

UTHealth Houston Neuroscience Research Center  
and  
UTHealth Houston Graduate School of Biomedical Sciences  
**Current Topics in the Neurobiology of Disease - GS14 1021**

***Dementia Prevention and Research***

Director: John Byrne, PhD

***Course Description***

This course is an integrated approach to neurological diseases, which includes background information as well the diagnosis, the treatment, and the biological mechanisms of the diseases under study. The topic for Fall 2025 is “Dementia Prevention and Research.” This course will investigate the complex biological, clinical, and societal dimensions of Alzheimer’s disease and related dementias. Through a series of lectures, students will explore the cellular foundations of network abnormalities, covering topics such as functional genomics, autophagy, and proteasome dysfunction, along with the roles of the microbiome, inflammation, and glial cells in neurodegeneration. The course also adopts a clinical perspective by exploring advanced neuroimaging techniques, emerging therapeutic interventions, and the impact of cerebrovascular health in vascular dementia. The curriculum concludes with a focus on caregiving and the behavioral and psychological symptoms associated of dementia.

Lectures will be given by leading experts in the field from UTHealth Houston, Baylor College of Medicine, and Houston Methodist Research Institute. The 2025 NRC Distinguished Lecture Series coincides with the course and will be given by Joshua A. Gordon, MD, PhD, Columbia University, on October 21, 2025.

This course is open to graduate students, medical students, residents and postdoctoral fellows.

***Lecture Time and Location***

Tuesdays, August 26 through December 9, 2025

12:00 p.m. – 1:00 p.m.

UTHealth Houston McGovern Medical School MSB 7.037

***Course Requirements***

Attendance

Completion of final essay based on a course lecture. (Postdoctoral fellows are exempt)

**John Byrne, PhD** – Director, UTHealth Houston Neuroscience Research Center

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UTHealth Neuroscience Research Center  
**Current Topics in the Neurobiology of Disease - GS14 1021**  
**Fall 2025**

***Dementia Prevention and Research***

Tuesday 12:00 p.m. – 1:00 p.m. in MSB 7.037

*Open to graduate and medical students, postdoctoral fellows and residents.*

Date	Speaker	Affiliation	Topic/Title
26-Aug	Jack Byrne, PhD	Neurobiology and Anatomy-MMS	Course Introduction
2-Sept	Joshua Shulman, MD, PhD	Baylor College of Medicine	Functional genomics of Alzheimer's disease (AD)
9-Sept	Myriam Fornage, PhD	IMM-Center for Human Genetics-MMS	Genetic variations in dementia
16-Sept	Keran Ma, PhD	Neurobiology and Anatomy-MMS	Cellular basis of network abnormalities in AD
23-Sept	Andrea Stavoe, PhD	Neurobiology and Anatomy-MMS	Autophagy in neurodegenerative diseases
30-Sept	Andrew Pickering, PhD	Integrative Biology and Pharmacology-MMS	The proteasome in AD
7-Oct	Paul Schulz, MD	Neurology-MMS	Therapeutic interventions in Alzheimer's disease (AD)
14-Oct	Neha Parikh, PhD	School of Dentistry	Oral microbiome and systemic inflammation in AD
21-Oct	Joshua Gordon, MD, PhD NRC Distinguished Lecturer	Columbia University	Circuits and Computation: A Neuroscientist's View of the Future of Psychiatry
28-Oct	Anjail Sharrief, MD, MPH	Neurology-MMS	Vascular Dementia: Epidemiology, Risk factors, and Prevention
4-Nov	Long-Jun Wu, PhD	IMM-Center for Neuroimmunology and Glial Biology-MMS	The role of microglia in neurodegeneration
11-Nov	Sean Savitz, MD	Neurology-MMS	Cerebrovascular health and neurodegenerative disorders
18 Nov	SfN Nov 15-19		No class
25-Nov	Thanksgiving Week		No class
2-Dec	Joseph Masdeu, MD, PhD	Houston Methodist	Neuroimaging of dementia
9-Dec	Carolyn Pickering, PhD, RN	Cizik School of Nursing	Caregiving and the behavioral and psychological symptoms of dementia