

NGG 588: Topics in Translational Neuroscience

Location:

Smilow Center for Translational Research (SCTR)
12th Floor - Room 12-146AB

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 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%).

Calendar of lectures for 2022

01-14-2022: **Introduction**

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

1-2 PM: Michael Beauchamp PhD –Department of Neurosurgery, Perelman School of Medicine,
Mechanisms of Multisensory Integration

01-21-2022: **Topic 1. Taste:**

12-1 PM: Robert Margolskee, MD PhD, Monell Chemical Senses Center

1PM-2PM: Noam Cohen, MD PhD, Department of Otorhinolaryngology

01-28-2022: **Topic 2. CAG Repeats:**

12-1PM: Robert Wilson, MD, PhD, Department of Pathology and Laboratory Medicine, PSOM
and Children's Hospital of Philadelphia

1-2 PM: Beverly Davidson, PhD, Children's Hospital of Philadelphia and Department of
Pathology

02-04-2022: **Topic 3. Sleep/Anesthesia:**

12-1PM: Sigrid Veasey, MD, Division of Sleep Medicine, Department of Medicine, PSOM

1-2PM: Deborah Jean Culley, MD, Department of Anesthesiology and Critical Care, PSOM

02-11-2022: **Topic 4. Fear & Anxiety:**

12-1 PM: Amelia Eisch, PhD, Department of Anesthesiology and Critical Care, Children's
Hospital of Philadelphia

1-2 PM: Desmond Oathes PhD, Department of Psychiatry, PSOM

02-18-2022: **Topic 5. Translational research on neuro-regeneration:**

12-2PM: D. Kacy Cullen PhD, Departments of Neurosurgery & Bioengineering, PSOM

02-25-2022: **Topic 6. Neurodevelopment & Psychosis:**

12-1 PM Stewart Anderson, MD, Children's Hospital of Philadelphia and Department of
Psychiatry, PSOM

1-2 PM Raquel Gur, MD PhD, Department of Psychiatry, PSOM

03-04-2022: **Topic 7. CAR-T and Neuro-oncology:**

12-1 PM Zev Binder, MD, PhD, Department of Neurosurgery, PSOM

1-2 PM: Jessica Foster, MD, Division of Oncology, The Children's Hospital of Philadelphia

03-11-2022 **Spring Break- no class**

03-18-2022: **Topic 8. Epigenetics/Genetics in Drug Addiction:**

12-1PM: Elisabeth Heller, PhD, Department of Pharmacology, PSOM

1-2PM: Richard Crist, PhD, Department of Psychiatry, PSOM

03-25-2022: **Topic 9. Neuro-Covid:**

12-1PM: Matthew Schindler, MD PhD, MS Division, Department of Neurology, PSOM

1-2PM: Danielle K. Sandsmark, MD PhD, Division of Neurocritical Care, Department of Neurology, PSOM

04-01-2022: **Topic 10. Hunger Circuits and Obesity/Eating Disorders**

12-1PM: Matt Hayes, PhD, Department of Psychiatry, PSOM

1-2 PM: Kelly Costello Allison, PhD, Center for Weight and Eating Disorders, Department of Psychiatry, PSOM

04-08-2022: **Topic 11. Vision/Retinal Function and Disease:**

12-1PM: Gustavo Aguirre, VMD, PhD, Department of Medical Genetics and Ophthalmology, University of Pennsylvania School of Veterinary Medicine

1-2 PM: Geoff Aguirre, MD, PhD, Department of Neurology

04-15-2022: **Topic 12. Deep Brain Stimulation**

12-1PM: Flavia Vitale, Ph.D., Departments of Neurology and Bioengineering, and Center for Neuroengineering and Therapeutics, PSOM

1-2 PM: Casey Halpern, MD, Department of Neurosurgery, PSOM

04-22-2022: **Topic 13. Neuroinflammation:**

12-1PM: Jorge Alvarez, PhD, University of Pennsylvania School of Veterinary Medicine
Department of Pathobiology

1-2 PM: F. Christopher Bennett, MD, Department of Psychiatry, PSOM