

## Wu, Ying-Ta 吳盈達

Assistant Research Specialist

研究助技師

ywu@gate.sinica.edu.tw

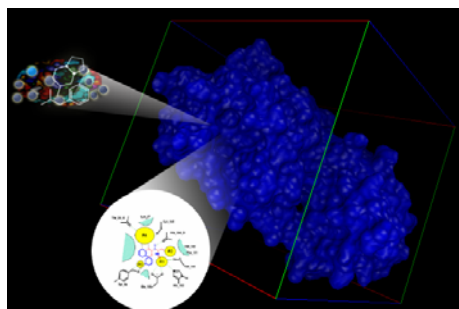
### Education and Positions

- Ph.D., Chemical Engineering Department of State University of New York at Buffalo, 1990–1996
- Postdoctoral Fellow, Academia Sinica, Taipei, 1996–2001
- Manager of Administrative Office of National Research Program for Genomic Medicine, 2001–2004
- Assistant Research Specialist of Genomic Research Center, Academia Sinica, Taipei, 2004–present

### Research Interests

#### *Structure function to drug discovery*

Our research will devote to facilitate technology for probing hot-area that link to specific function in biomolecular recognition and biomolecule-compound interactions, and to devise strategies for structure-based drug discovery as an integral part of the AS-GRC chemical biology research. The major duty, therefore, is to maintain an up-to-date drug discovery platform and to implement new selection methods to assist research PIs in defining features of research targets for drug discovery. Computational approach will be using local surface searching, docking, and fragment-based filling methods, for starting template generation as well as for lead optimization.



研究性趣在致力於開發探測包括:蛋白質、DNA 和 RNA 等生物分子間相互識別，以及生物分子與藥物間相互作用的技術，用以增進發現生物分子連絡特定功能的結構上熱區，結合使用結構為基礎的藥物設計策略，作為中研院基因體中心進行生物化學研究的整合技術。因此主要任務為維繫藥物研發技術平臺，以提供研究人員確定其標的物作為藥物設計目標的特徵。計算方法結合區域性的表面搜查，空間對接，片段底模充填法等技巧，以產生起始模板的結構資訊，以及進行先導藥物最佳化設計。

## Publications

1. Lee HC, Salzemann J, Jacq N, Chen HY, Ho LY, Merelli I, Milanesi L, Breton V, Lin SC, Wu YT. "Grid-enabled High-throughput in silico Screening against Influenza A Neuraminidase." *IEEE Trans. NanoBioscience*, 5, 288-295, 2006.
2. Ho CW, Lin YN, Chang CF, Li ST, Wu YT, Wu CY, Chang CF, Liu SW, Li YK, Lin CH, "Discovery of different types of inhibition between the human and thermotoga maritima alpha-fucosidases by fuconojirimycin-based derivatives." *Biochemistry*, 45, 5695-702, 2006.
3. Wu CY, King KY, Kuo CJ, Fang JM, Wu YT, Ho MY, Liao CL, Shie JJ, Liang PH, Wong CH, "Stable benzotriazole esters as mechanism-based inactivators of the severe acute respiratory syndrome 3CL protease." *Chem Biol.*, 13, 261-268, 2006.
4. Liang PH, Cheng WC, Lee YL, Yu HP, Wu YT, Lin YL, Wong CH, "Novel five-membered iminocyclitol derivatives as selective and potent glycosidase inhibitors: new structures for antivirals and osteoarthritis." *Chembiochem*. 7, 165-173, 2006.
5. Wu YT, Jiaang WT, Lin KG, Huang CM, Chang CH, Sun YL, Fan KH, Hsu WC, Wang HE, Lin SB, Chen ST. A new N-acetylgalactosamine containing peptide as a targeting vehicle for mammalian hepatocytes via asialoglycoprotein receptor endocytosis. *Curr Drug Deliv*. 1, 119-127, 2004.
6. Shie JJ, Fang JM, Kuo TH, Kuo CJ, Liang PH, Huang HJ, Wu YT, Jan JT, Cheng YS, Wong CH, "Inhibition of the severe acute respiratory syndrome 3CL protease by peptidomimetic alpha, beta-unsaturated esters." *Bioorg Med Chem*. 13, 5240-252, 2005.
7. Shie JJ, Fang JM, Kuo CJ, Kuo TH, Liang PH, Huang HJ, Yang WB, Lin CH, Chen JL, Wu YT, Wong CH, "Discovery of Potent Anilide Inhibitors against the Severe Acute Respiratory Syndrome 3CL Protease." *J Med Chem*. 48, 4469-4473, 2005.
8. Chen LR, Wang YC, Lin YW, Chou SY, Chen SF, Liu LT, Wu YT, Kuo CJ, Chen TS, Juang SH. "Synthesis and evaluation of isatin derivatives as effective SARS coronavirus 3CL protease inhibitors." *Bioorg Med Chem Lett.*, 15, 3058-3062, 2005.
9. C.M. Huang, H. A. Shui, Y.T. Wu, P.W. Chu, K.G. Lin, L.S. Kao, S.T. Chen, "Proteomics analysis of proteins in PC12 cells before and after treatment with nerve growth factor increased levels of a 43 Kda chromogranin B-derived fragment during neural differentiation." *Molecular Brain Research*, 92, 181-192, 2001
10. S. Sinchaikul, B. Sookkheo, S. Phutrakul, Y.-T. Wu, F.M. Pan, M.J. Tseng, S.T. Chen, "Structural modeling and characterization of a thermostable lipase from Bacillus stearothermophilus P1." *Biochem. Biophys. Res. Comm.*, 283, 868-875, 2001.
11. C.M. Huang, Y.-T. Wu, S.T. Chen, "Targeting delivery of paclitaxel into tumor cells via somatostatin receptor endocytosis." *Chemistry & Biology*, 7, 453-461, 2000.
12. Y.-T. Wu, S.-T. Chen and K.-T. Wang, "Direct Solid-Phase Synthesis of Octreotide Conjugates: Precursors for Use as Tumor-Targeted Radiopharmaceuticals." *Bioorg. & Med. Chem.*, 7, 1797-1803, 1999.
13. Y.-T. Wu, H.-P. Hsieh, S.-T. Chen and K.-T. Wang, "Dihydropyran-2-carboxylic Acid, a Novel Bifunctional Linker for the Solid Phase Synthesis of Peptides

- Containing a C-terminal Alcohol” *Chem. Commun.*, 649-650, 1998.
14. H.-P. Hsieh, Y.-T. Wu, S.-T. Chen, and K.-T. Wang, “Facile Solid Phase Synthesis of Octreotide Analogs Using p-Carboxybenzaldehyde as a Novel Linker to Anchor Fmoc-Threoninol to Solid Phase Resins.” *Tetrahedron Lett.* 39, 1783-1784, 1998.
  15. Y.-T. Wu and J. M. Nitsche, “On Diffusion-Limited Site-Specific Association Processes for Spherical and Non-Spherical Molecules.” *Chem. Eng. Sci.* 50, 1467-1487, 1995.

### **Patent**

US patent: S.T Chen and Y.-T. Wu, United State Patent: 6,552,007 “Use of *somatostatin* analogs for the delivery of anti-tumor drugs to tumor cells.”