

# JAEHONG KIM, PH.D.

## PROFESSOR AND CHAIR

DEPARTMENT OF CHEMICAL AND ENVIRONMENTAL ENGINEERING  
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### EDUCATION

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University of Illinois at Urbana-Champaign	Environmental Engineering	Ph.D.	2002
Seoul National University	Chemical & Biological Engineering*	M.S.	1997
Seoul National University	Chemical & Biological Engineering	B.S.	1995

\*Formerly Department of Chemical Technology

### ACADEMIC APPOINTMENTS

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Jan.2017 – present	Professor of Forestry and Environmental Studies, Yale University
Jul.2016 – present	Chair, Department of Chemical and Environmental Engineering, Yale University
Jul.2015 – present	Professor of Department of Chemical and Environmental Engineering, Yale University
Jun.2014 – Jul.2014	Visiting Professor, School of Chemical & Biological Engineering, Seoul National University
Jul.2013 – Jun. 2015	Barton L. Weller Associate Professor, Department of Chemical and Environmental Engineering, Yale University
Jul.2013 – Jun.2015	Adjunct Professor, School of Civil and Environmental Engineering (CEE), Georgia Tech
Jul.2012 – Jun.2013	Associate Chair for Undergraduate Programs, School of CEE, Georgia Tech
Apr. 2013 – Jun.2013	Georgia Power Distinguished Professor, School of CEE, Georgia Tech
Mar.2012 – Apr.2013	Georgia Power Distinguished Associate Professor, School of CEE, Georgia Tech
May.2010 – Jun.2010	Visiting Scientist, Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Dübendorf, Switzerland
Oct.2009 – Feb.2012	Carlton S. Wilder Associate Professor, School of CEE, Georgia Tech
Aug.2009 – Apr.2013	Associate Professor with Tenure, School of CEE, Georgia Tech
Jun.2007 – Jul.2007	Visiting Professor, Department of Architectural, Civil and Environmental Engineering, Korea University, Seoul, Korea
Oct.2002 – Aug. 2009	Assistant Professor, School of CEE, Georgia Tech
Aug.1998 – Aug.2002	Graduate Research Assistant, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
Mar.1997 – Feb.1998	Assistant Researcher, Institute of Environmental Safety, Seoul National University
Mar.1995 – Feb.1997	Graduate Research Assistant, Institute of Environmental Safety and Department of Chemical Technology, Seoul National University

### AWARDS AND HONORS

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#### *Endowed/Chair Professorship*

Jul.2013 – Jun.2015	Barton L. Weller Endowed Professorship, Yale University
Mar.2012 – Jun.2013	Georgia Power Distinguished Professorship, Georgia Tech
Oct.2009 – Feb.2012	Carlton S. Wilder Junior Faculty Chair, Georgia Tech

#### *Awards and Honors*

2017 *Environmental Science & Technology Letters* Excellence in Review Award

2017 One of the Most Prolific Authors for *ACS Photonics*  
 2017 One of the Most Prolific Authors for *Environmental Science & Technology Letters*  
 2017 Ackerman Award for Teaching and Mentoring, Yale University  
 2016 ACS Editors' Choice, Kim *et al.*, *Environmental Science & Technology Letters*  
 2016 Marquis Who's Who in America  
 2016 Elected Member, Connecticut Academy of Science and Engineering  
 2015 Distinguished Service Award, Association of Environmental Engineering and Science Professors (AEESP)  
 2013 Bill Schultz Junior Faculty Teaching Award, School of CEE, Georgia Tech  
 2013 Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineers (ASCE)  
 2012 *Environmental Science & Technology* 2011 Top Environmental Technology Paper Award  
 2010 Environmental Engineering Faculty Award, AEES at Georgia Tech  
 2010 Bill Shultz Sabbatical Award, School of CEE, Georgia Tech  
 2009 Paul L. Busch Award, Water Environment Research Foundation (WERF)  
 2009 Environmental Science & Technology Excellence in Review Award  
 2009 Excellence in Research Award, School of CEE, Georgia Tech  
 2007 CETL/BP Junior Faculty Teaching Excellence Award, Georgia Tech  
 2007 Excellent Paper Presentation Award, Korean Society of Environmental Engineers  
 2004 Editor's Award (for review), *ASCE Journal of Environmental Engineering*  
 2002 Engelbrecht Graduate Fellowship in Environmental Engineering, UIUC  
 2001 Mavis Memorial Fund Scholarship, College of Engineering, UIUC  
 1997 Best Paper Presentation Award, Korean Society of Industrial Engineering Chemistry  
 1994 Alumni Scholarship, Alumni Association of Chemical Technology in SNU

#### **Advisee Awards**

2017 Stephanie Loeb, Philanthropic Educational Organization (P.E.O.) Scholar Award  
 2016 Brenna Hodges, National Science Foundation Graduate Research Fellowship  
 2016 Chiheng Chu, Swiss National Science Foundation Postdoctoral Fellowship  
 2016 Stephanie Loeb, Best Student Poster, IWA Water and Nano Specialist Group Conference, Houston, TX  
 2016 Madeline Landon, Third Place Winner, 2015-2016 AEESP Student Video Competition  
 2015 Chuanhao Li, Presentation Award, 2015 AEESP Research and Education Conference  
 2015 Bezawit Getachew, Presentation Award, 2015 AEESP Research and Education Conference  
 2014 Stephanie Loeb, Canadian National Sciences and Engineering Research Council (NSERC) Fellowship  
 2014 Anna Hagstrom, National Science Foundation Graduate Research Fellowship  
 2013 Samuel Snow, Bill Schultz Civil and Environmental Engineering Outstanding TA Award, Georgia Tech  
 2013 Stephanie Chinnapongse, Best Student Presentation Award, American Chemical Society  
 2012 Samuel Snow, SNO Student Travel Award, Sustainable Nanotechnology Organization  
 2012 Tyler Cromey, Georgia Power Fellowship, Georgia Tech  
 2012 Varun Gandhi, AEES Outstanding Ph.D. Student in Environmental Engineering Award  
 2012 Kyoung Eun Park, Amirtharajah Fellowship, Georgia Tech  
 2011 Tyler Cromey, President's Undergraduate Research Award, Georgia Tech  
 2011 Min Cho, Outstanding Research Engineer/Postdoc Award, School of CEE, Georgia Tech  
 2011 Kyle Moor, Presidential Fellowship, Georgia Tech  
 2011 Kyoung Eun Park, AEES Outstanding Undergrad Student in Environmental Engineering Award  
 2011 Kyoung Eun Park, President's Undergraduate Research Award, Georgia Tech  
 2010 Ezra Cates, Best Student Presentation Award, American Chemical Society  
 2010 Stephanie Chinnapongse, Presidential Fellowship, Georgia Tech  
 2010 Seungjin Lee, Amirtharajah Fellowship, Georgia Tech  
 2009 Ezra Cates, Georgia Power Fellowship, Georgia Tech

