

[Introduction of Research Techniques in Neuroscience] for Fall Semester, 2017

Code	
Credits:	2 credits
Organizers:	Yun-Ru Chen (陳韻如) and Ya-Hui Chou (周雅惠)
Reference:	Carter M. and Shieh J. (2010) Guide to Research Techniques in Neuroscience. Elsevier.
Time:	10:10-12:00, Friday, Sep. 2017-Dec. 2017
Place:	B100 Room of Interdisciplinary Building
Aim	<p>Daunting and versatile techniques have been developed and employed in neuroscience researches to explore how nerve systems work and, in some cases, get pathogenesis.</p> <p>The prerequisite of working on neuroscience researches then is to understand how these methodologies work. This lecture introduces the concept, theory and applications of current neuroscience techniques- ranging from basic to advanced- used to address questions covering genes, molecules, cellular pathology, brain function and animal behaviors.</p>
Evaluation	Exams, questions from each lecture

No.	Date	Topic	Lectured by
1	9/29	<i>Introduction&Whole Brain Imaging (human and mouse)</i>	Yun-Ru Chen 陳韻如 (AS) Ya-Hui Chou 周雅惠 (AS) Ming-Long Wu 吳明龍 (NCKU)
2	10/06	<i>Animal Behavior I (mouse, non-human primate)</i>	Po-Wu Gean 簡伯武 (NCKU)
3	10/13	<i>Animal Behavior II (zebrafish)</i>	Yung-Shu Kuan 管永恕 (NTU)
4	10/20	<i>Animal Behavior III (fly, worm)</i>	Ya-Hui Chou 周雅惠 (AS)
5	10/27	<i>Stereotaxic Surgeries and in vivo Techniques</i>	Chou-Ching Lin 林宙晴 (NCKU)
6	11/03	<i>Electrophysiology I: Ion Channels</i>	Chien-Yuen Pan 潘建源 (NTU)
7	11/10	<i>Electrophysiology I: Neuronal Circuits</i>	Bai Chuang Shyu 徐百川 (AS)
8	11/17	<i>Mid-term</i>	
9	11/24	<i>Introduction of Microscopy</i>	Chau-Hwang Lee 李超煌 (AS)
10	12/01	<i>Microscopy Instrumentation and Microscopy in Neuroscience II</i>	Jin Wu Tsai 蔡金吾 (NYMU)
11	12/08	<i>Visualizing Nervous System Structure & Function (mouse)</i>	Pei-Lin Cheng 鄭珮琳 (AS)
12	12/15	<i>Visualizing Nervous System Structure & Function (fly)</i>	Hung-Hsiang Yu 游宏祥 (AS)
13	12/22	<i>Manipulating Endogenous Genes & Gene Delivery Strategies</i>	Yi-Shuan Huang 黃怡萱 (AS)
14	12/29	<i>Making and Using Transgenic Organisms</i>	Si-Tse Jiang 蔣思澈 (NCKU)
15	1/05	<i>Neural Stem Cell and Cell Culture Techniques</i>	Hung-Chih Kuo 郭紘志 (AS)
16	1/12	<i>Biochemical assays and neurodegenerative diseases</i>	Yun-Ru Chen 陳韻如 (AS)
17	1/19	<i>Final</i>	

Total 16 lectures.