

**TIGP-MBAS Core Course (Fall semester, 2024):
Advanced Animal Biology**

Course coordinator: Dr. Chen-Hui Chen (陳振輝) Associate Research Fellow, ICOB, A.S.
Class starting day: 9/12/2024
Time: 14:00-17:00 (every Thursday)
Place: A236, Agricultural Technology Building, Academia Sinica
Credits: 3 (core)
Objectives of the course: This course serves two purposes: (1) To provide an overview of current knowledge in animal biology, the course will cover the following themes: animal development, dysfunction, and evolution; and animal-environment interactions. (2) To obtain first-hand information on animal biology research from MBAS-ICOB faculty members who work on various topics within the discipline.
Evaluation criteria <u>General Performance (50% of the final grade):</u> Attendance, class performance, assignments AND one-page summary of the lecture and your thoughts on the topic. <u>Final exam (50% of the final grade):</u> critically read, present and discuss one of the listed research papers with the PI who provided the paper by 12/30 .

Course Syllabus

Date	Theme	Topic	Instructor
9/12	Animal development	Course introduction; Zebrafish Model in Regeneration Research	Chen-Hui Chen (ICOB) 陳振輝
9/19	Animal development	Synapse Structure and Function in Neurodevelopmental Disorders	Shu-Ling Chiu (ICOB) 丘淑鈴
9/26	Animal development	Generating a functional brain	Shen-Ju Chou (ICOB) 周申如
10/3	Animal dysfunction	Mouse Models in Studying Genetic Diseases	Yi-Ching Lee (ICOB) 李宜靜
10/10	National Holiday- No Class		
10/17	Animal development	Epigenetic Regulation and their Role in Organismic Development	Cheng-Fu Kao (ICOB) 高承福
10/24	Animal development and evolution	Place of non-bilaterians in the studies of animal evolution and development	Konstantin Khalturin (ICOB) 哈圖林
10/31	Animal development and evolution	Artificial Selection and Evolutionary Developmental Biology	Kinya G. Ota (ICOB-MRS) 太田欽也
11/7	Animal development and evolution	Evolution of Developmental Gene Regulatory Networks	Yi-Hsien Su (ICOB) 蘇怡璇
11/14	Animal development and evolution	Evolutionary Cell and Developmental Biology of Spiralian	Stephan Schneider (ICOB) 史耐德
11/21	Animal dysfunction	The Cell Biology of gamma-Secretase and Alzheimer's Disease	Yung-Feng Liao (ICOB) 廖永豐
11/25	Animal-Environment Interactions	Ecophysiological Studies in a Changing Environments	Yung-Che Tseng (ICOB-MRS) 曾庸哲
12/5	Animal development	Sensory coding in the mammalian nervous system	Han Chin Wang (ICOB) 王漢津
12/12	Animal development	Visualizing Nervous System Structure and Function: a Drosophila Model	Ya-Hui Chou (ICOB) 周雅惠
12/19	Animal dysfunction	Tumor Biology and Cancer Therapy	Han-Chung Wu (ICOB) 吳漢忠
12/26	Animal development and dysfunction	Pluripotent Stem Cells	Hung-Chih Kuo (ICOB) 郭志紘
1/2	Animal development and evolution	Evolution of Developmental Mechanisms and the Origin of Vertebrates	Jr-Kai Yu (ICOB) 游智凱
1/9	Advanced Animal Biology	Course feedback and discussion	Chen-Hui Chen (ICOB) 陳振輝