

Youngwoon Kim

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EDUCATION

- **Ph.D. in Environmental Engineering (GPA: 3.71/4.0)** **2013 – May, 2018**
University of South Florida, Tampa, Florida
Dissertation: Selection of energy systems in aquaculture through a decision support tool considering economic and environmental sustainability (Advisor: Dr. Qiong Zhang)

- **Master of Environmental Engineering (MEVE)** **2013 – 2016**
University South Florida, Tampa, Florida
Awards: Richard Ian Stessel Memorial Fellowship (2014 - 2015),
USF Graduate Fellowship (2013 - 2014)

- **B.S. in Environmental Engineering and Biotechnology (GPA: 4.01/4.5)** **2005 – 2012**
Myongji University, Yong-in, South Korea
Awards: Honor Roll Scholarship (2010), Baek-Ma Scholarship (2009, 2011),
Training Scholarship (2010)

EXPERIENCE IN ENVIRONMENTAL ENGINEERING

- **Graduate Teaching Assistant** **University of South Florida, Tampa, FL** **2014 – 2018**
 - EGN 3311 Statics
 - ENV 4004L Environmental Engineering Lab

- **Graduate Research Assistant** **University of South Florida, Tampa, FL** **2013 – 2018**
 - ARC (Aquaculture Research Council) grant: Alternative energy sources for Florida Aquaculture systems
 - US Environmental Protection Agency grant: Small, Safe, Sustainable (S3) Public Water Systems through Innovative 2/9 Ion Exchange. Conducting Life Cycle Assessments, Life Cycle Costing, and developing mathematical models of Ion Exchange (IX) systems to develop innovative IX technology

- **Assistant at Research Center** **2010 – 2011**
 - “Hydrogen sulfide removal from biogas using Fe-EDTA solution gas-liquid contacting and sulfur formation”, PI: Kisay Lee, Mar. – July. 2011
 - “Development of marine bio-energy production technology”, Kyonggi Regional Environmental Technology Development Center (KENTEC), PI: Kisay Lee, Apr. – July. 2011
 - “Simultaneous Removal of H₂S and CO₂ from biogas using a combination of chemical and biological processes”, Inha University, PI: Kisay Lee, Mar. 2010 – Feb. 2011

EXPERIENCE IN WORK

- **Field Engineer** **TrueAlgae, Plant City, FL** **March – June, 2018**
 - Algae cultivation reactors: system operation and maintenance
 - Production of algae-based biofertilizer
 - Product application and marketing
- **Internship** **Diamond Specialist, Sydney, Australia** **2010**

EXPERIENCE IN COMMUNITY AND PUBLIC ENGAGEMENT

- **Research consultant** **Local manager, Tampa, FL** **2014 – May, 2018**
 - Research consultant on biogas production using fish waste and moringa leaves
- **Volunteer work** **Morning Star Fishermen, Lakeland, FL** **2014 – 2016**
 - Aquaponics: system operation and maintenance
- **Korean Army** **Dongduchun, South Korea** **2006 – 2008**
 - Served as Military Police

PUBLICATIONS

Kim, Y., & Zhang, Q. (2018). Economic and environmental life cycle assessments of solar water heaters applied to aquaculture in the US. *Aquaculture*, 495(1), 44-54. DOI: 10.1016/j.aquaculture.2018.05.022.

Kim, Y., & Zhang, Q. (2018). Modeling of energy intensity in aquaculture: Future energy use of the global aquaculture. *SDRP Journal of Aquaculture, Fisheries & Fish Science*, 2(1). DOI: 10.25177/JAFFS.2.1.3.

Kim, Y., Wang, M., Kinyua, M., Cools, C., Zhang, Q., & Ergas, S. (2015). Alternative energy sources for Florida aquaculture systems, ARC (Aquaculture Research Council).

http://www.freshfromflorida.com/content/download/64713/1527863/Alternative_Energy_Sources_for_Florida_Aquaculture.pdf

Kim, Y., & Zhang, Q. (2018). A life cycle environmental and cost assessment tool for decision support in aquaculture energy systems. To be submitted: Fall 2018.

Kim, Y., & Zhang, Q. (2018). Investigation of sustainability of renewable and conventional energy systems for U.S. aquaculture. To be submitted: Fall 2018.

Amini, A., **Kim, Y.,** Zhang, J., Boyer, T., & Zhang, Q. (2015). Environmental and Economic Sustainability of Ion Exchange Drinking Water Treatment for Organics Removal. *Journal of Cleaner Production*, 104(1), 413-421. DOI: 10.1016/j.jclepro.2015.05.056.

Maul, G. A., **Kim, Y.,** Amini, A., Zhang, Q., & Boyer, T. H. (2014). Efficiency and life cycle environmental impacts of ion-exchange regeneration using sodium, potassium, chloride, and bicarbonate salts. *Chemical Engineering Journal*, 254, 198-209. DOI: 10.1016/j.cej.2014.05.086.

