

鍾思齊教授 (Szu-Chi Chung) (106 年畢業，110 年 8 月到校)

(A) 期刊論文

1. Chung, SC; Chou, PC. CRISP: A modular platform for cryo-EM image segmentation and processing with Conditional Random Field. *JOURNAL OF STRUCTURAL BIOLOGY*, 217(4), 2025.
2. Lin, Teng-Yu; Chung, Szu-Chi. CLEAPA: a framework for exploring the conformational landscape of cryo-EM using energy-aware pathfinding algorithm. *BIOINFORMATICS*, 40(6), 2024. [SCIE, NSYSU]
3. Chung, SC. Cryo-forum: A framework for orientation recovery with uncertainty measure with the application in cryo-EM image analysis. *JOURNAL OF STRUCTURAL BIOLOGY*, 216 (1), 2024. [SCIE, NSYSU]
4. Wei-Hau Chang, Shih-Hsin Huang, Hsin-Hung Lin, Szu-Chi Chung, I-Ping Tu, Cryo-EM analyses permit visualization of structural polymorphism of biological macromolecules, *Frontiers in Bioinformatics* 74, 2021. [NSYSU]
5. Wei-Hau Chang, Hsin-Hung Lin, I-Kuen Tsai, Shih-Hsin Huang, Szu-Chi Chung, I-Ping Tu, Steve Yu, Sunney I. Chan. Copper Centers in the Cryo-EM Structure of Particulate Methane Monooxygenase Re-veal the Catalytic Machinery of Methane Oxidation. *Journal of the American Chemical Society*, 143, 9922-9932, 2021. [SCI]
6. Szu-Chi Chung, Shao-Hsuan Wang, Po-Yao Niu, Su-Yun Huang, Wei-Hau Chang, I-Ping Tu. Two-stage dimension reduction for noisy high-dimensional images and application to Cryogenic Electron Microscopy. *Annals of Mathematical Sciences and Applications* 5, 283-316, 2020. (Receive 2020 ICCM Best Paper Silver Award). [ESCI]
7. Szu-Chi Chung, Hsin-Hung Lin, Po-Yao Niu, Shih-Hsin Huang, I-Ping Tu, Wei-Hau Chang. Pre-Pro is a Fast Pre-Processor for Single-Particle Cryo-EM by Enhancing 2D Classification. *Communications Biology* 3, 1-12, 2020. [SCI]
8. Szu-Chi Chung, Chun-Yuan Yu, Sung-Shine Lee, Hsie-Chia Chang, Chen-Yi Lee. An Improved DPA Countermeasure Based on UDRPG for IoT Applications. *IEEE Transactions on Circuits and Systems I (TCAS-I)* 64, 2522–2531, 2017. [SCI]
9. Szu-Chi Chung, Jing-Yu Wu, Hsing-Ping Fu, Jen-Wei Lee, Hsie-Chia Chang, Chen-Yi Lee. Efficient Hardware Architecture of ηT Pairing Accelerator Over Characteristic Three. *IEEE Transactions on Very Large Scale Integration (VLSI) System* 23, 88–97, 2015. [SCI]
10. Jen-Wei Lee, Szu-Chi Chung, Hsie-Chia Chang, Chen-Yi Lee. Efficient Power Analysis Resistant Dual-Field Elliptic Curve Cryptographic Processor Using Heterogeneous Dual Processing Element Architecture. *IEEE Transactions on Very Large Scale Integration (VLSI) System* 22, 49–61, 2014. [SCI]

(B) 專書及其他著作

1. Tze Leung Lai, Shao-Hsuan Wang, Yi-Ching Yao, Szu-Chi Chung, Wei-Hau Chang, and I-Ping Tu (2021). Cryo-EM: Breakthroughs in Chemistry, Structural Biology, and Statistical Underpinnings. Preprint, submitted to Statistical Science.
2. Szu-Chi Chung, Cheng-Yu Hung, Huei-Lun Siao, Hung-Yi Wu, Wei-Hau Chang, I-Ping Tu (2021). Cryo-RALib – a modular library for accelerating alignment in cryo-EM. Accepted by IEEE International Conference on Image Processing (ICIP).
3. Szu-Chi Chung, Shao-Hsuan Wang, Cheng-Yu Hung, Wei-Hau Chang, I-Ping Tu (2021). rAMI–Rapid Alignment with Moment of Inertia for Cryo-EM Image Processing. *Microscopy and Microanalysis 2021 Meeting*.
4. Szu-Chi Chung, Hung-Yi Wu, Wei-Hau Chang, and I-Ping Tu (2021). Grouping 3D Structure Conformations using Network Analysis on 2D Cryo-EM Projection Images. *Focus on Microscopy 2021*.
5. Szu-Chi Chung, Shao-Hsuan Wang, Po-Yao Niu, Su-Yun Huang, I-Ping Tu, Wei-Hau Chang (2020). Accelerated cryo-EM workflow. *The 29th South Taiwan Statistics Conference*.
6. Szu-Chi Chung, Po-Yao Niu, Su-Yun Huang, Wei-Hau Chang, I-Ping Tu (2019). A Two-Stage Dimension Reduction Method For Cryo-EM Image Processing. *Microscopy and Microanalysis 2019 Meeting*.
7. Szu-Chi Chung, Po-Yao Niu, Su-Yun Huang, Wei-Hau Chang, I-Ping Tu (2018). A Dimension Reduction Method for cryo-EM Image Analysis. *The 27th South Taiwan Statistics Conference*.
8. Sung-Shine Lee, Szu-Chi Chung, Chun-Yuan Yu, Hsie-Chia Chang, Chen-Yi Lee (2015). A New Power Analysis Attack on Stream cipher Trivium-64. *VLSI Design/CAD Symposium (VLSI-CAD)*.
9. Szu-Chi Chung, Sung-Shine Lee, Hsie-Chia Chang, Chen-Yi Lee (2014). Implementing Bilinear Pairing Accelerator Using Residue Number System. *VLSI Design/CAD Symposium (VLSI-CAD)*.

10. Jen-Wei Lee, Szu-Chi Chung, Hsie-Chia Chang, Chen-Yi Lee (2013). A $3.40\text{ms}/GF(p^{521})$ and $2.77\text{ms}/GF(2521)$ DF-ECC Processor with Side-Channel Attack Resistance. *International Solid-State Circuits Conference (ISSCC)*, 50-51.
11. Jen-Wei Lee, Szu-Chi Chung, Hsie-Chia Chang, Chen-Yi Lee (2012). An Efficient Countermeasure against Correlation Power-Analysis Attacks with Randomized Montgomery Operations for DF-ECC Processor. *Conference on Cryptographic Hardware and Embedded Systems (CHES)*, 548-564 (2012)
12. Szu-Chi Chung, Jen-Wei Lee, Hsie-Chia Chang, Chen-Yi Lee (2012). High-performance elliptic curve cryptographic processor over $GF(p)$ with SPA resistance. *IEEE International Symposium on Circuits and Systems (ISCAS)*, 1456-1459.