

NGG 588: Topics in Translational Neuroscience

Location:

Smilow Center for Translational Research (SCTR)
11th Floor - Room 11-146AB

Time: Fridays: Noon to 2:30 PM

This course will introduce graduate students in neuroscience and related disciplines to basic mechanisms and clinical features of major categories of nervous system disease. Each two-hour class will consist of two parts; a formal lecture followed by a seminar on the same topic. The formal basic science lectures will discuss genetic, molecular, and cellular mechanisms relevant to the disease examined while the seminar will illustrate how that information can be used in the clinical setting to promote further discovery and inform treatment. Some of the seminars will be associated with the Clinical Neuroscience Training Program (CNST) to provide the opportunity to interact with medical students and clinicians. The course will rely on assigned readings of primary research papers and discussions during class.

This is a weekly spring semester course consisting of two components:

- A one-hour lecture detailing the neurobiology of a particular disease
- A one-hour seminar delivered by the Clinical Neurosciences Training Program (CNST) Seminar Series
- A 30 minute discussion on the topic presented in each lecture and seminar

Participating faculty include:

- Course director Mariella De Biasi and course co-director Jessica Shaw, who will select weekly special lecturers and run the course
- A weekly lecturer who specializes in the disease being covered that week
- The CNST seminar speaker for that week, selected by the CNST directors Dan Wolf and Xilma Ortiz-Gonzalez

Contact Hours:

- 2.5 hours per week on Fridays
- 1CU

Activity Types:

- Lecture
- Seminar
- Small Group Discussion

Course Materials:

- Readings selected by the weekly lecturer

Prerequisites:

- Graduate-level students, senior undergraduates with permission from the Instructor
- Open to PSOM students with permission from the Department
- Priority given to NGG students, then other BGS, then other PSOM, then other Penn students on space-available basis

Student Details:

- Class size limit = 20 students

- Expected to attract second-year NGG, first or second year PGG, other PSOM students

Evaluation of Student Performance: Students will be evaluated based on their ability to identify gaps in the current knowledge for the topic presented in each class/seminar and answer questions based on readings assigned before each class or the material presented during class (40%). They will also be evaluated on a final short paper on a topic of their choice among those presented in class (40 %), and their general participation to the group discussions (20%).

01-17-2025: Introduction:

12-1 PM: Mariella De Biasi, PhD, Course Director – Department of Psychiatry- PSOM
Course Introduction

1-2 PM: Michael Guo, MD Ph.D., Department of Neurology, PSOM
CNST lecture

01-24-2025: Topic 1. Opiates/Pain:

12-1PM: Gregory Corder, PhD, Department of Psychiatry, PSOM

1-2PM: Tom Scott, MD, Department of Anesthesia and Critical Care Medicine, PSOM

01-31-2025: Topic 2. Psychopathy & Social Cognition:

12-1 PM: Rebecca Waller, Ph.D., Department of Psychology, University of Pennsylvania

1-2 PM: Adrianna C. Jenkins, Ph.D., Department of Psychology, University of Pennsylvania

02-07-2025: Topic 3. Traumatic Brain Injury:

12-1PM: Akiva Cohen, PhD, Department of Anesthesiology and Critical Care, PSOM

1-2 PM: Andrea L.C. Schneider, MD, PhD, Department of Neurology, Division of Neurocritical Care and Department of Epidemiology, Biostatistics, and Informatics, PSOM

02-14-2025: Topic 4. Myelination and Leukodystrophies:

12-1 PM: Judith B. Grinspan, Ph.D., Department of Neurology, Children's Hospital of Philadelphia

1-2 PM: Jennifer L. Orthmann Murphy, MD, PhD
Department of Neurology,

02-21-2025: Topic 5. Mitochondrial Dysfunction:

12-1PM: Douglas C. Wallace, PhD, Department of Pediatrics, Division of Human Genetics, PSOM

1-2 PM: Shana E. McCormack, M.D., M.T.R., Department of Pediatrics (Endocrinology and Diabetes), CHOP.

02-28-2025: Topic 6. Autism:

12- 1 PM: Marc Fuccillo, MD, PhD, Department of Neuroscience, PSOM

1-2 PM: Julia Parish-Morris, PhD, Department of Psychiatry, PSOM and Center for Autism Research, CHOP

03-07-2025: **Topic 7. Epilepsy:**

12-1PM: J Ethan Goldberg, MD, PhD, Department Neurology, PSOM

1-2 PM: Erin Conrad, MD, Department of Neurology, PSOM

03-14-2025 ***Spring Break- no class***

03-21-2025: **Topic 8. Neurodevelopment:**

12-1 PM: Philip Campbell, MD PhD, Department of Psychiatry

1-2 PM: Kimberly M. Christian, PhD, Department of Neuroscience, PSOM

03-28-2025: **Topic 9. Stress/Adversity/Sex differences:**

12-1 PM: Seema Bhatnagar Ph.D., Department of Anesthesiology and Critical Care, CHOP

1-2 PM: Sheila Shanmugan, M.D., Ph.D, Department of Psychiatry, PSOM

04-4- 2025: **Topic 10. Neurodegenerative Disease:**

12-1 PM Edward Lee, MD, PhD, Department of Pathology and Laboratory Medicine, PSOM

1-2 PM: Katheryn Quilico Cousins-Gershenson, PhD, Department of Neurology, PSOM

04-11-2025: **Topic 11. Neurovascular Disorders:**

12-1 PM Jake Brenner, MD, PhD , Departments of Medicine & Pharmacology, PSOM

1PM-2PM: Kahlilia Morris-Blanco, PhD, Department of Cell and Developmental Biology, PSOM

04-18-2025: **Topic 12. Sleep/Anesthesia:**

12-1 PM: Amita Sehgal, PhD, Department of Neuroscience, PSOM

1-2 PM: Jennifer Goldschmied, PhD, Department of Psychiatry, PSOM

04-25-2025: **Topic 13. Motor Control:**

12-1PM: Timothy Machado. PhD, Department of Neuroscience, PSOM

1-2PM: Mijail D. Serruya, MD, PhD, Center for Neurorestoration, Jefferson University, Philadelphia