

# ZiYu Lin



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💡 *Life-long learner and enthusiastic to provide solutions to enhance environment quality*

## Main Focusses

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- Sustainable management practices for urban water resources..
- Urban Drainage System Optimization.
- Water Pollution Analysis.
- Water Quality Prediction Model Development.
- Water Ecosystem Health Assessment.
- Biodiversity Analysis.

## Education

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**Ph.D.** in Department of Applied Environmental Science & Engineering Feb. 2025  
**Kyung Hee University**, South Korea

- Dissertation: “*Comprehensive Evaluation and Management focusing on Ecosystem of Natural Water Body with Advanced Analytical and Computational Techniques*”
- **Supervisor:** Prof. Jong-Min Oh

**Master of Science** in Applied Environmental Science & Engineering Feb. 2022  
**Kyung Hee University**, South Korea

- Dissertation: “*A study on the characteristics of the initial stormwater runoff and efficient management of the Settling tank for reduction*”
- **Supervisor:** Prof. Jong-Min Oh

**Bachelor of Science** in Environmental Engineering Jun. 2018  
**Shandong University of Science and Technology**, China

- Dissertation: “*Study on preparation and application performance of green filling cementitious materials*”
- **Supervisor:** Prof. Shu Gang Hu

## Industrial Projects

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### 1. Samsung Electronics

South Korea,

Jan. 2020 – Dec. 2024

- Conducted environmental analysis of the water system and aquatic ecosystem health in the Woncheon-ri Stream near Samsung Electronics' discharge outlet.

### 2. Gyeonggi Green Environment Center (Ministry of Environment),

South Korea

Jun. 2023 – Jan. 2024

- Developed efficient wetland solutions and provided planning recommendations based on real case scenarios in Yongin City.

### 3. Samsung Electronics

South Korea,

Dec. 2021 – Dec. 2023

- Executed a comprehensive survey and developed a conservation and restoration plan to enhance aquatic ecosystem health in the Gokgyo River.

### 4. Gyeonggi Green Environment Center (Ministry of Environment)

South Korea,

Apr. 2022 – Dec. 2022

- Investigated water pollution sources in major rivers in Suji-gu and proposed improvement scenarios.

### 5. Samsung Electronics

South Korea,

Aug. 2021 – Jul. 2022

- Assessed habitat status of endangered species and developed a conservation and restoration plan to improve the ecological health of the Jinwi Ri.

### 6. Gyeonggi Green Environment Center (Ministry of Environment),

South Korea.

Apr. 2021 – Oct. 2021

- Studied water cycle policy efficiency and proposed a management plan for Gi-heung Lespia reservoir and artificial wetland to reduce initial rainwater runoff and pollution load.

## Awards & Scholarship

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- *Brain Korea 21+* program scholarship, South Korea, 2022
- *President Scholarship*, South Korea, 2020 ~ 2021
- *President Scholarship*, South Korea, 2022 ~ 2023

## Skills

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### Language

- *Native*: Chinese
- *Fluent*: English, Korean and Chinese

### Computing skills

- *Programming*: MATLAB, Python, and Adobe Illustrator
- *Microsoft Office*: Word, Excel, and Powerpoint

## Portfolio: Publications and Conferences

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### Journal Articles

\* **Underlined & bolded** indicates the authorship position; \* indicates authors contributed equally

#### ***Submitted & In Review***

1. **Lin, ZY**, Oh, HJ, Chang, KH, Lim, J.Y., Oh, J-M, 2024. Spatio-temporal Dynamics Variation of Dissolved Organic Matter and Water Quality Parameters in a Lake: A Vertical Perspective (*Under Review*)
2. **Lin, ZY**, Oh, J-M, 2024. Assessment of Seasonal Variations in Water Quality and Dissolved Organic Matter (DOM) Characteristics of Urban Runoff in Interception Facilities along a Korean River. (*Submitted*)

