



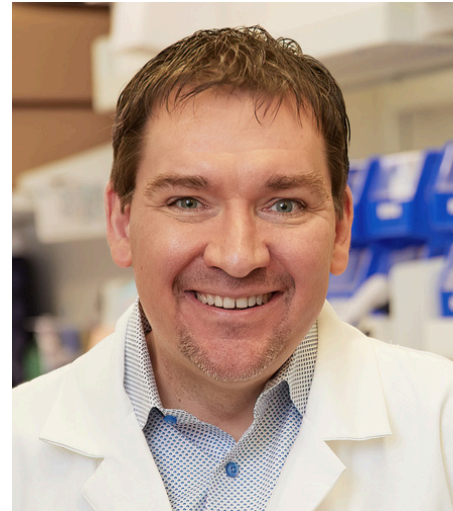
SPRING 2026 SEMINAR SERIES

“Hyperexcitability of ventral tegmental area dopamine neurons in mouse Alzheimer’s models”

Our recent work has identified a series of cellular adaptations in dopaminergic neurons of the ventral tegmental area (VTA) in mouse models of Alzheimer's disease. We observe an intrinsic dopamine hyperexcitability caused by an overexpression of the enzyme casein kinase 2 and decreased current through small conductance calcium-activated potassium (SK) channels.

Notably and in stark contrast to Parkinson's disease, these adaptations are specific to the VTA and are not recapitulated in the nearby substantia nigra. VTA dopamine neurons in AD mice exhibit decreased cell size and surface area as well as decreased branching. These neurons also receive sharply enhanced glutamate input and decreased GABAergic inhibition, further tipping the balance of firing toward excitation in these models.

Our results suggest that AD pathology is associated with increased sensitivity of single dopamine neurons, through modifications that alter downstream signaling and may be a compensatory mechanism in the face of ongoing degeneration.



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OKLAHOMA MEDICAL RESEARCH FOUNDATION

Date:

Thursday, May 7, 2026

Time:

12:00 p.m. to 1:00 p.m.

Location:

ASRC — 1st Floor I Auditorium
85 Saint Nicholas Terrace
New York, NY 10031

Host:

Susana Mingote, PhD

Zoom:



Meeting ID: 829 2182 1802

Passcode: 491508

[Meeting Link](#)