- 2009 Varun Gandhi, AEES Outstanding MS Student in Environmental Engineering Award
- 2009 Elizabeth West, President's Undergraduate Research Award, Georgia Tech
- 2006 Varun Gandhi, President's Undergraduate Research Award, Georgia Tech
- 2007 Varun Gandhi, Georgia Power Fellowship
- 2005 Miyashita Yu, Georgia Power Fellowship
- 2005 Edward McCallum, AEES Outstanding MS Student in Environmental Engineering Award
- 2005 Annie Park, President's Undergraduate Research (Travel) Award, Georgia Tech
- 2004 Annie Park, President's Undergraduate Research Award, Georgia Tech

## PUBLICATIONS AND SCHOLARLY WORKS

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### *Peer-Reviewed Journal Articles*

#### Published

- Ling, L.; Tugaoen, H.; Brame, J.; Sinha, S.; Li, C.; Schoepf, J.; Hristovski, K.; Kim, J.H.; Shang, C.; Westerhoff, P. "Coupling Light Emitting Diodes with Photocatalyst-Coated Optical Fibers Improves Quantum Yield of Pollutant Oxidation." *Environmental Science & Technology* (in press)
- Kim, S.R.; Getachew, B.A.; Kim, J.H. "In Situ Healing of Compromised Membranes via Polyethyleneimine-Functionalized Silica Microparticles." *Environmental Science & Technology* (in press)
- Lu, X.; Feng, X.; Werber, J.R.; Chu, C.; Zucker, I.; Kim, J.H.; Osuji, C.O.; and Elimelech, M. "Enhanced Antimicrobial Activity through the Controlled Alignment of Graphene Nanosheets." *Proceedings of the National Academy of Sciences* (in press)
- Lee, H.S.; Seong, J.; Lee, K.M.; Kim, H.H.; Choi, J.; Kim, J.H.; Lee, C. "Chloride-Enhanced Oxidation of Organic Contaminants by Cu(II)-Catalyzed Fenton-like Reaction at Neutral pH." *Journal of Hazardous Materials* (in press)
- Zodrow, K.R.; Li, Q.; Buono, R.M.; Chen, W.; Daigger, G.T.; Dueñas-Osorio, L.; Elimelech, M.; Huang, X.; Jiang, G.; Kim, J.H.; Logan, B.E.; Sedlak, D.L.; Westerhoff, P.; Alvarez, P.J.J. (2017). "Advanced Materials, Technologies, and Complex Systems Analyses: Emerging Opportunities to Enhance Urban Water Security." *Environmental Science & Technology*, 51, 10274-10281
- Lee, H.S.; Lee, C.H.; Kim, J.H. (2017). "Response to Comment on: Activation of Persulfate by Graphitized Nanodiamonds for Removal of Organic Compounds." *Environmental Science & Technology*, 51, 5353-5354
- Kim, S.R.; Getachew, B.; Kim, J.H. (2017). "Toward Microvascular Network-Embedded Self-Healing Membranes." *Journal of Membrane Science*, 531, 94-102
- Xiao, J.; Xie, Y.; Li, C.; Kim, J.H.; Tang, K.; Cao, H. (2017). "Enhanced Hole-Dominated Photocatalytic Activity of Doughnut-like Porous g-C<sub>3</sub>N<sub>4</sub> Driven by Down-Shifted Valance Band Maximum." *Catalysis Today* (in press)
- Getachew, B.A.; Kim, S.R.; Kim, J.H. (2017). "Self-Healing Hydrogel Pore-Filled Water Treatment Membranes." *Environmental Science & Technology*, 51, 905-913
- Chen, J.; Loeb, S.; Kim, J.H. (2017). "LED Revolution: Fundamentals and Prospects for UV Disinfection Applications." *Environmental Science: Water Research & Technology*, 3, 188-202
- Hagstrom, A.L.; Deng, F.; Kim, J.H. (2017). "Enhanced Triplet-Triplet Annihilation Upconversion in Dual-Sensitizer Systems: Translating Broadband Light Absorption to Practical Solid-State Materials." *ACS Photonics*, 4, 127-137
- Song, H.S.; Kwon, O.S.; Kim, J.H.; Conde, J.; Artzi, N. (2017). "3D Hydrogel Scaffold Doped with 2D Graphene Materials for Biosensors and Bioelectronics." *Biosensors and Bioelectronics*, 89, 187-200
- Yun, E.T.; Yoo, H.Y.; Kim, W.; Kim, H.E.; Kang, G.; Lee, H.S.; Lee, S.; Park, T.; Lee, C.; Kim, J.H.; Lee, J.S. (2017). "Visible-Light-Induced Activation of Periodate that Mimics Dye-Sensitization of TiO<sub>2</sub>: Simultaneous Decolorization of Dyes and Production of Oxidizing Radicals." *Applied Catalysis B: Environmental*, 203, 475-484
- Moor, K.J.; Osuji, C.O.; Kim, J.H. (2016). "Dual-Functionality Fullerene and Ag NP Antimicrobial Composites via Block Copolymers Templates." *ACS Applied Materials and Interfaces*, 8(49), 33583-33591

