Yin-Chung (Lloyd) Huang

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EDUCATION

University of Sydney (USYD) Start from Oct. 2023
PhD Student Sydney, Australia
- Advisor: Prof. Budiman Minasny
- Fully funded by Postgraduate Research Scholarship in Soil Monitoring and USYD International Tuition Fee Scholarship

National Taiwan University (NTU) Sept. 2020 – June 2022
Master of Science in Agricultural Chemistry Taipei, Taiwan
- Advisor: Prof. Zeng-Yei Hseu
- Thesis: A feasibility study of using pXRF and Vis-NIR reflectance spectra as the diagnostic criteria of podzolic soils in subalpine areas of Taiwan
- Relevant courses: Principles of Remote Sensing, Geostatistics, Soil Physical Chemistry, and English Writing for Academic Purposes

National Taiwan University Sept. 2019 – Jan. 2022
Biological Statistics Program Taipei, Taiwan
- Completed 20 designated credits, including Advanced Statistics, Applied Linear Algebra, Experimental Design, Artificial Neural Networks, and Spatial Analysis

National Taiwan University Sept. 2016 – June 2020
Bachelor of Science in Agricultural Chemistry Taipei, Taiwan
- Honors: **Summa Cum Laude** (Rank 1/34)
- Relevant courses: Physical Chemistry, Analytical Chemistry, Organic Chemistry, Soil Chemistry, Soil Morphology and Classification, Biochemistry, Plant Nutrition, and Molecular Biology

PUBLICATIONS

Refereed journals

Huang, Y. C., Huang, C. Y., Minasny. B., Chen, Z. S., & Hseu, Z. Y. (2023). Using pXRF and Vis-NIR for characterizing diagnostic horizons of fine-textured podzolic soils in subtropical forests. *Geoderma*, 437, 116582.

Huang, Y. C., Chen, Z. S., Hsu, J. Y., Chiu, C. M., & Hseu, Z. Y. (2022). Differentiation of fine-textured podzolic soils controlled by climate and landscape in Taiwan. *Geoderma*, 428, 116155.

Huang, Y. C., & Hseu, Z. Y. (2021). Silicon availability in relation to soil properties in Inceptisols on uncultivated lands and paddy fields in Taiwan. *Geoderma Regional*, 26, e00406.

International conference publications

Huang, Y. C., Huang, C. Y., Minasny. B., Chen, Z. S., & Hseu, Z. Y. (2023). Characterizing diagnostic horizons of podzolic soils in Taiwan using pXRF and Vis-NIR. Abstract Proceedings of 4th Global Soil Security Conference. Korean Society of Soil Science and Fertilizer. Seoul, Korea. June 26-29, 2023. (oral presentation)

Huang, Y. C., Huang, C. Y., Chen, Z. S., & Hseu, Z. Y. (2023). Using pXRF and Vis-NIR as an interpretable model to predict soil properties in podzolic soils of subtropical forest. Abstract Proceedings of 2nd joint Workshop of the IUSS Working Groups Digital Soil Mapping and Global Soil Map. International Union of Soil Science. Orléans, France. Feb. 7-9, 2023. (oral presentation)

Huang, Y. C., Huang, C. Y., & Hseu, Z. Y. (2022). Characterization of podzolic soils using digital soil morphometrics in subtropical subalpine forests. Abstract Proceedings of 22nd World Congress of Soil Science. International Union of Soil Science. Glasgow, UK. July 31-Aug. 5, 2022. (oral presentation)

Huang, Y. C., Huang, C. Y., & Hseu, Z. Y. (2022). Characterization of organometallic complexes in podzolic soils in subalpine forest using proximal sensors. Abstract Proceedings of 8th International Symposium on Soil Organic Matter. Korean Society of Soil Science and Fertilizer. Seoul, Korea. June 26-30, 2022. (oral presentation by pre-recorded video)

Huang, Y. C., & Hseu, Z. Y. (2021). Characterization of podzolic soils using digital morphometrics in a subtropical subalpine forest of Taiwan. Abstract Proceedings of Pedometric Webinar. International Union of Soil Science. June 16-17, 2021. (oral presentation)

Huang, Y. C., & Hseu, Z. Y. (2019). Silicon availability and its relation to other properties of soils in Taiwan. Abstract Proceedings of 14th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS). National Taiwan University. Taipei, Taiwan. Nov. 3-8, 2019. (oral presentation)

Huang, Y. C., Tsui, C. C., Chiang, C. H., & Hseu, Z. Y. (2018). Element composition of the colluvial soils at an archeological site from Linkou Terrace, Taiwan. Abstract Proceedings of Joint Seminar on Environmental Ecology and Restoration. Ishikawa Prefectural University. Hakodate, Japan. Sept. 3-6, 2018. (oral presentation)

Domestic conference publications

Huang, Y. C., Huang, C. Y., & Hseu, Z. Y. (2022). Using pXRF and Vis-NIR spectroscopy to predict soil organic carbon. Abstract Proceedings of Annual Meeting of the Chinese Society of Soil and Fertilizer Sciences. National Taiwan University. Taipei, Taiwan. Dec. 8, 2022. (poster presentation; **first place**)

