Chia-Ying Anderin Chuang

Associate Research Fellow
Research Center for Environmental Changes, Academia Sinica, Taiwan
Email: anderinchuang@gate.sinica.edu.tw

Research Interests

As a chemical oceanographer, I study organic biomarkers to understand how organic matter mediates environmental and biological processes in aquatic systems. My research spans both natural compounds and pollutant-related markers, integrating insights from environmental chemistry, biogeochemistry, and marine technology.

EDUCATION

1996-2000 B.S., Depart. of Marine Resources, National Sun Yat-sen Uni., Taiwan
2001-2003 M.S., Institute of Oceanography, National Taiwan University, Taiwan
2009-2013 Ph.D., Depart. of Oceanography, Texas A&M University, TX, USA

PROFESSIONAL EMPLOYMENT

2014-2015 Postdoc., Depart. of Oceanography, Texas A&M University, USA
2015-2016 Postdoc., Depart. of Land, Air and Water Resources, UCDavis, CA, USA
2016-2024 Assistant Research Fellow, RCEC, Academia Sinica, Taiwan
2024~ Associate Research Fellow, RCEC, Academia Sinica, Taiwan

AWARDS

2009-2013 Sharp Fellowship & Scholarship, Depart. of OCNG, Texas A&M Uni., USA
2014 Erma Lee and Luke Mooney Graduate Student Research Excellence Award, Texas A&M University at Galveston, USA
2015 JAMESTEC International Postdoctoral Fellowship Award, Japan

SELECTIVE PUBLICATIONS (*corresponding authors)

1. Guo, W., Q. Yu, Y. Yu, Y. Tang, N. Zeng, ***C.-Y. A. Chuang***, Y. Jiang. (2025). Recent advances in dinoflagellate cyst: Integrating review with visual taxonomic perspectives. *Ecological Informatics* 92: 103460.
2. Yen-Ju Huang[#], ***Chia-Ying Anderin Chuang***[#], Yi-Chieh Chang, Min-Feng Tseng, Yi-Shiou Chiou, Chia-Lung Shih (2024). Advanced metabolomics-based approach to reveal new insights into Bisphenol A metabolism and its presence in human excreta and water bodies in Taiwan. *Ecotoxicology and Environmental Safety*, 286, 11236. NSTC 106-2611-M-001-010-MY3.
3. Wen, D.[#], Yu, Y.[#], ***Chuang, C.-Y. A.***[#], Jiang, Y. (2024). Advancing Sustainable Seawater Disinfection: Enhanced Inactivation and Mechanism of Pulsed UV-LEDs Irradiation on *Tetraselmis sp*. *Environmental Pollution* 345,123425
4. ***Chuang,C.-Y. A.****, Ho,Yun-Hsuan (2023). The influence of sources and solid phase extraction criteria on dissolved organic matter optical properties in aquatic systems. *Frontiers in Marine Science*, 10. MOST 106-2611-M-001-010-MY3.
5. Yu, Qisheng, ***Chuang, C.-Y. A.****, Jiang, Yuelu*, Zhong, Huan, Cundy, Andrew, Kwong, Raymond W. M., Min, Chao, Zhu, Xiaoshan, Ji, Rong (2023). Exploring Environmental

Nanoplastics Research: Networks and Evolutionary Trends. *Reviews of Environmental Contamination and Toxicology*, 261(12). MOST 109-2611-M-001-005.