15. Kim, H.I.; Kim, H.N.; Weon, S.H.; Moon, G.H.; Kim, J.H.; Choi, W. (2016). "Robust Co-catalytic Performance of Nanodiamonds Loaded on WO<sub>3</sub> for the Decomposition of Volatile Organic Compounds under Visible Light." **ACS Catalysis**, 6(12), 8350-8360
16. Kim, G.; Choi, H.J.; Kim, H.I.; Kim, J.H.; Monllor-Satoca, D.; Kim, M.J.; Park, H.W. (2016). "Temperature-Boosted Photocatalytic H<sub>2</sub> Production and Charge Transfer Kinetics on TiO<sub>2</sub> under UV and Visible Light." **Photochemical & Photobiological Sciences**, 15, 1247-1253
17. Kim, H.I.; Weon, S.H.; Kang, H.M.; Hagstrom, A.; Kwon, O.S.; Lee, Y.S.; Choi, W.; Kim, J.H. (2016). "Plasmon-Enhanced Sub-Bandgap Photocatalysis via Triplet-Triplet Annihilation Upconversion for Volatile Organic Compound Degradation." **Environmental Science & Technology**, 50, 11184-11192
18. Ahn, Y.Y.; Yun, E.T.; Seo, J.W.; Lee, C.H.; Kim, S.H.; Kim, J.H.; Lee, J.S. (2016). "Activation of Peroxymonosulfate by Surface-Loaded Noble Metal Nanoparticles for Oxidative Degradation of Organic Compounds." **Environmental Science & Technology**, 50, 10187-10197
19. Lee, H.S.; Kim, H.I.; Weon, S.H.; Choi, W.; Hwang, Y.S.; Seo, J.W.; Lee, C.; Kim, J.H. (2016). "Activation of Persulfates by Graphitized Nanodiamonds for Removal of Organic Compounds." **Environmental Science & Technology**, 50, 10134-10142
20. Lee, H.S.; Seo, J.W.; Kim, H.E.; Lee, H.J.; Kim, J.H.; Lee, C. (2016). "Activation of Oxygen and Hydrogen Peroxide by Copper(II) Coupled with Hydroxylamine for Oxidation of Organic Contaminants." **Environmental Science & Technology**, 50, 8231-8238
21. Li, C.; Koenigsmann, C.; Deng, F.; Hagstrom, A.; Schmuttenmaer, C.A.; Kim, J.H. (2016). "Photocurrent Enhancement from Solid-State Triplet-Triplet Annihilation Upconversion of Low-Intensity, Low-Energy Photons." **ACS Photonics**, 3, 784-790
22. Kim, S.R.; Getachew, B.; Park, S.J.; Kwon, O.S.; Ryu, W.H.; Taylor, A.D.; Bae, J.W.; Kim, J.H. (2016). "Toward Microcapsule-Embedded Self-Healing Membranes." **Environmental Science & Technology Letters**, 3, 216-221 (*Cover of the Issue; ACS Editors' Choice; Listed in 2016 Most Read Papers*)
23. Loeb, S.; Hofmann, R.; Kim, J.H. (2016). "Beyond the Pipeline: Assessing the Efficiency Limits of Advanced Technologies for Solar Water Disinfection." **Environmental Science & Technology Letters**, 3, 73-80
24. Kim, H.I.; Kwon, O.S.; Kim, S.J.; Choi, W.Y.; Kim, J.H. (2016). "Harnessing Low Energy Photons (635 nm) for the Production of H<sub>2</sub>O<sub>2</sub> using Upconversion Nanohybrid Photocatalysts." **Energy & Environmental Science**, 9, 1063 - 1073
25. Kwon, O.S.; Song, H.S.; Conde, J.; Kim, H.I.; Artzi, N.; Kim, J.H. (2016). "Dual-Color Emissive Upconversion Nanocapsules for Differential Cancer Bioimaging *in vivo*." **ACS Nano**, 10(1), 1512-1521
26. Moor, K.; Cates, E.L.; Kim, J.H. (2016). "Porous Silicon's Photoactivity in Water: Insights into Environmental Fate." **Environmental Science & Technology**, 50, 756-764
27. Lee, S.J.; Getachew, B.; Kim, J.H. (2016). "Restoring Virus Removal Capability of Damaged Hollow Fiber Membranes via Chitosan-Based *In-Situ* Healing." **Journal of Membrane Science**, 497, 387-393
28. Moor, K.J.; Snow, S.; Kim, J.H. (2015). "The Differential Photoactivity of Aqueous [C<sub>60</sub>] and [C<sub>70</sub>] Fullerene Aggregates." **Environmental Science & Technology**, 49, 5990-5998
29. Moor, K.J.; Valle, D.; Li, C.; Kim, J.H. (2015). "Improving the Visible Light Photoactivity of Supported Fullerene Photocatalysts through the Use of [C<sub>70</sub>] Fullerene." **Environmental Science & Technology**, 49, 6190-6197
30. Cates, E. L.; Kim, J.H. (2015). "Bench-Scale Evaluation of Water Disinfection by Visible-to-UVC Upconversion under High-Intensity Irradiation." **Journal of Photochemistry and Photobiology B: Biology**, 153, 405-411
31. Kim, J.; Kim, J.H. (2015). "Triplet Emulsion Microcapsules for Highly Efficient Multispectral Upconversion in the Aqueous Phase." **ACS Photonics**, 2, 633-638
32. Snow, S.; Kim, K.C.; Moor, K.J.; Jang, S.S.; Kim, J.H. (2015). "Functionalized Fullerenes in Water: A Closer Look." **Environmental Science & Technology**, 49, 2147-2155
33. Choi, J.I.; Snow, S.; Kim, J.H.; Jang, S.S. (2015). "Interaction of C<sub>60</sub> with Water: First-Principles Modeling." **Environmental Science & Technology**, 49 (3), 1529-1536
34. Gandhi, V.; Bryant, D.B.; Socolofsky, S.A.; Stoesser, T.; Kim, J.H. (2015). "Concentration Based Decomposition of the Flow around a Confined Cylinder in a UV Disinfection Reactor." **ASCE Journal of Engineering Mechanics**, 141(12): 04015050
35. Li, C.; Koenigsmann, C.; Ding, W.; Rudshteyn, B.; Yang, K.R.; Regan, K.P.; Konezny, S.J.; Batista, V.S.; Brudvig, G.W.; Schmuttenmaer, C.A.; Kim, J.H. (2015). "Facet-Dependent Photoelectrochemical

