



The role of orexin/ hypocretin in social behaviour

SEMINAR & VISITING SPEAKER SERIES WORLD WIDE NEURO PLATFORM

DATE

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WORLD WIDE NEURO LINK

<https://www.crowdcast.io/e/manitoba-neuroscience-4>

MEETING ID & PASSCODE

None required

SPEAKER

Derya Sargin, Ph.D.

Assistant Professor, University of Calgary, Dept of Psychology, The Hotchkiss Brain Institute, Alberta Children's Hospital Research Institute

BIO

Dr. Sargin is an Assistant Professor at the Department of Psychology, University of Calgary. Her lab studies brain circuits underlying social and emotional regulation. Her lab is focused on understanding the long-term effects of early life adversity and chronic social isolation stress on brain activity and behavioural function. She is using innovative technologies in transgenic mouse models to address these questions. Dr. Sargin received her BSc in Molecular Biology&Genetics from Bogazici University in Istanbul, Turkey. She obtained her PhD in Neuroscience at the Max Planck Institute of Experimental Medicine, Germany under the supervision of Dr. Hannelore Ehrenreich. Her PhD work revealed critical molecular and cellular mechanisms underlying the pathophysiology of neuropsychiatric diseases. During her postdoctoral training under the supervision of Dr. Evelyn Lambe's lab at the University of Toronto, she identified novel regulatory mechanisms of serotonergic transmission in chronic stress. Her research has made significant discoveries on the physiological mechanisms underlying the activity of the serotonin system

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in developmental stress and identified potential therapeutic approaches for mood disorders. She started her lab in July 2019 at the University of Calgary and holds membership in the Hotchkiss Brain Institute and the Alberta Children's Hospital Research Institute.

RESEARCH

My lab is focused on how brain encodes and modulates social interactions. Intraspecific social interactions are integral for survival and maintenance of society among all mammalian species. Despite the importance of social interactions, we lack a complete understanding of the brain circuitry involved in processing social behaviour. My lab investigates how the hypothalamic orexin (hypocretin) neurons and their downstream circuits participate in social interaction behaviours. These neurons are located exclusively in the hypothalamus that regulates complex and goal-directed behaviours. We recently identified that orexin neurons differentially encode interaction between familiar and novel animals. We are currently investigating how chronic social isolation, a risk factor for the development of social-anxiety like behaviours, affects orexin neuron activity and how we can manipulate the activity of these neurons to mitigate isolation-induced social deficits.

OBJECTIVES

1. Examine how orexin neurons encode social interaction
2. Determine whether orexin system is compromised in social isolation
3. Determine the mechanisms underlying orexin involvement in social behaviour