

**Neuroscience Center of Excellence  
LSU Health Sciences Center School of Medicine,  
New Orleans**

## **SEMINAR**

### ***The Pathophysiological Role of Lipids in Hippocampal Function***

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Evidence suggests that the mammalian brain consists of several distinct memory systems, including the dorsal striatal- and the hippocampal-dependent systems. Hippocampal-based memory consolidation requires the rapid production of various pro-inflammatory lipid mediators, including platelet-activating factor and cyclooxygenase-2-derived prostaglandins. In contrast, the striatum doesn't require these lipid signaling agents for effective memory consolidation. As aging selectively impairs hippocampal function, the reliance of this system on inflammatory lipid messengers may predispose the hippocampus to age-related neurodegeneration. Long-term dietary nucleoside supplementation prevents the age-related hippocampal memory dysfunction, in part by increasing membrane phosphatide levels. Several behavioral, endocrinological and neurochemical changes that accompany dietary, environmental, and age-related changes in hippocampal function will be discussed.

**May 18, 2006, 4:00pm, 8<sup>th</sup> Floor Neuroscience Center  
Conference Room, LSU Lion's Building, 2020 Gravier Street**