committee
 - Section Editor, Fellows’ Curriculum in Bone and Metabolism

- APDEM COVID-19 Task Force, Shared Curriculum Sub-committee

Dennis Villareal, M.D.

- The Endocrine Society
- Charter Member, AACE
- American Society for Bone and Mineral Research
- Research Grants Reviewer, American Diabetes Association
- Fellow, Gerontological Society of America
- American Geriatrics Society
- Fellow, American College of Physicians

Reina Villareal, M.D.

- American Society for Bone Mineral Research
- Endocrine Society
- AACE

EDITORIAL BOARD MEMBERSHIPS AND EDITORIAL POSITIONS

Ruchi Gaba, M.B.B.S.

- Reviewer for Journal: *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*

Sean Hartig, Ph.D.

- Editorial Board, *Diabetes*

Marco Marcelli, M.D.

- Editorial Board, *Journal of Investigative Medicine*

Massimo Pietropaolo, M.D.

- Associate Editor, *Diabetes*
- Associate Editor, *Current Diabetes Reports*
- Academic Editor, *PLoS ONE*
- Editorial Board Member, *American Journal of Clinical and Experimental Immunology*
- Editorial Board Member, *Autoimmunity Highlights*
- Editorial Board Member, *Clinical Diabetes and Endocrinology*

Susan Leanne Samson, M.D., Ph.D.

- Editorial Board Member, *Endocrine Today*
- Editorial Board Member, *Pituitary*

Zheng Sun, Ph.D.

- Editor, Research Topic: Type 2 Diabetes Management: A Focus on Metabolic Defects. *Frontiers in Physiology*

Dennis Villareal, M.D.

- Academic Editor, *Current Developments in Nutrition*
- Associate Editor, *Journal of Nutrition in Geriatrics and Gerontology*

- Associate Editor, *Journal of Gerontology – Medical Science*
- Editorial Board Member, *Journal of Nutrition in Health and Aging*

Reina Villareal, M.D.

- Associate Editor, *Frontiers in Endocrinology*

OTHER SIGNIFICANT ACCOMPLISHMENTS

Nalini Ram, M.B.B.S.

- Inducted into BCM Curriculum Renewal Workgroup in November 2019

RESEARCH

Grants and Contracts

Ashok Balasubramanyam, M.B.B.S.

- NIH, R01-DK104832 05, (MPI) YEAR 5: Role of Islet Injury and Autoimmunity in T2D Beta Cell Dysfunction
- NIH, R01-DK104832 05, (MPI) YEAR 5: Role of Islet Injury and Autoimmunity in T2D Beta Cell Dysfunction
- NIH, R01-DK104832 05 Lunds-Lernmark, (MPI) YEAR 5: Role of Islet Injury and Autoimmunity in T2D Beta Cell Dysfunction

Sean Hartig, Ph.D.

- American Diabetes Association, 1-18-IBS-105-Hartig, A MicroRNA Rheostat Regulates Fuel Utilization
- American Diabetes Association, 1-18-IBS-105-Hartig Year 3, A MicroRNA Rheostat Regulates Fuel Utilization
- NIH, NIH NIDDK R01DK114356 (Parent R01), An anti-diabetic microRNA that promotes metabolically healthy obesity
- NIH, NIH NHLBI R01HL144775 (Parent R01), Mechanisms of sex differences in neonatal pulmonary oxygen toxicity
- NIH, NIH NIDDK R01DK121348 (Parent R01), Regulation of type I inflammation in diet-induced obesity

Massimo Pietropaolo, M.D.

- NIH, R01-DK053456 17, YEAR 17: Enhancement of Biomarkers for Type 1 Diabetes
- NIH, R01-DK053456 17 (UCD Amd 2), YEAR 17: Enhancement of Biomarkers for Type 1 Diabetes
- NIH, R01-DK053456 17 (UF Amd 2), YEAR 17: Enhancement of Biomarkers for Type 1 Diabetes
- NIH, R01-DK053456 17 (UV Amd 2), YEAR 17: Enhancement of Biomarkers for Type 1 Diabetes

- NIH, R01-DK053456 17 (UW Agree), YEAR 17: Enhancement of Biomarkers for Type 1 Diabetes
- NIH, R01-DK053456 17 (WMU Agree), YEAR 17: Enhancement of Biomarkers for Type 1 Diabetes
- New R01, Co-investigator, Received a score of 21

Zheng Sun, Ph.D.

