

UT Southwestern Medical Center

Russell DeBose-Boyd, Ph.D., and Duojsia Pan, Ph.D., elected to the National Academy of Sciences

May 2, 2023

To the UT Southwestern Community:

I am very pleased to share the news that today, **Russell DeBose-Boyd, Ph.D.**, and **Duojsia Pan, Ph.D.**, were elected to the National Academy of Sciences (NAS). Election to the NAS is one of the highest honors bestowed upon an American scientist, and we take great pride as an institution in having two more colleagues added to this esteemed group.

Dr. DeBose-Boyd, a Professor of Molecular Genetics who holds the Beatrice and Miguel Elias Distinguished Chair in Biomedical Science, is being recognized for his innovative research studying the regulation of HMG-CoA reductase, an enzyme that produces mevalonate, a crucial intermediate in the synthesis of cholesterol. His lab discovered the pathway by which sterol and nonsterol isoprenoids combine to regulate the degradation of HMG-CoA reductase. The deficiency in mevalonate-derived products that accompany statin therapy triggers a compensatory increase in HMG-CoA reductase protein, resulting in the need for higher doses of the drug to maintain cholesterol-lowering effects. Understanding the mechanisms for this compensatory increase in HMG-CoA reductase provides a foundation for the potential development of novel therapies that increase the therapeutic effectiveness of statins.

Dr. Pan, a Howard Hughes Medical Institute Investigator who holds the Fouad A. and Val Imm Bashour Distinguished Chair in Physiology, previously served on the UT Southwestern faculty from 1998 to 2004 before returning as Chair of Physiology in 2016. He is highly regarded for his pioneering work on the Hippo signaling pathway, which plays important roles in regulating organ size, tissue regeneration, and tumorigenesis. In addition, the Pan laboratory elucidated the molecular function of the *Tsc1* and *Tsc2* tumor suppressor genes, linking *Tsc1/Tsc2* to Rheb and TOR signaling. This work provided the key molecular insight for the use of mTOR inhibitors in the treatment of tuberous sclerosis, a genetic disease that leads to tumors in the spinal cord, brain, and other organs.

The National Academy of Sciences, first established by President Abraham Lincoln, is a private, nonprofit institution that recognizes achievement in science by election to membership, and – with the National Academy of Engineering and the National Academy of Medicine – provides science, engineering, and health policy advice to the federal government and various organizations.

With today's elections, UT Southwestern now has 26 faculty who are members of the NAS, more than any other institution in Texas.

Please join me in congratulating our colleagues on this recognition of their outstanding contributions to biomedical science.

Daniel K. Podolsky, M.D.
President
UT Southwestern Medical Center