許家維老師實驗室

Part 1 研究主題與核心科學 (Research Focus)

Q1-1 What are the core scientific questions addressed by this laboratory’ s research topics?

Ans: Our laboratory focuses on understanding the molecular mechanisms that regulate intracellular protein trafficking and organelle homeostasis. The core scientific questions include how specific post-translational modifications modulate protein activity and localization, how these modifications influence the assembly and function of multiprotein complexes, and how these regulatory mechanisms coordinate cellular responses to physiological cues. By integrating biochemical and cell biological approaches, we aim to elucidate the fundamental principles governing protein regulation and signaling dynamics, thereby providing mechanistic insight into how protein trafficking and organelle dynamics communicate together.

Part 2 實驗室運作與指導方式 (Mentorship)

Q2-1 Who directly supervises summer students?

Ans: The PI and graduate students will work together to supervise the summer students.

Q2-2 Approximately how many summer students are accepted each year?

Ans: Roughly two summer students per year.

Part 3 能力需求與錄取評核 (Requirements & Selection)

Q3-1 What foundational courses or academic background are recommended for applying to this project?

Ans: Summer students are generally expected to have a general background in the life sciences, particularly in areas that support understanding of molecular

and cellular mechanisms. Background knowledge in biochemistry and molecular cell biology is recommended but not required.

Part 4 技術學習與能力發展 (Skills & Growth)

Q4-1 What specific experimental techniques can students learn during the internship?

Ans: Summer students will acquire experience with a variety of experimental techniques for investigating protein function and cellular processes, such as cell culture, genetic manipulation, and imaging system, to study protein localization and trafficking. The training combines technical skills with an understanding of experimental design, although specific techniques may vary in each project.