- NIH, R01-ES027544-04, YEAR 4: Gender-Specific Effects of Arsenic in Diabetes
- NIH, R21-CA215591-02 NCE, NCE- De-Facto Target of Histone Deacetylase Inhibitors
- NIH, R01DK111436-03S1, Epigenomic Remodeling of Metabolism by Exercise through AP-1
- Dunn Research Award, John S. Dunn Foundation, Hormone memory: epigenomic impacts of estrogen exposure on later life metabolism
- Graham Research Award, Clifford Elder White Graham Fund, Exercise ameliorates muscular dystrophy through AP-1

Dennis Villareal, M.D.

- VA Merit grant renewal (CX002161) for another 4 years
- NIH grant (DK109950A): Does Lifestyle Intervention in Obese Older Adults Improve Bone Quality?

Reina Villareal, M.D.

- VA Merit grant (1 I01 CX001665-01A2)
- NIH grant: R01 HD093047

Li Zhang, M.D., Ph.D., M.Sc.

- Diabetes Action Research and Education Foundation 478, (NCE): Using an Antigen Specific Monoclonal Antibody to Modulate Islet Autoimmunity and Reprogram the Development of Type 1 Diabetes
- Juvenile Diabetes Research Foundation, 2-SRA-2018-648-S-B Amend 1_UCD_PO 7000000670, To Reprogram Type 1 Diabetes Using Insulin Pathogenic Register-Specific Chimeric Antigen Receptor Redirected Regulatory T Cells
- NIH, R03-AI139811-01A1, YR 1: Using Insulin Pathogenic Register-Specific Chimeric Antigen Receptor Redirected Regulatory T Cells to Modulate Type 1 Diabetes

Wenjun Zhou, Ph.D.

- American Diabetes Association, 1-19-PDF-012 Yr2, Regulation of Hepatic Insulin Sensitivity by Hypothalamic Circadian Clock

Publications

- Adipocyte (IF **1.580**): 2
- American Journal of Human Genetics (IF **9.924**): 2
- AIDS Research and Human Retroviruses (IF **1.805**): 1
- American Journal of Physiology-Cell Physiology (IF **2.992-4.406**): 2

- Autophagy (IF **9.770**): 1
- Biological Psychiatry (IF **11.501**): 1
- BMC Bioinformatics (IF **2.213**): 1
- Cell metabolism (IF **20.565**): 2
- Circulation (IF **23.603**): 1
- Clinical Imaging (IF **1.109**): 1
- Current Diabetes Reviews (IF **3.568**): 1
- Diabetes (Manuscript selected for cover) (IF **7.273**): 1
- Diabetes Care (IF **15.3**): 1
- Diabetes Technology and Therapeutics (IF **4.392**): 1
- Diabetologia (IF **7.113**): 1
- Endocrine (IF **3.878**): 2
- Endocrine Practice (IF **3.805**): 2
- Endocrinology (IF **3.961**): 2
- Epigenomics (IF **4.979**): 1
- Federation of American Societies for Experimental Biology Journal (IF **4.966**): 2
- Frontiers in Endocrinology (IF **3.644**): 4
- Frontiers in Physiology (IF **4.134**): 2
- Hepatology (IF **14.079**): 1
- Human Mutations (IF **5.359**): 1
- Journal of Clinical Investigation (IF **11.864**): 1
- Journal of Diabetes Science and Technology (IF **3.32**): 1
- Journal Investigative Medicine (IF **2.029**): 1
- Journal of General Internal Medicine (IF **4.606**): 1
- The Journal of Nutrition in Gerontology and Geriatrics (IF **1.03**): 1
- Journal of Bone and Mineral Research (IF **5.854**): 2
- Journal of Investigative Medicine (IF **2.029**): 1
- Journal of Molecular Medicine (IF **4.938**): 1
- Journal of Molecular Medicine (cover article) (IF **4.938**): 1
- Molecular Genetics & Genomic Medicine (IF **1.995**): 1
- Molecular Psychiatry (IF **12.384**): 2
- Nature Communications (IF **12.121**): 2
- Nature Medicine (IF **36.130**): 1
- Neurosurgery (IF **4.605**): 1
- Poster presented at American Diabetes Association (ADA) in June 2020 (IF **7.273**): 1
- Poster presented at ATA National meeting, Chicago, October 2019 (IF **5.515**): 1
- Postgraduate Medicine (IF **2.078**): 1
- Proceedings Baylor University. Medical Center (IF **N/A**): 1
- Proceedings National Academy of Sciences of the United States of America (IF **9.412**): 1
- Telemedicine and e-Health (IF **1.931**): 1
- The Lancet Diabetes & Endocrinology (IF **25.340**): 1
- Toxicology and Applied Pharmacology (IF **3.705**): 1
- Transactions of the American Clinical and Climatological Association (IF **.803**): 1
- Trends in Endocrinology and Metabolism (IF **11.641**): 1