Huang, Y. C., Huang, C. Y., & Hseu, Z. Y. (2022). Using dry chemistry to quantify soil properties. Abstract Proceedings of Annual Meeting of the Chinese Environmental Analytical Society. National Central University. Taoyuan, Taiwan. Aug. 31-Sept. 1, 2022. (oral presentation)

Huang, Y. C., & Hseu, Z. Y. (2021). Characterization of podzolic soils in Shanlinshi using digital soil morphometrics. Proceedings of Annual Meeting of the Geography Society of China. National Changhua University of Education. Webinar. May. 29, 2021. (oral presentation; **honorable mention**)

Huang, Y. C., Huang, C. Y., & Hseu, Z. Y. (2020). Combining Vis-NIR spectroradiometer and pXRF to study pedogenesis. Abstract Proceedings of Annual Meeting of the Chinese Society of Soil and Fertilizer Sciences. National Chung Hsing University. Taichung, Taiwan. Dec. 10, 2020. (poster presentation; **honorable mention**)

RESEARCH EXPERIENCE

Soil Survey and Remediation Laboratory, NTU Aug. 2022 – Aug. 2023
Research Assistant
Lab website: http://teacher.ac.ntu.edu.tw/zh_tw/zyhseu

- Lab PI: Prof. Zeng-Yei Hseu
- Established spectral library for Taiwanese soils and built a partial least squared regression model to predict the organic carbon content in soils
- Combined portable X-ray fluorescence spectrometer and Vis-NIR spectroradiometers to predict soil organic carbon, clay, amorphous iron, and optical density of oxalate extractant in podzolic soils
- Investigated the differentiation of podzolic soils in subalpine forests in Taiwan using selective extraction, micromorphology, and multivariate statistics

AWARDS & HONORS

First Place for Poster Competition Dec. 2022
Annual Meeting of the Chinese Society of Soil and Fertilizer Sciences

Travel Grants supported by International Union of Soil Sciences (IUSS) July 2022
1000 USD as reimbursements of travel costs for early-career scientists

- Acquired travel grant to 22nd World Congress of Soil Science

Honorable Mention for Academic Thesis Competition May 2021
Annual Meeting of the Geography Society of China

Honorable Mention for Poster Competition Nov. 2020
Annual Meeting of the Chinese Society of Soil and Fertilizer Sciences

Presidential Award (Academic Excellence Award) Oct. 2020
Top 5% of the class in a semester Oct. & Apr. 2019
- Demonstrated diligence on every subject Oct. & Apr. 2018
- Completed all credits with outstanding grades Oct. & Apr. 2017

Hsin Tian Kong Long-term Scholarship July 2019 – June 2022
1500 USD each semester

- Acquired financial support from one of the most famous charity groups in Taiwan
- Long-term mentorship program for young scientists

TEACHING EXPERIENCE

Soil Science Lab (2020, 2021) Sept. 2021 – Jan. 2022
Teaching Assistant Sept. 2020 – Jan. 2021

- Organized weekly soil science lab lecture
- Delivered lectures on soil science and statistics

SKILLS

Computer Programming

- R (Carried out machine learning, spectra pre-processing, and geostatistics)
- QGIS
- HTML (Lab website maintenance)

Laboratory Instruments

- Field-portable Vis-NIR spectroradiometer (ASD FieldSpec 3)
- Portable X-ray fluorescence spectrometer (Olympus DELTA Premium pXRF)
- Atomic absorption spectroscopy
- Inductively coupled plasma - optical emission spectrometry (ICP-OES)
- X-ray diffraction (XRD)
- Electron probe micro-analysis with X-ray wavelength dispersive spectroscopy (EPMA-WDS)

English

- TOEFL: 107 (R30 / L30 / S23 / W24)
- TOEIC: 975

EXTRACURRICULAR EXPERIENCE

NTU Agricultural Chemistry Workshop July 2019
Director of Academic Department Taipei, Taiwan

- Organized seminar on the topic of “The Merits and Sins of Paraquat”
- Delivered lectures on soil chemistry and soil classification
- Hosted four invited speeches and one field trip

New Taipei City Model United Nations (MUN) 2018 Aug. 2018
Chair Taipei, Taiwan

- Committee: United Nations Development Programme (UNDP)
- Topic: Harnessing SDGs to Achieve Inclusive Growth
- Wrote Background Guide with detailed introduction and explanation of topic
- Presided a committee with over 100 delegates in the largest MUN event in Taiwan

Overseas Community Affairs Council (OCAC, ROC) July 2018
Participator of OCAC Youth Bridge Program London, UK

- Visited Taipei Representative Office (TRO) in the UK
- Discussed with the Representative (Ambassador) on the topic of youth education

Harvard World Model United Nations (MUN) 2017 Mar. 2017
Delegate Montreal, Canada

- Committee: World Health Organization (WHO)
- Topic: Reforming the Global Pharmaceutical Industry
- Contributed to the Draft Resolution that was adopted by the committee