YUN-WEI CHIANG

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RESEARCH INTERESTS

Spin-label Electron Spin Resonance spectroscopy
Biophysics of biomembranes and membrane proteins
Biophysical study of apoptosis mediated by Bcl-2 protein family
Bio-inorganic Chemistry

CURRENT POSITION

PROFESSOR

Dept. of Chemistry, National Tsing Hua University (NTHU), Taiwan

EDUCATION

2006/06, **PH.D.**
Dept. of Chemistry & Chemical Biology, Cornell University, Ithaca, NY, USA
PhD Advisor: Jack H Freed; Minor Advisor: Gerald W Feigenson

2001/06, **MASTER OF ENGINEERING**
Dept. of Mechanical & Aerospace Engineering, Cornell University, USA

1998/06, **BS**
Dept. of Mechanical Engineering, National Sun Yat-Sen University, Taiwan

RESEARCH/WORK EXPERIENCE

Professor (*2017–Present*), **Associate Professor** (*2012–2017*), **Assistant Professor** (*2007–2012*) of Chemistry, National Tsing Hua University, Taiwan

2021–2024
Chair, Dept. Of Chemistry, National Tsing Hua University, Taiwan

2015–2021
Deputy Chair, Dept. Of Chemistry, National Tsing Hua University, Taiwan

2006–2007
Postdoctoral Fellow, National Biomedical Center For Advanced Esr Technology, Cornell University, Ithaca, NY, USA

AWARDS

2025 ––– NSTC Grant For Science Vanguard Research (2025–2029)
2025 ––– NTHU-CHING JING Distinguished Talent Chair
2024 ––– NTHU Distinguished Mentor Award
2019 ––– NSTC Ta-You Wu Grant (2019-2022)
2016 ––– Ta-You Wu Memorial Award of NSTC
2016 ––– NSTC Grant For Outstanding Early-Career Researcher (2016–2019)
2015 ––– Outstanding Young Investigator Award of Taiwan Chemical Society
2015 ––– Outstanding Young Investigator Award of Taiwan Biophysical Society

2013 ––– NSTC Grant For Outstanding Early-Career Researcher (2013–2016)

2013 ––– Outstanding Young Investigator Award of Shui-Mu Foundation

2011 ––– Outstanding Young Investigator Award of NTHU

SELECTIVE PUBLICATIONS

C.L. Hung, W.H. Wang, Y.C. Chang, Y.C. Lai*, **Y.W. Chiang***, Electrostatic Clamp and Loop Dynamics Dictate Caspase-8 Cleavage of the Apoptotic Protein Bid, ***The Journal of Physical Chemistry Letters***, (2025) 7522-7529.

Y.C. Chan, H.X. Xiao, L. Qin, J.S. Shen, C.R. Yang, G.P.A. Yap, W.M. Ching, W.C. Chen,* **Y.W. Chiang,*** G. Frenking,* L. Zhao,* and T.G. Ong*, Isolated Carbon(I) Species Featuring a Carbone Cation Radical, ***Nature Synthesis***, (2025). https://doi.org/10.1038/s44160-025-00824-5

R.F. Tsai, H.Y. Chen, Y.C. Cheng, F.C. Lo, T.T. Lu, W.F. Liaw, **Y.W. Chiang***, Regulatory Mechanisms and Synergistic Enhancement of the Diiron YtfE Protein in Nitric Oxide Reduction, ***Chemistry − A European Journal***, 31 (2025) e202403680.

C.C. Cheng, R.F. Tsai, C.K. Lin, K.T. Tan, V. Kalendra, M. Simenas, C.W. Lin*, and **Y.W. Chiang***, In-Cell DEER Spectroscopy of Nanodisc-Delivered Membrane Proteins in Living Cell Membranes, ***JACS Au***, 4 (2024) 3766-3770.

P.S. Yeh, C.C. Li, Y.S. Lu, and **Y.W. Chiang***, Structural Insights into the Binding and Degradation Mechanisms of Protoporphyrin IX by the Translocator Protein TSPO, ***JACS Au***, 3 (2023) 2918-2929.

C.L. Hung, H.H. Chang, S.W. Lee, **Y.W. Chiang***, Stepwise activation of the pro-apoptotic protein Bid at mitochondrial membranes, ***Cell Death & Differentiation***, 28 (2021) 1910-1925.

C.C. Li, T.Y. Kao, C.C. Cheng, **Y.W. Chiang***, Structure and regulation of the BsYetJ calcium channel in lipid nanodiscs, ***Proceedings of the National Academy of Sciences (PNAS)***, 117 (2020) 30126-30134.

Y.J. Lan, P.S. Yeh, T.Y. Kao, Y.C. Lo, S.C. Sue, Y.W. Chen, D.W. Hwang*, **Y.W. Chiang***, Anti-apoptotic BCL-2 regulation by changes in dynamics of its long unstructured loop, ***Communications Biology***, 3 (2020) 668.

R.F. Tsai, N.C. Lin, T.Y. Kao, Y.H. Kuo, F.C. Lo, W.F. Liaw, **Y.W. Chiang***, Nitrosylation of the Diiron Core Mediated by the N Domain of YtfE, ***The Journal of Physical Chemistry Letters***, 11 (2020) 8538-8542.

Y.H. Kuo and **Y.W. Chiang***, Slow Dynamics around a Protein and Its Coupling to Solvent, ***ACS Central Science***, 4 (2018) 645-655.

C.C. Wang, H.C. Chang, Y.C. Lai, H. Fang, C.C. Li, H.K. Hsu, Z.Y. Li, T.S. Lin, T.S. Kuo, F. Neese, S. Ye*, **Y.W. Chiang***, M.L. Tsai*, W.F. Liaw*, and W.Z. Lee*, A Structurally Characterized Nonheme Cobalt-Hydroperoxo Complex Derived from its Superoxo Intermediate via Hydrogen Atom Abstraction, ***Journal of the American Chemical Society***, 138 (2016) 14186-14189.

T.C. Sung, C.Y. Li, Y.C. Lai, C.L. Hung, O. Shih, Y.Q. Yeh, U.S. Jeng, and **Y.W. Chiang***, Solution Structure of Apoptotic BAX Oligomer: Oligomerization Likely Precedes Membrane Insertion, ***STRUCTURE***, 23 (2015) 1878-1888.

C.J. Tsai, S. Liu, C.L. Hung, S.R. Jhong, T.C. Sung, and **Y.W. Chiang***, BAX-induced Apoptosis Can Be Initiated Through A Conformational Selection Mechanism, ***STRUCTURE***, 23 (2015) 139-148.

Y.W. Huang, Y.C. Lai, C.J. Tsai, **Y.W. Chiang***, Mesopores Provide an Amorphous State Suitable for Studying Biomolecular Structure at Cryogenic Temperatures, ***Proceedings of the National Academy of Sciences (PNAS)***, 108 (2011) 14145-14150.