

## **Yong Sang (Barry) Kim, Ph.D.**

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### **Education**

Ph.D. Civil Engineering at **Purdue University**, West Lafayette, Indiana, 2008

M.S. Environmental System Engineering at **Korea University**, Seoul, South Korea, 2001

B.S. Chemistry at **Kyung Hee University**, Seoul, South Korea, 1999

### **Professional Experience**

2019 – Present Assistant Professor of Water Engineering, **University of Guam**

2017 – 2018 GHS Research Affiliate, **University of Guam**

2014 – 2017 Director, **Samsung Economic Research Institute**

2010 – 2014 Principal consultant, **Samsung SDS**

2009 – 2010 Post-doctoral research associate **Purdue University**

2002 – 2003 Research Scientist, **Korea Inst. of Science & Technology**

### **Teaching**

EV511 Geoscience engineering - open channel hydraulics (Fañomnåkan every year)

EV543 Hydrogeology – water chemistry (Fanuchanan odd year)

### **Research Projects**

1. 2019-2022 PFOS trend monitoring in Saipan production wells (**PI**)  
**USGS** (in collaboration with Saipan Commonwealth Utilities Corporation)
2. 2019-2020 Workshop series on Guam groundwater resources (**PI**) **USGS/GHS**
3. 2018-2021 Production-well rehabilitation assessment: lessons learned/manual for well exploration and development (**PI**) **USGS/GHS**
4. 2018-2019 Guam water-use data and research (**PI**) **USGS**
5. 2018-2019 Applying passive samplers to assess sources of PFASs on Guam (**PI**),  
**NIEHS** (in collaboration with University of Rhode Island)
6. 2017-2020 NGLA Monitoring System Expansion & Rehabilitation Project (**Co-PI**),  
**GWA** (in collaboration with USGS Pacific Islands Water Science Center)
7. 2018-2019 Investigation of potential PFAS contamination sites in the vicinity of impacted GWA production wells (**Co-PI**) **USGS**

## **Publication**

\* Corresponding

(Peer-Reviewed Journal Articles)

1. **Y. Kim**, S.H Lee\*, “Quantitative analysis of *Spirulina platensis* growth with CO<sub>2</sub> mixed aeration”, *Environmental Engineering Research*, 23, 216-222, (2018).
2. K. Kim, **Y. Kim**\*, M.D. Gurol, “DNAPL TCE oxidation with permanganate: Influence of the phase transfer catalyst pentyltriphenylphosphonium” *Water, Air & Soil Pollution*, 224, 1735-1741, (2013).
3. **Y. Kim**, L.N. Nyberg, B. Jenkinson, C.T. Jafvert\*, “PAH concentration gradients and fluxes through sand cap test cells installed in situ over river sediments containing coal tar” *Environmental Science: Processes & Impacts*, 15, 1601-1612, (2013).
4. M. Kim\*, **Y. Kim**, W. Lee, “Analysis of directional neighbor discovery process in millimetre wave wireless personal area networks” *IET Networks*, 2, 99-101, (2013).
5. D. Roh, J. Lee, **Y. Kim**, W. K\*, “Analysis of Scope 3 Management characteristics for the best greenhouse gas management companies by utilizing CDP data”, *Journal of Climate Change Research*, 3, 225-234, (2012).
6. M. Kim\*, **Y. Kim**, W. Lee, “Performance analysis of directional CSMA/CA for IEEE 802.15.3c under saturation environments” *ETRI Journal*, 34, 24-34, (2012).
7. **Y. Kim**\*, Y.S. Kim, S.H Kim, “Investigation of thermodynamic parameters in thermal decomposition of plastic waste-waste lube oil compounds” *Environmental Science & Technology (ES&T)*, 44, 5313-5317, (2010).
8. **Y. Kim**, C. T. Jafvert, S. Yoon, S. Hyun\* and B. Johnson, “Potential consolidation induced NAPL migration from coal tar impacted river sediment under a remedial sand cap” *the Journal of Hazardous Materials*, 162, 1364-1370, (2009).
9. **Y. Kim**, Y.S. Kim, K. M. Kim, S.U. Jeong, S.H. Kim\*, “Thermal decomposition kinetics of polymeric wastes using a nonisothermal thermogravimetric method” *Journal of Industrial and Engineering Chemistry*, 9, 219-224, (2003).
10. **Y. Kim**, H.I. Park, D.K. Kim, D.W. Pak\*, “The growth characteristics of *Spirulina platensis* in cylindrical photo-bioreactor” *Korean Journal of Biotechnology and Bioengineering*, 18, 277-281, (2003).
11. Y.S. Kim, **Y. Kim**, S.U. Jeong, W.L. Yoon, S.H. Kim\*, “Adsorptive characteristics of tar in pyrolyzed waste lubricating oil on activated carbon” *Journal of the Korean Industrial and Engineering Chemistry*, 12, 373-376, (2001).
12. Y.S. Kim, **Y. Kim**, S.U. Jeong, W.L. Yoon, S.H. Kim\*, “Tar formation kinetics and adsorption characteristics of the pyrolyzed oil from waste lubricating oil” *Journal of the Korean Industrial and Engineering Chemistry*, 12, 12-15, (2001).