- Performance of TiO<sub>2</sub> Nanostructures: An Experimental and Computational Study." *Journal of the American Chemical Society*, 137, 1520–1529
36. Kwon, O.S.; Kim, J.; Cho, J.K.; Kim, J.H. (2015). "Triplet-Triplet Annihilation Upconversion in CdS-Decorated SiO<sub>2</sub> Nanocapsules for Sub-Bandgap Photocatalysis." *ACS Applied Materials & Interfaces*, 7, 318-325
  37. Cates, E.L.; Wilkinson, A.P.; Kim, J.H. (2015). "Visible-to-UVC Upconversion Efficiency and Mechanisms of Lu<sub>5</sub>O<sub>4</sub>F<sub>7</sub>:Pr<sup>3+</sup> and Y<sub>2</sub>SiO<sub>5</sub>:Pr<sup>3+</sup> Ceramics." *Journal of Luminescence*, 160, 202-209
  38. Cromey, T.; S. J. Lee; Kim, J.H. (2015). "Effect of Elevated Feed Temperature on Ceramic Ultrafiltration of Colloidal Suspensions." *ASCE Journal of Environmental Engineering*, 141(6): 04014096
  39. Lee, S.J.; Kim, J.H. (2015). "Effects of Coagulation on the Ceramic Membrane Fouling during Surface Water Treatment." *ASCE Journal of Environmental Engineering*, 141(5): 04014087
  40. Park, S.H.; Padhye, L.P.; Wang, P.; Cho, M.; Kim, J.H.; Huang, C.H. (2015). "N-Nitrosodimethylamine (NDMA) Formation Potential of Amine-based Water Treatment Polymers: Effects of In-Situ Chloramination, Breakpoint Chlorination, and Pre-Oxidation." *Journal of Hazardous Materials*, 282, 133-140
  41. Lee, H.S.; Yoo, H.Y.; Nam, I.H.; Lee, S.; Lee, S.H.; Kim, J.H.; Lee, C.; Lee, J.S. (2014). "Oxidizing Capacity of Periodate Activated with Iron-Based Bimetallic Nanoparticles." *Environmental Science & Technology*, 48, 8086-8093
  42. Snow, S.D.; Park, K.E.; Kim, J.H. (2014). "Cationic Fullerene Aggregates with Unprecedented Virus Photoinactivation Efficiencies in Water." *Environmental Science & Technology Letters*, 1, 290-294 (*Cover of the Issue*)
  43. Ge, L.; Moor, K.; Zhang, B.; He, Y.; Kim, J.H. (2014). "Electron Transfer Mediation by Aqueous C<sub>60</sub> Aggregates in H<sub>2</sub>O<sub>2</sub>/UV Advanced Oxidation of Indigo Carmine." *Nanoscale*, 6, 13579-13585
  44. Park, G.W.; Cho, M.; Cates, E.L.; Lee, D.; Oh, B.T.; Vinjé, J.; Kim, J.H. (2014). "Fluorinated TiO<sub>2</sub> as Ambient Light-Activated Virucidal Surface-Coating Material for the Control of Human Norovirus." *Journal of Photochemistry and Photobiology B: Biology*, 140, 315-320
  45. Kim, J.; Deng, F.; Castellano, F.N.; Kim, J.H. (2014). "Red-to-Blue/Cyan/Green Upconverting Microcapsules for Aqueous- and Dry-Phase Color Tuning and Magnetic Sorting." *ACS Photonics*, 1, 382-388
  46. Moor, K.; Kim, J.H. (2014). "A Simple Method Towards Solid Supported C<sub>60</sub> Visible Light-Activated Photocatalysts." *Environmental Science & Technology*, 48, 2785-2791
  47. Cates, S.L.; Cates, E.L.; Cho, M.; Kim, J.H. (2014) "Synthesis and Characterization of Visible-to-UVC Upconversion Antimicrobial Ceramics." *Environmental Science & Technology*, 48, 2290-2297
  48. Zaribaf, B.H.; Lee, S.J.; Kim, J.; Park, P.K.; Kim, J.H. (2014). "Toward In-Situ Healing of Compromised Polymeric Membranes." *Environmental Science & Technology Letters*, 1, 113-116
  49. Lee, S.; Kim, J.H. (2014). "Differential Natural Organic Matter Fouling of Ceramic versus Polymeric Ultrafiltration Membranes." *Water Research*, 48, 43-51
  50. Moor, K.; Kim, J.; Snow, S.; Kim, J.H. (2013). "[C<sub>70</sub>] Fullerene-Sensitized Triplet-Triplet Annihilation Upconversion." *Chemical Communications*, 49, 10829-10831
  51. Cates, E.L.; Kim, J.H. (2013). "Upconversion under Polychromatic Excitation: Y<sub>2</sub>SiO<sub>5</sub>:Pr<sup>3+</sup>, Li<sup>+</sup> Converts Violet, Cyan, Green, and Yellow Light into UVC." *Optical Materials*, 35, 2347-2351
  52. Kim, D.J.; Stoesser, T.; Kim, J.H. (2013). "Modeling Aspects of Flow and Solute Transport Simulations in Water Disinfection Tanks." *Applied Mathematical Modeling*, 37, 8039-8050
  53. Kim, D.J.; Stoesser, T.; Kim, J.H. (2013). "The Effect of Baffle Spacing on Hydrodynamics and Solute Transport in Serpentine Contact Tanks" *Journal of Hydraulic Research*, 51, 558-568
  54. Lee, S.J.; Dilaver, M.; Park, P.P.; Kim, J.H. (2013) "Comparative Analysis of Fouling Characteristics of Ceramic and Polymeric Microfiltration Membranes Using Filtration Models." *Journal of Membrane Science*, 432, 97-105
  55. Padhye, L.P.; Kim, J.H.; Huang, C.H. (2013). "Oxidation of Dithiocarbamates to Yield N-Nitrosamines by Water Disinfection Oxidants." *Water Research*, 47, 725-736
  56. Snow, S.D.; Lee, J.S.; Kim, J.H. (2012). "Photochemical and Photophysical Properties of Sequentially Functionalized Fullerenes in the Aqueous Phase." *Environmental Science & Technology*, 46, 13227-13234
  57. Gandhi, V.; Roberts, P.J.W.; Kim, J.H. (2012). "Visualizing and Quantifying Dose Distribution in a UV Reactor Using Three-Dimensional Laser-Induced Fluorescence." *Environmental Science & Technology*, 46, 13220-13226

