Brendan Lee, M.D., Ph.D.

Dr. Lee is the Robert and Janice McNair Endowed Chair in Molecular and Human Genetics, Professor and Chairman of the Department of Molecular and Human Genetics at Baylor College of Medicine. Dr. Lee co-directs the joint MD Anderson Cancer Center, University of Texas, and Baylor College of Medicine Rolanette and Berdon Lawrence Bone Disease Program of Texas, and the Baylor College of Medicine Center for Skeletal Medicine and Biology. He is Founder and Director of the Skeletal Dysplasia Clinic at Texas Children's Hospital, and of the Medical Student Research Track at Baylor. As a pediatrician and geneticist, Dr. Lee studies structural birth defects and inborn errors of metabolism. Dr. Lee identified the first genetic causes of human skeletal dysplasias that affect the growth and strength of the skeleton. He has discovered new causes of brittle bone disease in children. In so doing, he has identified key regulators of bone mass and quality which has led to new approaches for diagnosing and treating these disorders. In the area of metabolic disease, he is has developed new treatments for maple syrup urine disease and urea cycle disorders that are identified at birth by comprehensive newborn screening. Dr. Lee has received local and national recognition including election to the National Academy of Medicine (previously the Institute of Medicine), as Fellow of the American Association for the Advancement of Science (AAAS), the Texas Academy of Medicine, Engineering, Science, and Technology (TAMEST), the Association of American Physicians (AAP), the American Society for Clinical Investigation (ASCI), and the Society of Pediatric Research (SPR). He has also been awarded the American Society of Human Genetic Curt Stern Award for Outstanding Scientific Achievement, the TAMEST Peter and Edith O'Donnell Award in Medicine, the Society for Pediatrics Research E. Meade Johnson Award for Pediatrics Research, the Michael E. DeBakey Excellence in Research Award, the American Philosophical Society's (APS) Judson Darland Prize for Patient-Oriented Clinical Investigation, and Best Doctors in America.

Dr. Lee's research mission is to elucidate developmental and biochemical pathways that regulate organogenesis and postnatal homeostasis, and to translate these discoveries into new diagnostic and therapeutic approaches including FDA-approved treatments. By studying Mendelian genetic diseases, he has elucidated physiological mechanisms that can also contribute to common, complex diseases (osteoarthritis, osteoporosis, and hypertension) as well as cancer (osteosarcoma). His program spans from basic mechanistic studies to clinical longitudinal and interventional trials in two areas: Structural birth defects with focus on the skeletal dysplasias and inborn errors of metabolism (IEM) with focus on the urea cycle disorders (UCD). By identifying targets from these rare diseases, he has developed therapies that may be translated in humans in proof of principle studies and eventually for future commercialization and wider application.

Dr. Lee was previously an Investigator of the Howard Hughes Medical Institute prior to becoming Chairman of the Department of Molecular and Human Genetics. The Department is the leading genetics program integrating basic, translational, clinical, and diagnostic laboratory activities. It is composed of over 70 primary tenured and tenure-track faculty and over 180 total faculty encompassing research, clinical, laboratory diagnostic, and genetic counseling. It ranks #1 in total NIH funding and number of NIH grants.