## Conference Presentation

### Proceeding

1. **Y. Kim\***, M. Duenas, N. Habana, R. Lohmann, J. Becanova, “Perfluoroalkyl substances (PFAS) concentrations in water resources of Guam”, *IITER International Conference*, p38-41, Seoul South Korea, (December 2019).
2. **Y. Kim\***, M. Duenas, N. Habana, G. Denton, J. Jenson, M. Lander, “Groundwater contamination by polyfluoroalkyl substances (PFAS) in Guam”, *186th IASTEM International Conference*, p40, Seoul, South Korea, (July 2019).
3. G. Denton\*, C. Denton, **Y. Kim**, J. Jenson, N. Habana, M. Lander, “Perfluorooctane sulfonat (PFOS): A contaminant of emerging concern in Guam’s groundwater”, *125th The IRES International Conference*, p6-12, Beijing, China, (June 2018).

### Poster

1. R. Lohmann\*, J. Becanova, **Y. Kim**, M. Duenas, M. Dunn, “Preliminary assessment of potentially impacted PFAS sites in Guam”, *SRP Annual Meetings, NIEHS*, Seattle, Washington, (November 2019).
2. **Y. Kim\***, M. Duenas, J. Becanova, L. Lohmann, N. Habana, M. Lander, G. Denton, J. Jenson, “Potential PFASs contamination sites in Guam”, *Per- and Polyfluoroalkyl Substances: Second National Conference*, Boston, Massachusetts, (June 2019).
3. K. Bautista\*, J. Jenson, N. Habana, **Y. Kim**, “Guam water resource monitoring program” *NGWA Groundwater week*, Las Vegas, Nevada, (December 2018).
4. **Y. Kim\***, N. Habana, J. Jenson, “Consideration factors of production-well rehabilitation assessment on Guam”, *NGWA Groundwater week*, Las Vegas, Nevada, (December 2018).
5. **Y. Kim\***, C. Jafvert, B. Jenkinson, C. Enfield, B. Johnson, “Evaluation of in-situ permeable sand caps for remediation of coal tar impacted river sediment” *5<sup>th</sup> International Conference on Remediation of Contaminated Sediments*, Jacksonville, Florida, (February 2009).
6. C. Enfield, **Y. Kim\***, C. Jafvert, B. Jenkinson, “Development of a precise interfacial flow meter that uses the heat pulse method to measure water flow across the sediment-water boundary” *5<sup>th</sup> International Conference on Remediation of Contaminated Sediments*, Jacksonville, Florida, (February 2009).
7. **Y. Kim\***, C. Jafvert, “High sample rate water quality monitoring design of the Wabash River”, *C4E Ecological Sciences & Engineering Symposium*, West Lafayette, Indiana (April 2007).
8. **Y. Kim\***, H.I. Park, D.W. Pak, “The growth characteristics of *Spirulina platensis* at different nitrogen sources”, *KSBB spring meeting* (2003).
9. **Y. Kim\***, H.I. Park, D.W. Pak, “The growth characteristics of *Spirulina platensis* at different carbon dioxide concentration and flow rate”, *KSEE spring meeting* (2003).

10. **Y. Kim\***, K.M. Kim, S.U. Jeong, W.L. Yoon, S.H. Kim, “Thermal reaction characteristics of recycled plastics by using a nonisothermal thermogravimetric method”, *KSIEC spring meeting* (2001).
11. **Y. Kim\***, Y.S. Kim, S.U. Jeong, W.L. Yoon, S.H. Kim, “The establishment of pyrolytic condition with mixture of waste lubricating oil and waste plastics at atmospheric pressure” *KICChE fall meeting* (2000).
12. **Y. Kim\***, Y.S. Kim, S.U. Jeong, W.L. Yoon, S.H. Kim, “Improved properties of pyrolyzed oil from waste lubricating oil by using adsorbents” *KICChE fall meeting* (2000).
13. **Y. Kim\***, Y.S. Kim, S.U. Jeong, W.L. Yoon, S.H. Kim, “Stabilization characteristic of pyrolyzed oil from waste lubricating oil” *KICChE spring meeting* (2000).

### **Research Report (WERI)**

1. G. Denton\*, J. Cruz, **Y. Kim**, “Stormwater discharges from wetlands in American Memorial Park, Saipan: Impact on fish mercury levels in receiving waters”, *WERI TR 167*, (December 2019).
2. N. Habana\*, **Y. Kim**, K. Bausista, J. Jenson, “Guam Hydrologic Survey and Comprehensive Water Monitoring Program”, Annual GHS report, (September 2019).
3. N. Habana\*, **Y. Kim**, J. Jenson, “Guam Hydrologic Survey and Comprehensive Water Monitoring Program”, Annual GHS report, (September 2018).

### **Student Advisor (WERI)**

1. Mallery Duenas – committee chair, MS student (May 2021, expected)
2. Lyuqin Liu – committee chair, MS (December 2019)
3. Keoni Paulino – advisor, RA, undergraduate student (December 2020, expected)
4. Joseph Casila – advisor, RA, BS (December 2019)