PRESENTATIONS AND POSTERS

Kim, Y., Wang, M., Ergas, S., & Zhang, Q. “A decision making tool for sustainable energy systems in aquaculture: Food-Energy-Aquaculture Sustainability Tool (FEAST)”, FAMU EnergyWaterFood Nexus 2017 International Summit, Double Tree Hotel at Orlando Airport, Orlando, FL. (October 19-20, 2017)

Kim, Y. & Zhang, Q. “Economic and environmental life cycle assessments of solar water heaters applied for aquaculture in US”, Renewable Energy systems and Sustainability Conference, Florida Polytechnic University, Lakeland, FL. (July 31-August 1, 2017)

Kim, Y. & Zhang, Q. “Modeling of energy intensity in aquaculture: Change in energy use of the global aquaculture with future scenarios”, Renewable Energy systems and Sustainability Conference, Florida Polytechnic University, Lakeland, FL. (July 31-August 1, 2017)

Kim, Y., & Zhang, Q. (2017) “Economic and environmental life cycle assessments of solar water heaters applied for aquaculture in US”. Poster presented to the USF Graduate Research Symposium, Mar. 20, Tampa, FL

Kim, Y., Wang, M., Ergas S., & Zhang, Q. (2016) “A sustainable energy supply system in aquaculture”. Poster presented to the World Aquaculture Society conference, Feb. 22-26, Nevada, LV.

Kim, Y., Wang, M., Ergas S., & Zhang, Q. (2015) “Alternative energy supply system in aquaculture”. Poster presented to the USF College of Engineering Research Day conference, Nov. 6, Tampa, FL

Kim, Y., Wang, M., Ergas S., & Zhang, Q. (2015) “Alternative energy supply system in aquaculture”. Poster presented to AEESP Distinguished Lecture, Nov. 13, Tampa, FL

Amini, A., **Kim, Y.,** Zhang, J., Boyer, T., & Zhang, Q. (2015) “A Life Cycle Assessment and Life Cycle Cost Analysis of Ion Exchange Drinking Water Treatment Technology in Florida”. Presented to the Florida Water Environment Association West Coast Chapter, May 28, Tampa, FL.

Amini, A., Payne, K., **Kim, Y.**, Zhang, J., Boyer, T., Zhang, Q. (2015) “Environmental Impact and Cost Assessment for Technology Design Optimization of Ion Exchange Technology by Dynamic Mathematical Model Integration”. Poster presented to AIChE’s 39th Annual International Phosphate Fertilizer & Sulfuric Acid Technology Conference, June 5-6, Clearwater, Florida.

Amini, A., Payne, K., **Kim, Y.**, Zhang, J., Boyer, T., Zhang, Q. (2015) “Environmental and Economic Sustainability Evaluation for Design Improvement and Optimization of Ion Exchange Drinking Water Treatment”. Oral presentation to AIChE’s 4th International 8/9 Congress on Sustainability Science & Engineering (ICOSSE), May 26-29, Balatonfured, Hungary.

Amini, A., Payne, K., **Kim, Y.**, Zhang, J., Boyer, T., Zhang, Q. (2015) “A Novel Method for Evaluation of Environmental and Economic Sustainability by Process Model Integration with Life Cycle Assessment and Optimization Using a Genetic Algorithm”. Poster presented to ASCE’s Environmental Water Resource Institute World Congress, May 17-21, Austin, TX.

Amini, A., Payne, K., **Kim, Y.**, Zhang, J., Boyer, T., Zhang, Q. (2015) “Environmental Impact and Cost Assessment of Ion Exchange Drinking Water Treatment for Organics Removal”. Poster presented to the Engineering Sustainability Conference, April 19-21, Pittsburgh, PA.

Amini, A., **Kim, Y.**, Zhang, J., Boyer, T., Zhang, Q. (2014) “A Life Cycle Assessment and Life Cycle Cost Analysis of Ion Exchange Drinking Water Treatment Technology in Florida”. Presented to Florida Section American Water Works Association Conference (FSAWWA), Nov. 30 - Dec. 4, ChampionsGate, FL.

Amini, A., **Kim, Y.**, Zhang, J., Zhang, Q. (2014) “Environmental and Economic Sustainability of Ion Exchange Drinking Water Treatment Plants in Florida”. Presented to the USF College of Engineering Research Day conference, Nov. 19, Tampa, FL.

Amini, A., **Kim, Y.**, Zhang, J., Zhang, Q. (2014) “A Life Cycle Assessment and Cost Analysis of Ion Exchange Drinking Water Treatment Plants in Florida”. Poster Presented to Florida Air and Waste Management Association Conference, Oct. 28-30, Jacksonville, FL.

SERVED AS REVIEW FOR THE FOLLOWING JOURNAL

- Environmental Management

ADDITIONAL SKILLS AND EXPERIENCES

Languages	Korean (native), English (moderate), Japanese (basic), Chinese (introduction course completed under the Confucius Institute)
Computer skills	Geographical Information Systems (ArcGIS; moderate), Statistical software (SAS, R, Minitab; moderate), Life cycle assessment software (Simapro, Gabi; confident), Pre-feasibility analysis software for renewables (SAM, TRNSYS, RETScreen; confident)
Software development	MS-Excel based decision-making tool for alternative energy systems in aquaculture (Patent applied and in review)