中央研究院冷凍電子顯微鏡中心

ASCEM Academia Sinica Cryo-EM Center

Seminar 專題演講

Structural biology *in vivo* through electron cryotomography

Dr. Yi-Wei Chang

Assistant Professor

Department of Biochemistry and Biophysics

University of Pennsylvania

USA

***Host** 主持人*	Dr. Meng-Chiao Ho 何孟樵助研究員 & Dr. Wei-Yuan Yang 楊維元副研究員
***Date** 日期*	**Tuesday, May 14, 2019** 2019年5月14日星期二
***Time** 時間*	11:00 – 12:00 Seminar; 13:30-16:00 ECT 101 discussion
***Venue** 地點*	Rm. 209, Inst. of Biological Chemistry, Academia Sinica 院內生物化學研究所 209研討室

Electron cryotomography (ECT, or Cryo-ET) enables intact cells to be visualized in 3D in an essentially native state to macromolecular resolutions. It has allowed us to visualize the structures of molecular machines in their native context inside intact cells. In many cases, such machines cannot be purified intact for *in vitro* studies. In other cases, the function of a machine is lost outside the cell, so that the mechanism can be understood only by observation *in vivo*. In this presentation, I will use bacterial secretion systems as examples to show how ECT can help us understand important biological processes through doing structural biology directly inside cells. I will also describe key future directions of this powerful technology.