

# Yin-Chung (Lloyd) Huang

148 Jilin Road, Luzhu District, Taoyuan City 338, Taiwan (R.O.C.)  
power861030@gmail.com • r09623007@ntu.edu.tw • +886-905161023  
Website: <https://lloydychuang.github.io/>

## EDUCATION

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### National Taiwan University (NTU)

*Master of Science in Agricultural Chemistry*

Sept. 2020 – July 2022

Taipei, Taiwan

- GPA 4.24/4.30
- 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

*Biological Statistics Program*

Sept. 2019 – Jan. 2022

Taipei, Taiwan

- Completed 20 designated credits, including Advanced Statistics, Applied Linear Algebra, Experimental Design, Artificial Neural Networks, and Spatial Analysis

### National Taiwan University

*Bachelor of Science in Agricultural Chemistry*

Sept. 2016 – June 2020

Taipei, Taiwan

- GPA 4.24/4.30
- Rank 1/55 (**summa cum laude**)
- Relevant courses: Physical Chemistry, Analytical Chemistry, Organic Chemistry, Soil Chemistry, Soil Morphology and Classification, Biochemistry, Plant Nutrition, and Molecular Biology

## PUBLICATIONS

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### *Revised and submitted paper*

**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* (**SCI, IF = 7.422, ranked 4/47 in Soil Science**). (manuscript number: GEODER-D-22-00525)

### *Published paper*

**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. (**SCI, IF = 4.201**)

### *International conference publications*

**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 22<sup>nd</sup> World Congress of Soil Science. International Union of Soil Science. Glasgow, UK. July 31-Aug. 5, 2022. (oral presentation in person)

**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 8<sup>th</sup> 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 14<sup>th</sup> 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)

## RESEARCH EXPERIENCE

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### Soil Survey and Remediation Laboratory, NTU

July 2017 – Present

*Will work as Full Time Research Assistant from Sept. 2022*

Lab website: <https://ssrlab.com.tw/>

- Combined portable X-ray fluorescence spectrometer and Vis/NIR/SWIR spectroradiometers to predict soil organic carbon, clay, amorphous iron, and optical density of oxalate extractant (ODOE)
- Investigated the differentiation of podzolic soils in subalpine forests in Taiwan using selective extraction, micromorphology, and multivariate statistics
- Analyzed the distribution of silicon (Si) availability and its difference in forest soils and paddy fields
- Carried out physicochemical analysis on the soils from an archeological site for the Department of Anthropology, NTU

## AWARDS & HONORS

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### Travel Grants supported by International Union of Soil Sciences (IUSS)

July 2022

*Up to 1000 USD as reimbursements of travel costs for early-career scientists*

- Acquired travel grant to 22<sup>nd</sup> 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*

### Dean's List Award (Academic Excellence Award)

Oct. 2020

*Top 5% of 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 the Cultural and Educational Foundation of the largest religious group in Taiwan

## CONFERENCES EXPERIENCE

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### 22<sup>nd</sup> World Congress of Soil Science

July-Aug. 2022

*Oral presentation (in person)*

Glasgow, UK

- The leading international conference in soil science with over 3000 participants worldwide
- Topic: Characterization of podzolic soils using digital soil morphometrics in subtropical subalpine forests

### 8<sup>th</sup> International Symposium on Soil Organic Matter

June 2022

*Oral presentation (pre-recorded video)*

Seoul, Korea

- Topic: Characterization of organometallic complexes in podzolic soils in subalpine forest using proximal sensors

### Pedometric Webinar

June 2021

*Oral presentation*

Virtual

- Webinar held by the Pedometrics commission of the International Union of Soil Sciences (IUSS)
- Topic: Characterization of podzolic soils using digital soil morphometrics in a subtropical subalpine forest of Taiwan

### Annual Meeting of the Geography Society of China

May 2021

*Oral presentation*

Virtual

- Topic: Characterization of podzolic soils in Shanlinshi using digital soil morphometrics

### Annual Meeting of the Chinese Society of Soil and Fertilizer Sciences

Nov. 2020

*Poster presentation*

Taichung, Taiwan

- Topic: Using Vis-NIR spectroscopy and pXRF to pedogenesis
- Presented research progress of a collaborative project with the Department of Geology, NTU

**14<sup>th</sup> Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS)**

Nov. 2019  
Taipei, Taiwan

*Oral presentation*

- Topic: Silicon availability and its relation to other properties of soils in Taiwan

**Joint Seminar on Environmental Ecology and Restoration**

Sept. 2018  
Hakodate, Japan

*Oral presentation*

- Joint seminar between NTU and Ishikawa Prefectural University
- Topic: Element composition of the colluvial soils at an archeological site from Linkou terrace, Taiwan
- Presented research progress of a collaborative project with the Department of Anthropology, NTU

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**SKILLS**

**Computer Programming**

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

**Laboratory Instruments**

- Field-portable Vis/NIR/SWIR 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

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**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

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**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 of Iraq*

Montreal, Canada

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