IMPORTANT: This syllabus form should be submitted to OAA (gsbs_academic_affairs@uth.tmc.edu) a week before the start of each semester.

NOTE to STUDENTS: If you need any accommodations related to attending/enrolling in this course, please contact one of the Graduate School's 504 Coordinators, Cheryl Spitzenberger or Natalie Sirisaengtaksin. We ask that you notify GSBS in advance (preferably at least 3 days before the start of the semester) so we can make appropriate arrangements.

Term and Year: Fall 2022 **Course Number and Course Title:** **GS14 1611: Current Topics in Neuroscience** **Credit Hour: 1** **Meeting Location: MSB 7.046** **Building/Room#: UT McGovern Medical School**	**Program Required Course: No** **Approval Code: No** **(If yes,** the Course Director or the Course Designee will provide the approval code.) **Audit Permitted: No** **Classes Begin: Aug. 21, 2022** **Classes End: Dec. 7, 2022**

Class Meeting Schedule

Day	Time
Wednesday	**1:10-2:10 pm**

Course Director: Name and Degree: **Shin Nagayama, PhD** Title: Associate Professor Department: Neurobiology & Anatomy Institution: UTH Email Address: Shin.Nagayama@uth.tmc.edu Contact Number: 713-500-5862	**Instructor/s** 1. **Vasanthi Jayaraman, PhD** Professor Institution: UTH Email Address: vasathi.jayaraman@uth.tmc.edu 2. **Qingchun Tong, PhD** Professor Institution: UTH Email Address: qingchun.tong@uth.tmc.edu 3. **John Byrne, PhD** Professor Institution: UTH Email Address: john.byrne@uth.tmc.edu 4. **Ruth Heidelberger, MD, PhD** Professor Institution: UTH Email Address: ruth.heidelberger@uth.tmc.edu

	5. **Andrea Stavoe, PhD** Assistant Professor Institution: UTH Email Address: andrea.k.stavoe@uth.tmc.edu 6. **Valentin Dragoi, PhD** Professor Institution: UTH Email Address: valentin.dragoi@uth.tmc.edu 7. **Wei Cao, PhD** Professor Institution: UTH Email Address: wei.cao@uth.tmc.edu 8. **Rodrigo Morales, PhD** Associate Professor Institution: UTH Email ad: rodrigo.moralesloyola @uth.tmc.edu 9. **Sheng Zhang, PhD** Assistant Professor Institution: UTH Email address: sheng.zhang @uth.tmc.edu 10. **Jian Hu, PhD** Associate Professor Institution: MDAnderson Email address: JHu3@mdanderson.org 11. **Anilkumar Pillai, PhD** Professor Institution: UTH Email ad: Anilkumst.T.Pillai@uth.tmc.edu 12. **Kartik Venkatachalam, PhD** Associate Professor Institution: UTH Email ad: Kartik.Venkatachalam@uth.tmc.edu

Course Description:

This course (P/F) will give an overview of the wide range of research being carried out in the GSBS Neuroscience Program and is open to all PhD and MS students. Through presentations and discussions with a different faculty member each week, students will appreciate some of the fundamental ideas and unsolved questions in Neuroscience research and become familiar with the experimental and theoretical approaches used to tackle those questions.

Anyone with an interest in Neuroscience research is welcome to take this class. There are no exams or reading assignments, but students are expected to attend all presentations and actively participate in class discussions.

Textbook/Supplemental Reading Materials (if any)

- **N/A**

<u>Course Objective</u>:

One of the critical decisions students need to make is to determine the laboratory in which they will have scientific training as graduate students and what scientific direction they want to move forward in the future. This course will help them to find their direction. The course will deliver the opportunity for them to face the multiple faculties and their sciences directly. Students will learn how the front-runner of scientists think and build their scientific directions in the lectures and the conversations with them.

Specific Learning Objectives:

1. Students can directly face the advanced neuroscientists and understand and discuss their sciences.
2. Students learn the uniqueness of each faculties science and their thinking style of building up their scientific directions.

Student Responsibilities and expectations:

Students enrolled in this course will be expected to attend all lectures, and participate in the discussion.

Grading System: Pass/Fail

Student Assessment and Grading Criteria :

Percentage	Description
Workshop or Breakout-Session (50 %)	
Participation and/or Attendance (50 %)	

CLASS SCHEDULE - Fall 2022

Date	Duration (Hour(s) taught by the lecturer)	Lecture Topic	Lecturer/s
Aug. 31	1 hour	Glutamate receptors from single molecules to synapses	Vasanthi Jayaraman
Sept. 7	1 hour	Neurocircuitry for feeding and related behaviors	Qingchun Tong
Sept. 14	1 hour	Neuronal Mechanisms of Memory	John Byrne
Sept. 21	1 hour	Neural circuits for complex behavior	Valentin Dragoi
Sept. 28	1 hour	Synaptic mechanisms and neurodegeneration in the early visual pathway	Ruth Heidelberger
Oct. 5	1 hour	Neuronal Autophagy in Aging and Neurodegeneration	Andrea Stavoe
Oct. 12	1 hour	TBD	
Oct. 19	1 hour	Linking inflammation to neurodegeneration	Wei Cao
Oct. 26	1 hour	Protein misfolding and neurodegenerative diseases	Rodrigo Morales
Nov. 2	1 hour	Insight into Neurodegeneration: Flies buzzing with good answers	Sheng Zhang
Nov. 9	1 hour	Lipid metabolism in neurodegeneration and brain tumor	Jian Hu
Nov. 16	1 hour	Neuroinflammation and social behavior	Anilkumar Pillai
Nov. 23	1 hour	No Class	
Nov. 30	1 hour	The bioenergetics of neuronal function	Kartik Ventakachalam
Dec. 7	1 hour	TBD	