

## **APPLIED MEMORY AND HIPPOCAMPAL FUNCTIONING: EFFECTS OF AGE AND DISEASE**

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Memory is extremely complex in the kind of information that is represented in the brain, the processes associated with it, and its distribution across a variety of neural systems. Whereas most investigators agree that the hippocampus is involved in memory, debate remains regarding the specific information the hippocampus processes. Aging, neurological disorders, and systemic illness can result in atrophy or damage to the medial temporal lobe memory system and are associated with memory impairments. This symposium will discuss the effects of age and disease on memory. The symposium will briefly review the hippocampal memory system and memory processes, such as pattern separation, and subsequently discuss the specific effects of aging and disease on memory. Participants will: (1) develop an understanding of the role pattern separation plays in memory impairments from patients with selective hippocampal damage; (2) understand age-related changes in memory and that age-related pattern separation ability provides a framework for evaluating memory using high-resolution imaging; 3) understand distinct hippocampal subregions in memory changes associated with normal aging and AD; and 4) develop an understanding that systemic medical illnesses can have profound and long-term deleterious effects on memory functioning.