Yoonsub Kim

Dept. of Environmental Sciences and Engineering
Gillings School of Global Public Health
University of North Carolina at Chapel Hill
Mobile: +1-919-525-8172
Email: yoonsub@unc.edu / kys0437@gmail.com

Education

University of North Carolina at Chapel Hill (Chapel Hill, NC, USA) August 2024 – Present

Ph.D., Environmental Sciences and Engineering

Korea University (Seoul, Korea) March 2019 – February 2021

M.S., Environmental Science and Ecological Engineering
Water and Soil Environment Major

Korea University (Seoul, Korea) March 2012 – February 2019
(December 2012 – September 2014. : Military Service)

B.S., Health and Environmental Science
B.S., Environmental Science and Ecological Engineering

Research Experience

University of North Carolina at Chapel Hill (Chapel Hill, NC, USA) August 2024 – Present
Graduate Research Assistant

Turpin Lab. (Advisor: Dr. Barbara Turpin)
• Sampled and analyzed airborne per- and polyfluoroalkyl substances (PFAS).

Samsung Electronics Co., Ltd. (Suwon, Korea) January 2021 – July 2024
Engineer

EHS* / Infra Technology Research Center *EHS: Environment, Health and Safety

• Improved safety in semiconductor manufacturing by conducting research on reactions between chemicals.
• Established an eco-friendly semiconductor manufacturing through waste recycling technology.

Korea Testing Laboratory (Seoul, Korea) October 2020 – December 2020
Intern

Environment Assessment Center
• Evaluated various facilities for compliance with environmental criteria by sampling and analyzing pollutants in the air.
• Evaluated the eco-friendliness of solid refuse fuel by analyzing heavy metals in solid refuse fuels.

Korea University (Seoul, Korea) June 2018 – September 2020
Full-time student researcher (June 2018 – September 2020)
Undergraduate Research Internship (June 2018 – February 2019)

Environmental Chemistry Lab. (Advisor: Dr. Jung-Hwan Kwon)
• Developed safety assessment methods considering the exposure pathways and the cumulative use of biocides by simulating and verifying the chemical fate in an indoor environment.
• Quantitatively evaluated the fate of the additive in the marine environment by determining the equilibrium constant of the plastic additive and calculating its fugacity.

Teaching Experience

Korea University September 2019 – August 2020

Teaching Assistant (Fall 2019)
Course: Basic Chemistry and Laboratory 2
• lectured on theories and experimental methods and helped freshmen conduct experiments.

Teaching Assistant (Spring 2020)
Course: Analytical Chemistry & Laboratory for Environmental Science
• Assisted the professor by helping students perform experiments.

Publications

[1] Do, A. T. N., **Kim, Y.,** Ha, Y., Kwon, J.-H. (2022). Estimating the bioaccumulation potential of hydrophobic ultraviolet stabilizers using experimental partitioning properties. *Int J Environ Research Pub Health* 19 (7), 3899.

[2] Park, S.-K., Lee, H.-J., Song, E., **Kim, Y.,** Lee, J.-H., Yoo, H.-J., Oh, J.-E., Kwon, J.-H. (2021). Exposure to permethrin used as a home insecticide: A case study comparing model predictions and excretion of metabolites. *Environ. Int.* 155, 106581.

[3] **Kim, Y.,** Lee, H., Jang, M., Hong, S.-H., Kwon, J.-H. (2021). Evaluating the fate of hexabromocyclododecanes in the coastal environment: Fugacity analysis using field data. *Environ. Pollut.* 286, 117461.

[4] Jung, Y., **Kim, Y.,** Seol, H.-S., Lee, J.-H., Kwon, J.-H. (2021). Spatial uncertainty in modeling inhalation exposure to volatile organic compounds in response to the application of consumer spray products. *Int J Environ Research Pub Health* 18(10), 5334.

[5] Ha, Y., **Kim, Y.,** Song, E., Yoo, H.-J., Kwon, J.-H. (2021). Development of a personal passive air sampler for estimating exposure to effective chlorine while using chlorine-based disinfectants. *Indoor Air* 31(2), 557–565.

[6] Park, S.-K., Seol, H.-S., Park, H.-J., **Kim, Y.,** Ryu, S.-H., Kim, J., Kim, S., Lee, J.-H., Kwon, J.-H. (2020). Experimental determination of indoor air concentration of 5-chloro-2-methylisothiazol-3(2H)-one/ 2-methylisothiazol-3(2H)-one (CMIT/MIT) emitted by the use of humidifier disinfectant. *Environ. Anal. Health Toxicol.* 35(2).

Presentations

[1] Park, S.-K., Lee, H.-J., Song, E., **Kim, Y.,** Lee, J.-H., Yoo, H.-J., Oh, J.-E., Kwon, J.-H. Exposure to permethrin used as a home insecticide: A case study comparing model predictions and excretion of metabolites., Autumn Symposium of Korean Society of Environmental Health and Toxicology, Busan, Korea. September 2020

[2] **Kim, Y.,** Lee, H., Jang, M., Hong, S.-H., Kwon, J.-H. Evaluating the fate of hexabromocyclododecanes in the coastal environment: Fugacity analysis using field data., Autumn Symposium of Korean Society of Environmental Health and Toxicology, Busan, Korea. September 2020

Awards and Honors

[1] Outstanding Poster, The Korean Society of Environmental Health and Toxicology 2020.

[2] Outstanding Paper, Samsung Semiconductor Global Manufacturing & Infra Technology 2022.

[3] TOP10 – Samsung Semiconductor new employee performance, Samsung Electronics Co., Ltd. 2022.

Skills

Analytical instruments	LC-MS, GC-MS, ICP-MS, PTR-MS
Certificates	Environmental Engineer in Water Pollution
	Environmental Engineer in Air Pollution
	Engineer in Industrial Safety
Software	Python, Spotfire