



PERSONAL DATA

College of Agriculture and Natural Resources
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EDUCATION

2016 – Present (Ph. D. student)

- Department of Soil and Environmental Sciences
- National Chung Hsing University

2015 – 2016 (Master)

- Department of Environmental Science and Engineering
- Tunghai University

2011 – 2015 (Bachelor)

- Department of Environmental Science and Engineering
- Tunghai University

RESEARCH EXPERIENCE

Environmental biogeochemistry

- Biogeochemical interactions between water, soil and Cyanidiales (a kind of red microalga survived in the extreme environment)

Synchrotron experience

- National Synchrotron Radiation Research Center (Taiwan)
- Super Photon Ring – 8 GeV (Japan)

Analytical chemistry

- Spectroscopic data analysis and speciation of As, Pb, Fe, Cr and P
- Protein secondary structure analysis

Lab skills

- 2D and 3D microscopic image processing using Visual Basic and MATLAB
- X-ray absorption spectroscopy (XAS)
- Transmission X-ray Microscopy (TXM)

- Fourier transform infrared (FTIR) spectral mapping
 - High-performance liquid chromatography coupled to inductively coupled plasma – Mass spectrometry (HPLC – ICP – MS)
 - Inductively coupled plasma atomic emission spectroscopy (ICP – OES)
 - Atomic absorption spectroscopy (AA)
 - X-ray diffraction (XRD)
 - AutoCAD, Photoshop, Illustrator
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PUBLICATIONS

1. Chen, K.Y., Tzou, Y.M., Hsu, L.C., Guo, J.W., **Cho, Y.L.**, Teah, H.Y., Hsieh, Y.C., Liu, Y.T.* 2021. Oxidative removal of thallium(I) using Al beverage can waste with amendments of Fe: Tl speciation and removal mechanisms. *Chemical Engineering Journal*. 427:130846. (SCI, IF: 13.272, 4/143 in Engineering) (June 16 2021)
 2. Hsu, L.C., Tzou, Y.M., Ho, M.S., Sivakumar, C., **Cho, Y.L.**, Chiang, P.N., Teah, H. Y., Liu, Y.T.* 2020. Preferential phosphate sorption and Al substitution on goethite. *Environmental Science-Nano*. 7:3497-3508. (SCI, IF: 8.131, 22/274 in Environmental Sciences) (September 23 2020)
 3. **Cho, Y.L.**, Lee, Y.C., Hsu, L.C., Wang, C.C., Chen, P.C., Liu, S.L., Teah, H. Y., Liu, Y.T.,* Tzou, Y.M.* 2020. Molecular mechanisms for Pb removal by Cyanidiales: a potential biomaterial applied in thermo-acidic conditions. *Chemical Engineering Journal*. 401:125828 (SCI, IF: 13.272, 4/143 in Engineering) (July 2020)
 4. Chen, K.Y., Hsu, L.C., Chan, Y.T., **Cho, Y.L.**, Tsao, F.Y., Tzou, Y.M. Liu, Y.T. 2018. Phosphate removal in relation to structural development of humic acid-iron coprecipitates. *Scientific Reports*. 8:10363. (SCI, IF: 4.379, 17/73 in Multidisciplinary Sciences) (July 9 2018)
 5. Hsu, L.C., **Cho, Y.L.**, Liu, Y.T.*, Tzou, Y.M., Teah, H. Y. 2018. Capacity and recycling of polyoxometalate applied in As(III) oxidation by Fe(II)-Amended zero-valent aluminum. *Chemosphere*. 200:1-7. (SCI, IF: 7.086, 30/274 in Environmental Sciences) (February 2 2018)
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PROFESSIONAL AWARDS AND ACTIVITIES

1. First Place Poster Award. The Chinese Society of Soil and Fertilizer Sciences, Taiwan (2020).
2. Outstanding Research Award in Phys./Chem. Science. The 25th Users' Meeting & Workshops. National Synchrotron Radiation Research Center. Hsinchu, Taiwan (2020).

3. Best Poster Award. Thailand-Taiwan Bilateral Symposium on Energy, Environment and Materials, Environment and Nanotechnology. Research Center for Sustainable Energy and Nanotechnology, Taiwan (2019).
4. Attend the competition of 3rd International Soil Judging Contest. International Union of Soil Sciences and the Brazilian Soil Science Society. Rio de Janeiro, Brazil (2018). (Individual Ranking: 26/47)
5. Outstanding Research Award in Phys./Chem. Science. The 24th Users' Meeting & Workshops. National Synchrotron Radiation Research Center. Hsinchu, Taiwan (2018).
6. Best Poster Award. Sri Lanka-Taiwan Bilateral Symposium on Energy, Environment and Nanotechnology. Research Center for Sustainable Energy and Nanotechnology, Taiwan (2018).
7. Outstanding Research Award in Phys./Chem. Science. The 23rd Users' Meeting & Workshops. National Synchrotron Radiation Research Center. Hsinchu, Taiwan (2017).
8. First Place Poster Award. The Chinese Society of Soil and Fertilizer Sciences, Taiwan (2016).
9. Outstanding Award in Soil judging contest. The Chinese Society of Soil and Fertilizer Sciences, Taiwan (2016).
10. Outstanding Research Award in Master and Ph.D. Student Research Paper Competition, The Chinese Institute of Environmental Engineering, Taiwan (2016).
11. Attend the New Generation Engineering Design Training Program. The Sinotech Engineering Consultants, Inc, Taiwan. (2016)
12. Outstanding Research Award in Phys./Chem. Science. The 21st Users' Meeting & Workshops. National Synchrotron Radiation Research Center. Hsinchu, Taiwan (2015).
13. Excellence Oral Presentation Award in Environmental Engineering Practice Technology. The Chinese Institute of Environmental Engineering and Taiwan Environmental Engineering Association, Taiwan (2015).
14. Granted of the honors pertaining to membership in the Society. The Phi Tau Phi Scholastic Honor Society of the Republic of China (2014).
15. Attend the Summer School of the Application on Synchrotron Light Source. National Tsing Hua University and National Synchrotron Radiation Research Center, Taiwan (2014).
16. Internship of Summer Science Internship Program. Intern at National Synchrotron Radiation Research Center, Taiwan (2014).
17. Attend the competition of 3rd AUO Green Ark in Sustainable Use. AU

Optronics Corporation LTD., Taiwan (2014).

18. Internship of the Wastewater Treatment and Engineering. Intern at the Taichung City Precision Machinery Innovation, Taiwan (2013).
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