Macrophage Biology and its Research in Human Diseases
巨噬細胞生物學及其在人類疾病中的研究－114-1 [隔年開課]

Time: Tuesday AM 1:10-3:00

9/9	Introduction - Course rules and content overview: Fundamentals of macrophage biology and functions	Pu-Ste Liu
9/16	Origins, differentiation, and polarization of macrophages	Pu-Ste Liu
9/23	Molecular signaling mechanisms regulating macrophage activity and function	Pu-Ste Liu
9/30	Isolation, Ex Vivo Expansion, and Lentiviral Transduction of murine and human Macrophages	Pu-Ste Liu
10/07	Genetic Models of Macrophage Depletion in vivo and Cre Driver Mice	Pu-Ste Liu
10/14	Immunometabolism of macrophages and its relationship to function	Pu-Ste Liu
10/21	Overview of macrophages in metabolic syndromes	Pu-Ste Liu
10/28	Macrophages in obesity and insulin resistance	Pu-Ste Liu
11/04	Macrophages in lipid metabolism and atherosclerosis	Pu-Ste Liu
11/11	校慶停課	
11/18	Characteristics and functions of Tumor-Associated Macrophages (TAMs) - Their role in tumor progression and metastasis	Pu-Ste Liu
11/25	Tumor microenvironment and macrophage metabolic reprogramming - Targeting TAM metabolism in cancer therapy	Pu-Ste Liu
12/02	Chimeric antigen receptor macrophages (CAR-M) for cancer therapy	Pu-Ste Liu
12/09	Concepts and mechanisms of trained immunity in macrophages	Pu-Ste Liu
12/16	Impact of trained immunity on human diseases	Pu-Ste Liu
12/23	Targeting trained immunity for human diseases	Pu-Ste Liu
12/30	Present your research proposal on macrophage research	Pu-Ste Liu

Coordinator:
Pu-Ste Liu (劉卜慈)
Tel: 5514
E-Mail: z11302014@ncku.edu.tw

Grading Criteria

Class Discussion and Participation (60%)

Final Presentation (40%)

Present your research proposal on macrophage research:

Introduction: Overview of the topic

Questions: Key research questions

Hypothesis: Main hypothesis of the study

Specific Aims: Objectives of the research

Experimental Design: Methodologies and approaches

Expected Results: Anticipated outcomes
Innovation and Significance: Unique aspects and impact of the research