

CAMB/NGG713: Neuroepigenetics

TIME: Thursdays 1:45pm-3:45pm 9/5/24 – 12/12/24

LOCATION: CRB 302

COURSE DIRECTORS:

Zhaolan (Joe) Zhou	215.746.5025	zhaolan@pennterapeutics.org
Erica Korb	215.573.5705	ekorb@pennterapeutics.org
Hao Wu	215.573.9360	haowu2@pennterapeutics.org

GOALS: This is a course intended to bring students up to date concerning our understanding of neuroepigenetics. It is based on 1) lectures on basic concepts of epigenetics and related methods by course directors, and 2) assigned literature readings covering a variety of experimental systems and concepts in the field, formal presentations by individual students, critical evaluation of primary data, and in-depth discussion of potential issues and future directions,

The goals of each seminar style session are:

- 1) Review basic concepts of epigenetics in the context of neuroscience
- 2) Learn to critically evaluate a topic (not a single paper) and rigor of prior research
- 3) Improve experimental design and enhance rigor and reproducibility
- 4) Catch up with the most recent development in neuroepigenetics
- 5) Develop professional presentation skills - be a storyteller

FORMAT: Each week will focus on a specific topic of neuroepigenetics via a “seminar” style presentation by a class member with the following expectations:

Consultation with preceptor prior to presentation	
Introduction (~10 min):	Context of topic in the field Historic perspectives of the topic Current understandings
Primary data (~30 min):	Questions of interest Design of experiments Interpretation of data
Discussion (~20 min):	Issues/challenges Proposed future experiments Future directions in a big picture

Engage class for discussion and participation, and manage the presentation in ~1 hour

One or more course directors and a guest preceptor will be present each week to facilitate discussions

EVALUATION:

- 1) Knowledge of assigned paper and broadly relevant background/developments
- 2) Consultation with faculty preceptor
- 3) Peer evaluation and faculty evaluation
- 4) Enforcement – grading policy: 50% class participation
50% presentation**

COURSE UNIT VALUE: 1 unit

ENROLLMENT LIMITS: 15 (maximum)

PREREQUISITES: BIOM555 or permission by course directors

List of Faculty Preceptors (*course directors)

Date	Preceptor	Topic
9/5	Course Directors - Joe/Erica/Hao	Organization meeting
9/12	Course Directors – Erica*	Lecture 1: Histone modification
9/19	Course Directors – Joe*	Lecture 2: DNA methylation
9/26	Course Directors – Hao*	Lecture 3: 3D chromatin organization and neurogenomics methods
10/3	Yijing Su	Student Presentation
10/10	Elizabeth Heller	Student Presentation
10/17	Hongjun Song	Student Presentation
10/24	[Erica Korb if space not filled]	Student Presentation
10/31	Marisa Bartolomei	Student Presentation
11/7	Shelley Berger	Student Presentation
11/14	Naiara Akizu	Student Presentation
11/21	Kahlilia Blanco	Student Presentation
11/28	Thanksgiving	No class
12/5	Kavitha Sarma/Jenn Cremins	Student Presentation (x2 if needed)
12/12	Ana Cristancho	Student Presentation