6. Lin, I.-S.[#], ***Chuang, C.-Y. A.[#],*** Shih, C.-L. (2023). Dose-response technique combined with stable isotope tracing for drug metabolite profiling by using high-resolution mass spectrometry. *Frontiers in Pharmacology*, 14
7. Lai, Chao-Chen, Wu,Chau-Ron, ***Chuang, C.-Y.,*** Tai,Jen-Hua, Lee,Kuo-Yuan, Kuo,Hsiang-Yi, Shiah,Fuh-Kwo (2021). Phytoplankton and Bacterial Responses to Monsoon-Driven Water Masses Mixing in the Kuroshio Off the East Coast of Taiwan. *Frontiers in Marine Science*, 8(972).
8. Harfmann, Jennifer L., Guillemette, François, Kaiser, Karl, Spencer, Robert G.M., ***Chuang, C.-Y.***, Hernes, Peter J. (2019). Convergence of terrestrial dissolved organic matter composition and the role of microbial buffering in aquatic ecosystems. *Journal of Geophysical Research: Biogeosciences*, 124(10), p3125-3142.
9. Li, M., Jiang, Y., ***Chuang, C.-Y.***, Zhou, J., Zhu, X., Chen, D. (2019). Recovery of Alexandrium tamarense under chronic exposure of TiO2 nanoparticles and possible mechanisms. *Aquatic Toxicology*, 208, 98-108.
10. Li, M., Chen, D., Liu, Y., ***Chuang, C.-Y.,*** Kong, F., Harrison, P.J., Zhu, X., Jiang, Y. (2018). Exposure of engineered nanoparticles to Alexandrium tamarense (Dinophyceae): Healthy impacts of nanoparticles via toxin-producing dinoflagellate. . *Science of the Total Environment*, 610-611, p356-366.
11. Athon, M.T., Fryxell, G.E., ***Chuang, C.-Y.,*** Santschi, P.H. (2017). Sorption of selected radionuclides on different MnO2 phases. *Environmental Chemistry*, doi.org/10.1071/EN17026.
12. ***Chuang, C.-Y.*,*** Santschi, P.H., Xu, C., Jiang, Y., Ho, Y.-F., Quigg, A., Guo, L.D., Hatcher, P.G., Ayranov, M., Schumann, D. (2015). Molecular level characterization of diatom associated biopolymers that bind 234Th, 233Pa, 210Pb, and 7Be in seawater: a case study with Phaeodactylum tricornutum. *Journal of Geophysical Research: Biogeosciences*, 120, 1858-1869 .
13. ***Chuang, C.-Y.*,*** Santschi, Peter H., Wen, Liang-Saw, Guo, Laodong, Xu, Chen, Zhang, Saijin, Jiang, Yuelu, Ho, Yi-Fang, Schwehr, Kathleen A., Quigg, Antonietta, Hung, Chin-Chang, Ayranov, Marin, Schumann, Dorothea (2015). Binding of Th, Pa, Pb, Po and Be radionuclides to marine colloidal macromolecular organic matter. *Marine Chemistry*, 173, 320-329 .
14. Yang, W.F., Guo, L.D., ***Chuang, C.-Y.,*** Schumann, D., Ayranov, M., Santschi, P.H. (2015). Influence of organic matter on the adsorption and fractionation of 210Pb, 210Po and 7Be on nanoparticles in seawater. *Earth and Planetary Science Letters*, 423, 193-201.
15. ***Chuang, C.-Y.*,*** Santschi, P.H., Jiang, Y., Ho, Y.-F., Quigg, A., Guo, L.D., Schumann, D. (2014). Important role of biomolecules from diatoms in the scavenging of particle reactive radionuclides of thorium, protactinium, lead, polonium, and beryllium in the ocean: A case study with Phaeodactylum tricornutum. *Limnology and Oceanography*, 59(4), 1256-1266.
16. ***Chuang, C.-Y.*,*** Santschi, P.H., Ho, Y.-F., Conte, M. H., Guo, LD., Schumann, D., Ayranov, M., Li, Y.-H. (2013). Role of biopolymers as major carrier phases of Th, Pa, Po, Pb and Be radionuclides in settling particles from the Atlantic Ocean. *Marine Chemistry*, 157, 131-143.
17. ***Chuang, C.-Y.***, Wang, W.-X.* (2006). Co-transport of metal complexes by the green mussels Perna viridis. Environmental Science and Technology, 40, p4523-4527