58. Cates, E.L.; Chinnapongse, S.L.; Kim, J.; Kim, J.H. (2012). "Engineering Light: Advances in Wavelength Conversion Materials for Energy and Environmental Technologies." *Environmental Science & Technology*, 46, 12316-12328
59. Kim, J.; Kim, J. H. (2012). "Encapsulated TTA-Based Upconversion in the Aqueous Phase for Sub-Bandgap Semiconductor Photocatalysis." *Journal of the American Chemical Society*, 134, 17478-17481
60. Cates, E.L.; Wilkinson, A.P.; Kim, J.H. (2012). "Delineating Mechanisms of Upconversion Enhancement by Li<sup>+</sup> Codoping in Y<sub>2</sub>SiO<sub>5</sub>:Pr<sup>3+</sup>." *The Journal of Physical Chemistry C*, 116, 12772-12778
61. Kim, J.; Deng, F.; Castellano, F.N.; Kim, J.H. (2012). "High Efficiency Low-Power Upconverting Soft Materials." *Chemistry of Materials*, 24, 2250-2252
62. Wang, Y.; Kim, J.H.; Baek, J.B.; Pennell, K.D. (2012). "Transport Behavior of Functionalized Multi-Wall Carbon Nanotubes in Water-Saturated Quartz Sand as a Function of Tube Length." *Water Research*, 46, 4521-4531
63. Park, P.P.; Lee, S.; Cho, J.S.; Kim, J.H. (2012). "Full-Scale Simulation of Seawater Reverse Osmosis Desalination Processes for Boron Removal: Effect of Membrane Fouling." *Water Research*, 46, 3796-3804
64. Shah, A.D.; Huang, C.H.; Kim, J.H. (2012). "Mechanisms of Antibiotics Removal by Nanofiltration Membranes: Model Development and Application." *Journal of Membrane Science*, 389, 234-244
65. Lee, J.; Hong, S.; Mackeyev, Y.; Lee, C.; Wilson, L.J.; Kim, J.H.; Alvarez, P.J.J. (2011). "Photosensitized Oxidation of Organic Pollutants by Tetrakis C<sub>60</sub> Aminofullerene Derivatized Silica under Visible Light Irradiation." *Environmental Science & Technology*, 45, 10598-10604
66. Cho, M.; Snow, S.; Hughes, J.B.; Kim, J.H. (2011). "Escherichia coli Inactivation by UVC-Irradiated C<sub>60</sub>: Kinetics and Mechanisms." *Environmental Science & Technology*, 45, 9627-9633
67. Shah, A.D.; Kim, J.H.; Huang, C.H. (2011). "Tertiary Amines Enhance Reactions of Organic Contaminants with Aqueous Chlorine." *Water Research*, 45, 6087-6096
68. Gandhi, V.; Roberts, P.J.W.; Stoesser, T.; Wright, H.; Kim, J.H. (2011). "UV Reactor Flow Visualization and Mixing Quantification Using Three-Dimensional Laser-Induced Fluorescence." *Water Research*, 45, 3855-3862
69. Padhye, L.; Luzinova, Y.; Cho, M.; Mizaikoff, B.; Kim, J.H.; Huang, C.H. (2011). "PolyDADMAC and Dimethylamine as Precursors of N-Nitrosodimethylamine during Ozonation: Reaction Kinetics and Mechanisms." *Environmental Science & Technology*, 45, 4353-4359
70. Cates, E.L.; Cho, M.; Kim, J.H. (2011) "Converting Visible Light into UVC: Microbial Inactivation by Pr<sup>3+</sup>-Activated Upconversion Materials." *Environmental Science & Technology*, 45, 3680-3686 (2011 Top Environmental Technology Paper Award from *Environmental Science & Technology*).
71. Cho, M.; Cates, E.L.; Kim, J.H. (2011). "Inactivation and Surface Interactions of MS-2 Bacteriophage in a TiO<sub>2</sub> Photoelectrocatalytic Reactor." *Water Research*, 45, 2104-2110
72. Cho, M.; Gandhi, V.; Hwang, T.; Lee, S.H.; Kim, J.H. (2011). "Investigating Synergism during Sequential Inactivation of MS-2 Phages and Bacillus subtilis Spores with UV/H<sub>2</sub>O<sub>2</sub> Followed by Free Chlorine." *Water Research*, 45, 1063-1070
73. Lee, J.; Mackeyev, Y.; Cho, M.; Wilson, L.J.; Kim, J.H.; Alvarez, P.J.J. (2010). "C<sub>60</sub> Aminofullerene Immobilized on Silica as a Visible-Light-Activated Photocatalyst." *Environmental Science & Technology*, 44, 9488-9495
74. Park, C.; Park, P.K.; Mane, P.P.; Hyung, H.; Gandhi, V.; Kim, S.H.; Kim, J.H. (2010). "Stochastic Cost Estimation Approach for Full-Scale Reverse Osmosis Desalination Plants." *Journal of Membrane Science*, 364, 52-64
75. Cho, M.; Lee, J.; Mackeyev, Y.; Wilson, L.J.; Alvarez, P.J.J.; Hughes, J.B.; Kim, J.H. (2010). "Visible Light Sensitized Inactivation of MS-2 Bacteriophage by a Cationic Amine-Functionalized C<sub>60</sub> Derivative." *Environmental Science & Technology*, 44, 6685-6691
76. Lee, J.; Song, W., Jang, S.S.; Fortner, J.D.; Alvarez, P.J.J.; Cooper, W.J.; Kim, J.H. (2010). "Stability of Water-Stable C<sub>60</sub> Cluster to OH Radical Oxidation and Hydrated Electron Reduction" *Environmental Science & Technology*, 44, 3786-3792
77. Kim, D.I.; Elovitz, M.; Roberts, P.J.W.; Kim, J.H. (2010). "Using 3DLIF to Investigate and Improve Performance of a Multichamber Ozone Contactor." *Journal American Water Works Association*, 102, 61-70
78. Cho, M.; Kim, J.E.; Kim, J.Y.; Yoon, J.Y.; Kim, J.H. (2010) "Mechanism of Escherichia coli Inactivation by Several Disinfectants." *Water Research*, 44, 3410-3418

79. Kim, D.I.; Nemlioglu, S.; Roberts, P.J.W.; Kim, J.H. (2010). "Ozone Contactor Flow Visualization and Quantification Using Three-Dimensional Laser-Induced Fluorescence." **Journal American Water Works Association**, 102, 90-99
80. Kim, D.J.; Kim, D.I.; Kim, J.H.; Stoesser, T. (2010). "Large Eddy Simulation of Flow and Tracer Transport in Multi-Chamber Ozone Contactors." **ASCE Journal of Environmental Engineering**, 136, 22-31
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70. Shah, A. D.; Kim, J. H.; Huang, C. H. (2008). "Enhanced Chlorination and Disinfection Byproduct Formation Of Organic Contaminants by Tertiary Amines." ACS National Meeting and Exposition, New Orleans, LA
71. Hyung, H.; Mane, P.; Brown, J.; Wilf, M.; Park, J.S.; Kim, S.H.; Kim, J.H. (2007). "Boron Rejection by SWRO Membrane Process: From Lab-Scale Mechanistic Study to Full-Scale Process Simulation and Cost Analysis." International Desalination Association World Congress, Gran Canaria, Spain
72. Kim, D.; Roberts, P. W.; Elovitz, M.; Kim, J. H. (2007). "Ozone Contactor Flow Visualization and Characterization Using 3-Dimensional Laser Induced Fluorescence." American Water Works Association Water Quality Technology Conference, Charlotte, NC
73. Lee, J.; Fortner, J. D.; Hughes, J. B.; Kim, J. H. (2007). "Photochemical Production of Reactive Oxygen Species (ROS) by Aqueous C<sub>60</sub> Colloids during the UV Illumination." ACS National Meeting and Exposition, Chicago, IL
74. Fortner, J. D.; Kim, D. I.; Boyd, A. M.; Falkner, J. C.; Moran, S.; Hughes, J. B.; Kim, J. H. (2007). "Ozonation of C<sub>60</sub> in Water." ACS National Meeting and Exposition, Chicago, IL