#### ***Accepted & Published***

1. **Lin, ZY**, Eun, B., Heo, J.S., Choi, I.S., Oh, J.-M., 2022. Analysis of the Discharge Characteristics of Non-point Pollutants from the Interception Facilities according to Rainfall Conditions.
2. **Lin, ZY**, Dai, J.S., Oh, J.-M., 2023. Optimal discharge protocol for urban stormwater settling tank across different scenarios under limited data aided with Monte-Carlo simulation incorporated mathematical model. (*Accepted*)
3. **Lin, ZY**, Lim, J.Y., Oh, J-M, 2024. Innovative interpretable AI-guided water quality evaluation with risk adversarial analysis in river streams considering spatial-temporal effects. *Environmental Pollution* (*Accepted*)
4. **Lin, ZY**, Lee, K.H., Lim, J.Y., Kim, J.H., Eun, B.J., Lee, S.J., Park, J.Y., Oh, H.S., Oh, J.-M., 2024. Revealing spatial-temporal impact of industrial effluent towards DOM in Riverine employing PARAFAC and MW-2D COS.
5. Jin, M.-Y., Oh, H.-J., Shin, K.-H., Jang, M.-H., Kim, H.-W., Choi, B., **Lin, ZY**, Heo, J.S., Oh, J.-M., Chang, K.-H., 2020. The Response of Dissolved Organic Matter during Monsoon and Post-Monsoon Periods in the Regulated River for Sustainable Water Supply.
6. Eun, B., Kim, J.H., **Lin, ZY**, Heo, J.S., Choi, I.S., Oh, J.-M., 2023. A Study on the Cause and Improvement of the Red-Water Occurrence in Urban Stream.

## **International Conferences**

- **Zi-Yu Lin**, Won Kim, Du Han Lee<sup>1</sup>, Jeong Sook Heo, I Song Choi, Jong-Min Oh. Evaluation of Aeration Efficiency using Sheet Flow to Improve Water Quality in the Stream. *Korean Society of Environmental Impact Assessment*, Poster Presentation, Suwon, South Korea (Apr 2021).
- **Zi-Yu Lin**, Gyeong Min Nam, Eun BeomJin, Jeong Sook Heo, I Song Choi, Jong-Min Oh. Analysis of the Initial Rainwater Characteristics flowing into the interception facility stormwater collection facility and different rainfall conditions. *Korean Society of Environmental Impact Assessment*, Poster Presentation, Jeju Island, South Korea (Aug 2021)
- **Zi-Yu Lin**, Jeong Sook Heo, I Song Choi, Jong-Min Oh. Monte-Carlo Simulation guided reliability assessment on the treatment efficiency of the urban rainwater treatment system, *35th Congress of the International Society of Limnology*. Oral presentation, Gwangju, South Korea (Aug 2021)
- **Zi-Yu Lin**, Jong Hwan Kim, Eun BeomJin, Jeong Sook Heo, I Song Choi, Jong-Min Oh. A study on the optimal treatment operations for sedimentation tank in an urban storm water management system. *Korean Society of Environmental Impact Assessment*, Oral presentation, Yeosu, South Korea (Apr 2022)
- **Zi-Yu Lin**, Jong Hwan Kim, Eun BeomJin, Jeong Sook Heo, I Song Choi, Jong-Min Oh..Study on the optimal retention method of a storage tank using a sedimentation model. *Korean Society of Ecology and Infrastructure Engineering; KSEIE*, Poster Presentation, Seoul, South Korea (Jun 2022)
- **ZiYu Lin**, Jong Hwan Kim, Jang Seong Dai, Jeong Sook Heo, Jong-Min Oh. A comprehensive water quality index assessment on the river stream with the aid of machine learning. *Korean Society of Environmental Impact Assessment*, Poster Presentation, Busan, South Korea (Apr 2023).
- **ZiYu Lin**, Kwang Hee Lee, Beom Jin Eun, Jong-Min Oh. Potential of enhancing carbon neutrality goals by water quality prediction with machine learning: A case study of river stream. *International ESG Association of 2023 Global ESG Forum*, Poster Presentation, Singapore (Jun 2023).

## **References**

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### **Jong-Min Oh, Ph.D.**

Professor

Dept.Applied Environmental Sciences & Engineering, Kyung Hee University, Korea

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*\*Please contact me if more referees are required, thank you.*