

EUNA KIM

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Education

UNIVERSITY OF SOUTHERN CALIFORNIA Los Angeles, California, US

Ph.D. student in Environmental Engineering, Sep 2018 - Current

Current project: "Catalytic treatment of water with metal catalysts and molecular oxygen"

Advisor: Professor Daniel L. McCurry

SEOUL NATIONAL UNIVERSITY Seoul, South Korea

M.S. in Environmental Engineering, Mar 2016 - Feb 2018

Dissertation: "Characterization of ultrafine bubble suspension as an oxygen carrier"

Advisor: Professor Yongju Choi

KOREA UNIVERSITY Seoul, South Korea

B.S. in Earth and Environmental Sciences, Mar 2011 - Feb 2016

Exchange Student in **Nottingham University**, UK, Sep 2013 - Feb 2014

Publications

- **E. Kim**, G. B. Cardosa, K. E. Stanley, T. J. Williams, D. L. McCurry* (2022) Out of Thin Air? Catalytic Oxidation of Trace Aqueous Aldehydes with Ambient Dissolved Oxygen. (Online Ahead of Print: June 7, 2022)
- **E. Kim**[†], O. M. Driessen[†], D. L. McCurry*, J. D. Sivey* (2021) Intermural Online Research Group Meetings As Professional Development Tools for Undergraduate, Graduate, and Postdoctoral Trainees. *Environ. Eng. Sci.* 39(2), 101-105
[†]: These authors contributed equally to this work
- L.-C. Hua[†], **E. Kim**[†], D. L. McCurry, C. Huang, W. Mitch* (2020) Novel Chlorination Byproducts of Tryptophan: Initial High-Yield Transformation Products Versus Small Molecule DBPs. *Environ. Sci. Tech. Lett.*, 7, 3, 149-155
[†]: These authors contributed equally to this work
- **E. Kim**, J. K. Choe, B. H. Kim, J. Kim, J. Park, Y. Choi* (2020) Unraveling the mystery of ultrafine bubbles: Establishment of thermodynamic equilibrium for sub-micron bubbles and its implications. *J. Colloid Interface Sci.*, 570, 173-181
- **E. Kim**[†], J. Jung[†], G. Hapsari, S. Kang, K. Kim, S. Yoon, M. Lee, M. Han, Y. Choi, J. K. Choe* (2018) Economic

and environmental sustainability and public perceptions of rooftop farm versus extensive garden. *Build Environ.*, 146, 206-215

†: These authors contributed equally to this work

- Y. Choi*, Y. Wu, B. Sani, R. G. Luthy, D. Werner, **E. Kim** (2016) Performance of retrievable activated carbons to treat sediment contaminated with polycyclic aromatic hydrocarbons. *J. Hazard. Mater.*, 320, 359-367.

Patent

- **Patent Disclosure 2022-095** to USC Stevens Center for Innovation: “Oxidation of trace aqueous aldehydes with a heterogeneous Pt catalyst and dissolved oxygen.” Inventors: Daniel L. McCurry (35%), **Euna Kim** (35%), Travis Williams (15%), Georgia Cardoso (10%), Katarina Stanley (5%).

Experiences

- Mentorship: Summer High School Intensive in Next-Generation Engineering, Mentee: Andrew Sung, 2019 Summer
- Mentorship: Korea center for Women In Science, Engineering and Technology, 2017 Summer

Scholarships

2020 AWWA CA-NV section graduate scholarship for Ph.D. study, May 2020

Provost’s Fellowship Top off for Ph.D. study, Sep 2018 - current

2019 Korea University Alumni Association scholarship for Ph.D. study, Dec 2019

Brain Korea(BK) Scholarship Program for graduate study for M.S. study, Mar 2016 – Feb 2018

Special Scholarship from Alumni Association of Seoul Nat’l University for M.S. study, Mar 2016 – Feb 2017