75. Shah, A. D.; Kim, J. H.; Huang, C. H. (2007). "Reaction Kinetics and Transformation of Carbadox and Structurally Related Compounds with Aqueous Chlorine." ACS National Meeting and Exposition, Chicago, IL
76. Hyung, H.; Mane, P.; Brown, J.; Wilf, M.; Park, J. S.; Kim, J. H. (2007). "A Mechanistic Study on the Boron Rejection by Sea Water Reverse Osmosis Membranes." AWWA Membrane Technology Conference, Tampa, FL
77. Mane, P.; Hyung, H.; Wilf, M.; Brown, J.; Park, J. S.; Kim, S. H.; Kim, J. H. (2007). "RO Process Design Optimization Based on Stochastic Cost Estimation Model Coupled with Process Performance Simulation Model." AWWA Membrane Technology Conference, Tampa, FL
78. Miyashita, Y.; Lee, J. Y.; Hyung, H.; Park, S. H.; Huang, C. H.; Kim, J. H. (2007). "Removal of *N*-Nitrosamines by Nanofiltration and Reverse Osmosis Membranes." AWWA Membrane Technology Conference, Tampa, FL.
79. Shah, A. D.; Huang, C. H.; Kim, J. H. (2007) "Effect of Varying Water Quality Conditions on Rejection of Selected Antibiotics by Nanofiltration Membranes." AWWA Membrane Technology Conference, Tampa, FL.
80. Fortner, J. D. Lee, J.; Hughes, J. B.; Kim, J. H. (2006). "Fate and Transformation of Carbon Nanomaterials in Natural and Engineered Aqueous Phase Environment." Korean Society of Environmental Engineers Fall Conference, Kangreung, Korea.
81. Kim, D. I.; Nemlioglu, S.; Lee, K. H.; Roberts, P. J. W.; Kim, J. H. (2006). "Disinfection Efficiency Enhancement and DBP Reduction in an Ozone Contactor Using 3-Dimensional Laser Induced Fluorescence." Korean Society of Environmental Engineers Fall Conference, Kangreung, Korea.
82. Fortner, J. D.; Boyd, A. M.; Lafferty, B. J.; Kim, D. I.; Faulkner, J. C.; Kim, J. H.; Hughes, J. B. (2006). "Ozonation of Nano-Scale C<sub>60</sub> Aggregates in Water" Gordon Research Conference, Environmental Sciences: Water, Plymouth, NH.
83. Shah, A. D.; McCallum, E. A.; Do, A. T.; Hyung, H.; Huang, C. H.; and Kim, J. H. (2006). "Rejection of Hormone and Selected Human and Veterinary Antibiotics by Nanofiltration Membranes." AWWA Annual Conference and Exposition, San Antonio, TX
84. Fortner, J. D.; Kim, D. Kim, J. H.; Hughes, J. B. (2005) "Ozonation of C<sub>60</sub> Aggregates in Water" Society of Environmental Toxicology and Chemistry, 26th Annual Meeting, Baltimore, MD
85. Fortner, J.; Kim, J. H.; Hughes, J. B. (2005). "Fate and transformation of water-stable, nanoscale C<sub>60</sub> aggregates during ozonation and UV irradiation processes." AWWA Water Quality Technology Conference, Quebec, Quebec
86. Kim, D.; Marda, S.; Gordy, J.; Ketter, C.; Pierpont, J.; Kim, M. J.; Craig, M.; Gianatasio, J.; Kim, J. H. (2005). "Full-Scale Plant Conversion Experience: Installation of Ozone-BAC Process and Disinfectant Residual Control." AWWA Water Quality Technology Conference, Quebec, Quebec
87. Marda, S.; Kim, D.; Pierpont, J.; Kim, M. J.; Craig, M.; Perdue, M.; Amirtharajah, A.; Kim, J. H. (2005). "Factors Affecting Monochloramine Stability in Ozone-BAC Process." AWWA Water Quality Technology Conference, Quebec, Quebec
88. Shah, A.; Kim, J. H.; Huang, C. H. (2005). "Reactions of Quinoxaline N,N'-Dioxide Antibacterial Agents with Free and Combined Chlorine." AWWA Water Quality Technology Conference, Quebec, Quebec
89. Shah, A.; Kim, J. H.; Huang, C. H. (2005). "The Fate and Transformation of Quinoxaline N,N'-Dioxide Antibacterial Agents during Chlorination." International Conference on Environmental Exposure and Health, Wessex Institute of Technology and Georgia Institute of Technology, Atlanta, Georgia.
90. Shah, A.; McCallum, E.; Hyung, H.; Huang, C. H.; Kim, J. H. (2005). "Removal of Emerging Trace Contaminants by Nanofiltration Membranes." International Conference on Environmental Exposure and Health, Wessex Institute of Technology and Georgia Institute of Technology, Atlanta, Georgia.
91. Kim, D.; Tang, G. Hasan, G.; Adu-Sarkodie, K.; Teefy, S.; Shukairy, H. M.; Mariñas, B. J.; Kim, J. H. (2005). "Modeling *Cryptosporidium Parvum* Oocyst Inactivation and Bromate Formation in a Full-Scale Ozone Contactor by Computer Software." International Ozone Association – Pan American Group Regional Conference, Atlanta, Georgia
92. Shah, A.; McCallum, E.; Park, A.; Huang, C. H.; Kim, J. H. (2005). "Effect of Water Quality on Rejection of Selected Human and Veterinary Antibiotics by Nanofiltration and Reverse Osmosis Membranes." AWWA Membrane Technology Conference, Phoenix, Texas
93. McCallum, E.; Hyung, H.; Shah, A. Huang, C. H.; Kim, J. H. (2005). "Removal of Hormones by Nanofiltration: Effects of Hormone Concentration and Natural Organic Matter Fouling on Removal." AWWA Membrane Technology Conference, Phoenix, Texas
94. Kim, D.; Kim, J. H. (2004). "Real-Time Monitor and Control of Ozone Disinfection Process." International Ozone Association – Pan American Group Regional Conference, Windsor, Ontario.

