

JUNWON YANG

Curriculum Vitae

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EDUCATION

- Jan. 2020 – Present **Ph.D.** in Environmental Engineering
University of Michigan, Ann Arbor, MI
- Mar. 2016 – Feb. 2018 **Master of Science** in Environmental Engineering
Konkuk University, Seoul, Korea
- Thesis: Enzymatic degradation of toluene using recombinant toluene dioxygenase system (TodC1C2BA) and dehydrogenase (TodD)
- Mar. 2009 – Feb. 2016 **Bachelor of Science** in Environmental Engineering
Konkuk University, Seoul, Korea

RESEARCH EXPERIENCE

Feb. 2016 – Feb. 2018 **Graduate Researcher**

Development of enzymatic facilitating agents for the advanced bioremediation of soils and groundwater contaminated with persistent organic compounds

- Conducted research on biodegradation of aromatic hydrocarbons using recombinant enzymes

Use of environmental metagenomics particular field customized bioremediation technology for enhancing ex-situ biodegradation of oil in soil

- Contributed to developing multi-biocatalyst to facilitate bioremediation of oil contaminated soil

Advanced human resource development program for up-cycling of coal ash and steel slag

- Led project on recovering rare earth elements from coal ash and steel slag

Development of Removal and Recovery Device for Heavy Metals and Hazardous Substances from Plating Wastewater

- Participated in recovery of valuable heavy metals in wastewater from plating process

Feb. 2014 – Feb. 2016 **Undergraduate Researcher**

Remediation of soil contaminated by non-biodegradable compound using continuous microwave irradiation and hyperthermal catalysts

- Conducted experiments on remediation of phenanthrene contaminated soil by hyperthermal catalyst assisted microwave irradiation in continuous operation

PUBLICATIONS

- Yang, J. W.**, Cho, W., Lim, Y., Park, S., Lee, D., Jang, H. A., & Kim, H. S. (2018). Evaluation of aromatic hydrocarbon decomposition catalyzed by the dioxygenase system and substitution of ferredoxin and ferredoxin-reductase. *Environmental Science and Pollution Research*, 1-11.
- Lim, H., Park, S., **Yang, J. W.**, Cho, W., Lim, Y., Park, Y. G., ... & Kim, H. S. (2018). Remediation of heavy metal-contaminated soils using eco-friendly nano-scale chelators. *Membrane water treatment*, 9(3), 137-146.
- Kwean, O. S., Cho, S. Y., **Yang, J. W.**, Cho, W., Park, S., Lim, Y., ... & Kim, H. S. (2018). 4-Chlorophenol biodegradation facilitator composed of recombinant multi-biocatalysts immobilized onto montmorillonite. *Bioresource technology*, 259, 268-275.
- Cho, S. Y., Kwean, O. S., **Yang, J. W.**, Cho, W., Kwak, S., Park, S., ... & Kim, H. S. (2017). Identification of the upstream 4-chlorophenol biodegradation pathway using a recombinant monooxygenase from *Arthrobacter chlorophenolicus* A6. *Bioresource technology*, 245, 1800-1807.
- Kang, C., **Yang, J. W.**, Cho, W., Kwak, S., Park, S., Lim, Y., ... & Kim, H. S. (2017). Oxidative biodegradation of 4-chlorophenol by using recombinant monooxygenase cloned and overexpressed from *Arthrobacter chlorophenolicus* A6. *Bioresource technology*, 240, 123-129.
- Suma, Y., Lim, H., Kwean, O. S., Cho, S., **Yang, J.**, Kim, Y., ... & Kim, H. S. (2016). Enzymatic degradation of aromatic hydrocarbon intermediates using a recombinant dioxygenase immobilized onto surfactant-activated carbon nanotube. *Bioresource technology*, 210, 117-122.

CONFERENCE PRESENTATIONS

- Kwean, O. S., Cho, S. Y., **Yang, J. W.**, Park, S., Kwak, S., Cho, W., Lim, Y., Kim, H. S. "Immobilization of enzymes onto clay minerals for the biochemical decomposition of aromatic hydrocarbon compounds." *143rd International Conference on Science, Technology and Management*, February 2017, Bangkok, Thailand.
- Kang, C., Kwean, O., Cho, S., Lim, H., **Yang, J.**, Kim, H. S. "Oxidative transformation of 4-chlorophenol using monooxygenase cloned from *Arthrobacter chlorophenolicus* A6." *9th International Conference on the Challenges in Environmental Science and Engineering*, November 2016, Kaohsiung, Taiwan.
- Yang, J.**, Kim, H. S. "Remediation of Soil Contaminated by Non-biodegradable Compound Using Continuous Microwave Irradiation and Hyperthermal Catalysts." *International Conference on Agriculture & Environment: Food, Water, Soil, Air, May 2016*, Kuala Lumpur, Malaysia.