

Molecular & Cellular Approaches to Biotechnologies 分子與細胞生物科技

Offering time: **2021 Spring Semester**

Coordinator : Pei-Wen Hsiao 蕭培文

Classroom : RmA236, 2F, Agricultural Technology Building, Academia Sinica (中研院農科大樓 236 室)

Time : Thursday afternoon, 14:00~17:00

Credit : 3 credits (core course)

Course description: This course offers an introduction to basic and advanced biotechnology systems, with emphasis on the use of transgenic approaches for research in modern biosciences

Date	Topic	Lecturer
2/25	1. Introduction	蕭培文 (Pei-Wen Hsiao)
2/26	2. Research and Development using Transgenic Biotechnology	
3/4	Anther and Pollen: from Biology to Biotechnology	孫德芬 (Der-Fen Suen)
3/11	Lipid metabolic engineering	中村友輝 (Yuki Nakamura)
3/18	Small-RNA-mediated gene regulation and its applications in plants	陳荷明 (Ho-Ming Chen)
3/25	The crossroads of algal biotechnology	方素瓊 (Su-Chiung Fang)
4/1	Targeting drug delivery systems for cancer therapy	吳漢忠 (Han-Chung Wu)
4/8	Study of molecular mechanisms for human genetic diseases	李宜靜 (Yi-Ching Lee)
4/15	Profiling Genome-Wide DNA methylation	陳柏仰 (Pao-Yang Chen)
4/22	Translational mouse models for Immunotherapeutic Discovery & Development	陳繪名 (Hui-Ming Chen)
4/29	Proteomics - The fundamentals of qualitative and quantitative protein analyses	吳韋訥 (Wailap Victor Ng)
5/6	Midterm paper due: 2pm via email (Research Proposal)	
5/13	Development of antiviral strategies on plants	葉信宏 (Hsin-Hung Yeh)
5/20	Induced Neuronal Differentiation - A Therapeutic Approach for Neuroblastoma	廖永豐 (Yung-Feng Liao)
5/27	Gene and cell-based bioreactors, animal tumor model and therapeutics	蕭培文 (Pei-Wen Hsiao)
6/3	Analytical Instrumentation for Application to Biotechnology	陳逸然 (Yet-Ran Chen)
6/10	In vivo biochemistry -Watching and quantifying biochemical processes in intact plants	何承訓 (Cheng-Hsun Ho)
6/17	Regulation of chromatin structure in Transcription and Genomic Stability	高承福 (Cheng-Fu Kao)
6/24	Final paper due: 2pm via email (Patent disclosure)	