95. Kitis, M.; Lozier, J. C.; Kim, J. H.; Mi, B.; Mariñas, B. J. (2003). "Microbial Removal and Integrity Monitoring of High-Pressure Membranes." Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean, Thessaloniki, Greece.
96. Park, Y.; Forney L. J.; Kim, J. H.; Skelland, A.H.P. (2003). "Emulsion Liquid Membranes: Effect of Surfactants on Mass Transfer." AIChE Annual Meeting, San Francisco, California
97. Lozier, J. C.; Kitis, M.; Kim, J. H.; Mi, B.; Mariñas, B. J. (2003). "Evaluation of Biologic and Non-Biologic Methods for Assessing Virus Removal by and Integrity of High Pressure Membrane Systems." Membrane Technology Conference and Exposition, Atlanta, Georgia
98. Kim, J. H.; Corona-Vasquez, B.; Mariñas, B. J. (2002). "Mechanistic Approach for Modeling the Inactivation of Microbial Contaminants with Chemical Disinfectants and Ultraviolet Light." AWWA Water Quality Technology Conference, Seattle, Washington
99. Adu-Sarkodie, K.; Kim, J. H.; Mariñas, B. J. (2002). "A Mechanistic Modeling Approach for Elucidating the Roles of Water Quality Parameters in the Formation of Bromate in Natural Waters." AWWA Water Quality Technology Conference, Seattle, Washington
100. Kitis, M.; Lozier, J. C.; Kim, J. H.; Mi, B.; Mariñas, B. J. (2002). "Microbial removal and integrity monitoring of high-pressure membranes." American Water Works Association Annual Conference and Exhibition, New Orleans, Louisiana.
101. Tang, G.; Corona-Vasquez, B.; Kim, J. H.; Mariñas, B. J. (2001). "Integral Optimization of *C. parvum* Inactivation and Bromate Formation Control in Ozone Disinfection Systems with Fluorescent-Dyed Polystyrene Microspheres." AWWA Water Quality Technology Conference, Nashville, Tennessee.
102. Kim, J. H.; von Gunten, U.; Mariñas, B. J. (2001). "Modeling the Effect of Water Quality on Bromate Formation and *Cryptosporidium parvum* Oocyst Inactivation during Ozone Treatment." AWWA Annual Conference and Exposition, University Forum Session, Washington DC.
103. Kim, J. H.; Urban, M.A.; Echigo, S.; Minear, R. A.; Mariñas, B. J. (2000). "Bromate Formation and *Cryptosporidium parvum* Disinfection during Ozone Treatment of Natural Waters." AWWA Water Quality Technology Conference, Salt Lake City, Utah.
104. Urban, M.A.; Douville, C. J.; Daw, B. C.; Echigo, S.; Kim, J. H.; Amy, G. L.; Mariñas, B. J.; Minear, R. A. (2000). "Bromate Formation and Control for Low-Bromide Waters in a Flow-Through Ozone Contactor." 1<sup>st</sup> World Congress of the International Water Association, Paris, France
105. Kim, J. H.; Urban, M.A.; Echigo, S.; Minear, R. A.; Mariñas, B. J. (2000). "Integrated Control of *Cryptosporidium parvum* Oocysts and Bromate in Ozone Contactors." Health-Related Water Microbiology Symposium, 1<sup>st</sup> World Congress of the International Water Association, Paris, France.
106. Najm, I. N.; Gillogly, T. E. T.; Amy, G. L.; Douville, C. J.; Daw, B. C.; Minear, R. A.; Marinas, B. J.; Urban, M.A.; Echigo, S.; Kim, J. H.; Andrews, R. C.; Hofmann, R.; Croue, J. P. (2000). "Bromate Formation and Control During Ozonation of Low Bromide Waters." AWWA Annual Conference and Exposition, Denver, Colorado.
107. Roustan, M.; Kim, J. H.; Mariñas, B. J. (2000). "Hydrodynamics of Ozone Contactors." International Specialized Symposium IOA 2000, International Ozone Association, Toulouse, France.
108. Kim, J. H.; Urban, M.A.; Echigo, S.; Minear, R. A.; Mariñas, B. J. (2000). "Optimization of Bromate Formation and *Cryptosporidium* Control in Drinking Water." Inorganics 2000 Workshop, American Water Works Association, Albuquerque, New Mexico.
109. Kim, J. H.; Urban, M.A., Echigo, S., Minear, R. A., and Mariñas, B. J. (1999). "Integrated Optimization of Bromate Formation and *Cryptosporidium parvum* Oocyst Control in Batch and Flow-through Ozone Contactors." AWWA Water Quality Technology Conference, Tampa, Florida.
110. Yi, H. S.; Kim, J. H.; Hyung, H.; Lee, S. H.; Lee, C. H. (1999). "Cleaner Production Option in a Food (*Kimchi*) Industry." The Second Asia-Pacific Cleaner Production Roundtable and Trade Expo, Brisbane, Australia.
111. Yi, H. S.; Kim, J. H.; Hyung, H.; Lee, S. H.; Lee, C. H. (1998). "Clean Technology in Food Industry." The 4th International Symposium on a Guide to the 21st Clean Technology, Cheju, South Korea.
112. Yi, H. S.; Kim, J. H.; Hyung, H.; Lee, S. H.; Lee, C. H. (1998). "Wastewater Recycling in *Kimchi* industry." The 2nd International Conference of Advanced Wastewater Treatment, Recycling and Reuse-AWT98. Milano, Italy.
113. Wang, Y.; Kim, J. H.; Choo, C. H.; Lee, Y. S.; Lee, C. H. (1998). "Hydrophilic Modification of Polypropylene Microfiltration Membranes by Ozone-Induced Graft Polymerization." Korean Society of Industrial and Engineering Chemistry Annual Conference, Daejun, South Korea.
114. Kim, J. H.; Yi, H. S.; Lee, C. H. (1997). "Effect of Membrane Support Material of Ceramic MF Membrane on the Fouling and Back-Washing Efficiency." Membrane Society of Korea Annual Conference, South Korea.

115. Kim, J. H.; Yi, H. S.; Lee, C. H.; Kim, B. K.; Cho, J. S.; Jee, H. S.; Back, W. H. (1997). "Development of Zero-Discharge System Using Chemical Precipitation and Membrane Process in the Food Industry." Korean Society of Environmental Engineers Annual Conference, Seoul, South Korea.
116. Kim, J. H.; Yi, H. S.; Lee, C. H.; Kim, B. K.; Cho, J. S.; Jee, H. S.; Back, W. H. (1997). "Reuse Technique of Brining Wastewater in *Kimchi* Industry, The Korean Society of Industrial and Engineering Chemistry Annual Conference, Incheon, South Korea
117. Lee, S. H.; Kim, J. H.; Lee, C. H.; Lee, M. C.; Chung, K. J. (1995). "Flux Improvement in Nanofiltration through a Hybrid Process with Microfiltration." Euromembrane '95, University of Bath, Bath, U.K.

#### **Plenary/Keynote Speeches and Honorable Talks**

1. Keynote Speech, Luminescent Materials for Photon Upconversion Symposium, Materials Research Society (MRS) Spring Meeting, Phoenix, AZ, April 2017
2. Plenary Speech, Basic Research Needs for the Energy-Water Nexus Workshop, Department of Energy, Washington DC, January 2017
3. Keynote Speech, Innovative Materials & Technologies for Environmental Sustainability Session, American Chemical Society Annual Conference, Philadelphia, August 2016
4. Plenary Speech, 2015 International Environmental Engineering Conference, October 2015, Busan, Korea
5. Keynote Speech, Nano-Forum, Tsinghua University Graduate School of Shenzhen, Shenzhen, China, November 2015
6. Keynote Speech, 2015 The Guangzhou Environmental Chemistry Conference, Guangzhou, China, November 2015
7. Keynote Speech, 1<sup>st</sup> International Water Nexus Conference, October 2015, Daegu, Korea
8. Invited Speech, UV Research Frontiers Conference, International Ultraviolet Association, Leeuwarden, Netherlands, May 2015
9. Invited Speech, ULTRA (Universal Linkage for Top Research Advisor) Program, The Korean Federation of Science and Technology Societies, San Francisco, CA, August 2014
10. Keynote Speech, Materials for Water Sustainability Session, American Chemical Society Annual Conference, Philadelphia, PA, August 2012.
11. Invited Speech, Gordon Research Conference on Environmental Sciences: Water, Holderness, NH, June 2012
12. Keynote Speech, Environmental Implication and Application of Nanotechnology Session, American Chemical Society Annual Conference, Boston, MA, August 2010
13. Invited Speech, Gordon Research Conference on Environmental Nanotechnology, Waterville Valley, NH, June 2011.
14. Keynote Speech, Korean Scientists and Engineers Association, Southeastern Regional Conference, Atlanta, GA, April 2011