Incheon Human Resources Scholarship for B.S. study, Mar 2015 - Aug 2015

Mirae Asset Exchange Student Scholarship for B.S. study, Sep 2013 - Feb 2014

Presentations

- **E. Kim**, G. Cardoso, D. L. McCurry (2022) Application of heterogenous catalyst to treat carbonyl compounds in the recycled wastewater. ACS Spring 2022 Meetings & Expo, San Diego, CA, US, Mar. 20-24. (Oral)
- G. Cardoso, **E. Kim**, D. L. McCurry (2022) Identification of a key intermediate in the reaction of chlorinating primary amines to chloropicrin. ACS Spring 2022 Meetings & Expo, San Diego, CA, US, Mar. 20-24. (Poster)
- S. Roback, D. L. McCurry, **E. Kim** (2021) Formation of *N*-nitrosoglyphosate from glyphosate and nitrite at neutral pH and occurrence in recycled wastewater. ACS Fall 2021 Meetings & Expo, Atlanta, GA, US, Aug. 22-26. (Oral)
- **E. Kim**, G. Cardoso, D. L. McCurry (2021) Oxidation of aldehydes found in finished recycled wastewater with heterogeneous transition metal catalysts and dissolved oxygen. 9th International Symposium on Environmental Hydraulics, Seoul, Republic of Korea, Jul. 18 – 22. (Oral)
- **E. Kim**, D. L. McCurry (2020) Aqueous organic contaminant oxidation with heterogeneous catalysts and dissolved

oxygen. ACS Fall 2020 Virtual Meeting & Expo, Aug. 17 - 20. (Oral)

- **E. Kim**, K. Stanley, D. L. McCurry (2019) Achieving oxidation of trace organic contaminants without chemical disinfectants by application of transition metal catalysts. GRC Water Disinfection, Byproducts and Health, Boston, MA, US, Jul. 28 – Aug. 2. (Poster)
- **E. Kim**, G. Kim, S. Golagana, Y. Choi (2017) Enhanced bioremediation using ultrafine bubble suspensions: Characterization of ultrafine bubble suspension by combining theoretical concepts and experimental methods. 2017 International Environmental Engineering Conference and Annual Meeting of the Korean Society of Environmental Engineers, Jeju, Korea, Nov. 15-17. (Oral)
- **E. Kim**, Y. Choi (2017) Enhanced Bioremediation Using Ultrafine Bubble Suspensions: Development of an Experimental Method to Determine the Bubble Diameter and Oxygen Content in the Suspension. Goldschmidt 2017, Paris, France, Aug. 13-18. (Poster)
- **E. Kim**, N. Im, Y. Choi (2017) Identification of the behavior of nanobubbles injected into soil. 16th Global Joint Seminar on Geo-Environmental Engineering, Seoul National University, Seoul, South Korea, May. 19-20. (Oral)
- Y. Choi, S. Kang, K. Kim, J. Jung, **E. Kim** (2017) Assessment of Hydrophobic Organic Contaminant Bioavailability Using Passive Samplers: Validation of the PRC Method. Korean Society of Water & Wastewater · Korean Society on Water Environment 2017 Joint Conference, Gwangju, South Korea, Mar. 23-24. (Oral)
- S. Kang, J.Jung, **E. Kim**, Y. Choi (2017) Organic Contaminant Adsorption Characteristics of Biochar with Different Particle Sizes. Korean Society of Water & Wastewater · Korean Society on Water Environment 2017 Joint Conference, Gwangju, South Korea, Mar. 23-24. (Oral)
- S. Kang, J.Jung, **E. Kim**, Y. Choi (2017) Desorption and Biodegradation Characteristics of Organic Contaminants Sorbed to Biochar with Different Particle Sizes. Korean Society of Water & Wastewater · Korean Society on Water Environment 2017 Joint Conference, Gwangju, South Korea, Mar. 23-24. (Poster)
- **E. Kim**, J. Jung, S. Kang, Y. Choi (2016) Characterization of nano-bubbles as an oxygen carrier for *in-situ* bioremediation of organic pollutants in the subsurface. AGU Fall Meeting, San Francisco, CA, US, Dec. 12-16. (Oral)
- **E. Kim**, Y. Choi (2016) Evaluation of ultrafine bubble in oxygen transfer capacity for *in-situ* bioremediation of organic pollutants. Korean Society of Environmental Engineers 2016 Conference, Gyeongju, South Korea, Nov. 16-18. (Oral)
- **E. Kim**, Y. Choi (2016) *In-situ* bioremediation of organic contaminants in the subsurface using ultrafine bubbles, Korean Society of Environmental Biology · Korean Society of Ecology and Infrastructure Engineering 2016 Joint Conference, Seoul, South Korea, Jun. 30. (Poster)