

USF NEXUS INITIATIVE 2019 AWARD RECIPIENT

Maria Leite

Unraveling the Logic Governing Neural Control of Breathing with a Novel Boolean Framework

Breathing is controlled by a complex neural network, which is able to support a wide range of activities and to adapt to changing environmental conditions. However, despite numerous experimental and computational studies, the operating mechanisms of the neural respiratory system have remained elusive. The aim of this project is to unravel the logic behind neural control of breathing by using and extending a novel mathematical framework previously developed by our team. This innovative line of research will improve the understanding of the neural control of breathing and it can lead to strategic improvements in the treatment of cardio-respiratory diseases and to advances in the understanding of abnormal oscillations in the neural system.

Partnerships:

Alona Ben-Tal, Ph.D.

Massey University (Auckland, New Zealand)

Yunjiao Wang, Ph.D.

Texas Southern University (Houston, Texas)



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