

TIMOTHY A. JOHNSON MEDICAL SCHOLAR LECTURE SERIES

Presented by the Fralin Biomedical Research Institute at VTC and the Virginia Tech Carilion School of Medicine



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In Person Lecture: Synaptic Injury: A Link to the Past

Traumatic brain injury (TBI) is the number one global cause of neurological disability in the first half of life, while Alzheimer's disease (AD) is the primary cause of dementia in the latter half. TBI, moreover, is the best established epigenetic risk factor for AD. What is the source of this connection, and how can it be severed? This seminar will discuss the role of synapses—subcellular nodes of communication between neurons and the strongest pathological correlate of cognitive decline in AD—in acute and chronic forms of brain injury. Synapses are challenging to study in situ owing to their small size and dense packing in the brain. Techniques pushing the boundaries of the data spectrum at both ends, such as super-resolution imaging and big data analytics, are opening new windows on synapses and their molecular and nanostructural features. Such studies may shed light on the apparent vulnerability of synapses to injury. This seminar will touch on two potentially important synaptic injury mechanisms, neuroinflammation and synaptic proteinopathies, and discuss their role in TBI and AD.

FRIDAY, APRIL 7, at 1 p.m.

Room M203, 2 Riverside Circle, or watch via Zoom at <https://fralinbiomed.info/MedScholar-Join>.

