

Consuelo Walss-Bass, PhD Professor and John S. Dunn Foundation Distinguished Chair in the Department of Psychiatry and Behavioral Sciences Faillace Department of Psychiatry and Behavioral Sciences Patient-derived Brain-Based Mechanistic Studies of Psychiatric

Disorders

Dr. Walss-Bass received a Bachelor of Science degree in chemical engineering from the Instituto Tecnologico de la Laguna, Torreon, Mexico. She received a Master's of Science degree in chemistry from the University of Texas at San Antonio and then a Doctor of Philosophy degree in biochemistry from the University of Texas Health Science Center at San Antonio. She trained in psychiatric genetics as a postdoctoral fellow at the University of Texas Health Science Center at San Antonio. She joined the faculty in the Louis A. Faillace MD, Department of Psychiatry and Behavioral Sciences as Associate Professor in 2014 and is currently Professor with tenure and the John S. Dunn Foundation Distinguished Chair in the Department of Psychiatry and Behavioral Sciences.

Dr. Walss-Bass utilizes genomic and proteomic approaches in human models to correlate to understand the molecular mechanisms underlying mental illnesses and behavior. She established the UTHealth Brain Collection resource to assist her group and others in this research. In addition, Dr. Walss-Bass currently focuses on development of human induced-pluripotent stem cells and subsequent differentiation into neural cell lines to obtain virtual, non-invasive brain biopsies of individuals with mental health disorders.

Abstract: The difficulty of obtaining brain tissue from living human patients has stumped progress towards understanding the cellular and molecular mechanisms underlying complex psychiatric disorders. However, in recent years, development of induced pluripotent stem cells (iPSC), and further differentiation into different brain cell types and cerebral organoids, have attempted to overcome this limitation and are at the fore-front of psychiatric research. Cells in these cultures demonstrate similar characteristics to cells found in vivo, in regards to gene transcription and cellular processes, and the potential of these constructs as probes in studies of psychiatric disorders has only recently begun to be exploited. Dr. Walss-Bass will discuss some of these patient brain-derived mechanistic studies carried out in her laboratory, including

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schizophrenia studies using multiplex families and a novel model using brain cells and neurons derived from postmortem fibroblasts to examine brain cell signaling and gene networks in addiction.