Books and Book Chapters

Ashok Balasubramanyam, M.B.B.S.

- Handbook of Genetic Disorders: A Practical Approach – book chapter

Ruchi Gaba, M.B.B.S.

- Hyperaldosteronism (chapter 70) for *Conn's Current Therapy 2020*. Ruchi Gaba, M.D., Kim Jongoh, M.D., Lawrence Chan, M.D., October 2019.

Sanjay Navin Mediwala, M.D.

- Ortiz, G and Mediwala, Sanjay. "Chapter 14. Nontoxic Multinodular Goiter," In: *Surgical and Medical Management of Diseases of the Thyroid and Parathyroid*. (Shaha AR, Nathan C-AO, Fernandes JK, De Souza C, Joshi SR, eds.) San Diego, CA: Plural Publishing; 2020. Pp 194-200.

Nalini Ram, M.B.B.S.

- "Syndromes of ketosis prone diabetes mellitus" UpToDate 2020

Susan Leanne Samson, M.D., Ph.D.

- Shah B and Samson SL. 2020. Hyponatremia. In, *Conn's Current Therapy* (Bope ET and Kellerman RD, eds.), Elsevier.
- Winograd D, Mody AP, Balasubramanyam A, Samson SL. 2020. Genetics of diabetes and endocrine disorders. (Dhar S, Nagamani SS, Eble T, eds.) In, *Handbook of Clinical Adult Genetics and Genomics: A Practice-based Approach*, Academic Press.

PRESS

Ruchi Gaba, M.B.B.S.

- <https://www.nbcdfw.com/news/coronavirus/covid-patient-develops-new-symptoms-months-later-likely-tied-to-virus/2403180> . July 8, 2020
- Educational video on "Fatty liver and COVID" released online on Indian Doctors Association (IDA- Houston) website, May 2020

Susan Leanne Samson, M.D., Ph.D.

- [Interviewed](#) for an article for Endocrine Web regarding the potential of oral somatostatin analogue therapy for treating patients with acromegaly.
- [Interviewed](#) for Healio Endocrine Today regarding results of a multinational Phase III clinical trial (CHIASMA OPTIMAL Study) for oral octreotide capsules for patients with acromegaly.

Dennis Villareal, M.D.

- Aerobic Plus Resistance Exercise in Obese Older Adults Improves Muscle Protein Synthesis and Preserves Myocellular Quality Despite Weight Loss - <https://jrnclub.org/research-films/aging-exercise-protein>
- Resistance exercise may preserve bone in older obese dieters – <https://www.channelnewsasia.com/news/world/resistance-exercise-may-preserve-bone-in-older-obese-dieters-12181000>

- <https://dunyanews.tv/en/Health/523141-Resistance-exercise-may-preserve-bone-in-older-obese-dieters>
- <https://uk.reuters.com/article/us-health-elderly-dieting/resistance-exercise-may-preserve-bone-in-older-obese-dieters-idUKKBN1YG2NR>