#### **Invited Seminars**

1. Penn State University, Department of Chemical Engineering, December 2017
2. Graduate School at Shenzhen, Tsinghua University, Shenzhen, China, June 2017
3. Peking University, Department of Chemical Engineering, Beijing, China, June 2017
4. Tsinghua University, School of Environment, Beijing, China, June 2017
5. Chinese Academy of Science, Institute of Process Engineering, Beijing, China, June 2017
6. Chinese Academy of Science, Institute of Chemistry, Beijing, China, June 2017
7. Zhejiang University, Department of Environmental Engineering, Hangzhou, China, May 2017
8. Sun Yat-sen University, Department of Chemical Engineering, Zhuhai, China, May 2017
9. Sun Yat-sen University, Department of Environmental Science and Engineering, Guangzhou, China, May 2017
10. University of Arizona, Department of Chemical and Environmental Engineering, April 2017
11. Arizona State University, School for Engineering of Matter, Transport and Energy, April 2017
12. Stony Brook University, Department of Civil Engineering, February 2017
13. University of Connecticut, Department of Chemical Engineering, January 2017
14. University of Texas at El Paso, Department of Chemistry, November 2016

15. University of California, Berkeley, Department of Civil and Environmental Engineering, November 2016
16. Ehwa Woman's University, Department of Environmental Science and Engineering, Seoul, Korea, July 2016
17. Gwangju Institute of Science and Technology (GIST), School of Environmental Science and Engineering, Gwangju, Korea, July 2016
18. Pohang University of Science and Technology (POSTECH), School of Environmental Science and Engineering, Pohang, Korea, July 2016
19. Korea Institute of Toxicology, Jinju, Korea, July 2016
20. Daegu Gyeongbuk Institute of Science & Technology (DGIST), Energy Research Division, Daegu, Korea, July 2016
21. Ulsan National Institute of Science and Technology (UNIST), School of Urban and Environmental Engineering, Ulsan, Korea, July 2016
22. Ulsan University, Department of Chemical Engineering, Ulsan, Korea, July 2016
23. Pusan National University, Department of Environmental Engineering, Pusan, Korea, July 2016
24. OCI Company, LTD., Seoul, Korea, July 2016
25. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, July 2016
26. National Taiwan University, Graduate Institute of Environmental Engineering, Taipei, Taiwan, June 2016
27. National Cheng Kung University, Department of Environmental Engineering, Tainan, Taiwan, June 2016
28. University of Delaware, Department of Civil and Environmental Engineering, April 2016
29. University of Michigan, Department of Civil and Environmental Engineering, March 2016
30. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, November 2015
31. Ehwa Woman's University, Department of Environmental Science and Engineering, Seoul, Korea, November 2015
32. Tianjin University, School of Environmental Science and Engineering, Co-hosted by Nankai University, College of Environmental Science and Engineering, Tianjin, China, June 2015
33. Tsinghua University, School of Environment, Beijing, China, June 2015
34. Hong Kong University of Science and Technology, Department of Civil and Environmental Engineering, Hong Kong, November 2014
35. The Chinese University of Hong Kong, Department of Chemistry, Hong Kong, November 2014
36. Korean Society of Environmental Engineers, Emerging Contaminant Expert Group Workshop, Kyunghee University, July 2014
37. Korea Institute of Industrial Technology, Chonan, Korea, July 2014
38. Samsung C&T, Research and Development Center, July 2014
39. Yonsei University, Department of Environmental Engineering, Wonju, Korea, July 2014
40. Shanghai Jiatong University, School of Environmental Science & Engineering, Shanghai, China, July 2014
41. Ehwa Woman's University, Department of Environmental Science and Engineering, Seoul, Korea, July 2014
42. Harbin Engineering University, School of Material Science and Chemical Engineering, Harbin, China, July 2014
43. Tsinghua University, School of Environment, Beijing, China, July 2014
44. Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China, July 2014
45. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, July 2014
46. Pusan National University, Department of Environmental Engineering, Pusan, Korea, June 2014
47. Yonsei University, School of Civil and Environmental Engineering, Seoul, Korea, June 2014
48. Kyoto University, Department of Environmental Engineering, Kyoto, Japan, June 2014
49. University of Tokyo, Department of Urban Engineering, Tokyo, Japan, June 2014
50. Tufts University, Co-hosted by Department of Civil and Environmental Engineering and Department of Chemical Engineering, Boston, MA, February 2014
51. University of Massachusetts, Department of Civil and Environmental Engineering, Amherst, MA, October 2013
52. Johns Hopkins University, Department of Geography and Environmental Engineering, October 2012
53. Carnegie Mellon University, Department of Civil and Environmental Engineering, Pittsburgh, October 2012
54. University of Pittsburg, Department of Chemical and Petroleum Engineering, October 2012



55. Michigan State University, Department of Civil and Environmental Engineering, September 2012
56. Harvard University, School of Engineering and Applied Science, April 2012
57. Korea Environmental Industry & Technology Institute, Seoul, Korea, May 2012
58. SK Chemical Corporation, Suwon, Korea, May 2012
59. Kookmin University, Department of Civil and Environmental Engineering, Seoul, Korea, May 2012
60. Dankook University, Department of Civil and Environmental Engineering, Suwon, Korea, May 2012
61. Washington University in St. Louis, Department of Energy, Environment and Chemical Engineering, St. Louis, MO, November 2011
62. University of South Carolina, Department of Civil and Environmental Engineering, October 2011
63. Rice University, Department of Civil and Environmental Engineering, September 2011
64. University of Seoul, Department of Environmental Engineering, Seoul, Korea, June 2011
65. University of New Mexico, Department of Civil and Environmental Engineering, Albuquerque, NM, April 2011
66. Yale University, Department of Chemical and Environmental Engineering, New Haven, CT, October 2010
67. University of Georgia, Department of Crop and Soil Sciences, Griffin, GA, October 2010
68. Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Zurich, Switzerland, May 2010
69. American Society of Civil Engineers, Georgia Section, Atlanta, GA, April 2010
70. Auburn University, Department of Civil Engineering, Auburn, AL, October 2009
71. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, June 2009
72. Ehwa Woman's University, Department of Environmental Science and Engineering, Seoul, Korea, June 2009
73. Seoul National University, Department of Chemical and Biological Engineering, Seoul, Korea, June 2009
74. Kolon Engineering & Construction, Yongin, Korea, September 2008
75. Nanotechnology and the Environment Conference, Assessment of Nanomaterials in the Environment (ANE) Center at Purdue University, Indianapolis, IN, August 2008
76. University of Illinois at Urbana-Champaign, Department of Civil and Environmental Engineering, Urbana, IL, February 2008
77. Doosan Hydro Technology, Inc, Tampa, FL, January 2008
78. Emory University, Department of Environmental Studies, Atlanta, GA, January 2008
79. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, July 2007
80. Korean Institute of Construction Technology, Seoul, Korea, July 2007
81. Myungji University, Department of Environmental Engineering and Biotechnology, Yongin, Korea, July 2007
82. Hanyang University, Department of Civil Engineering, Seoul, Korea, June 2007
83. Korea Institute of Science and Technology (KIST), Seoul, Korea, June 2007
84. Kunkuk University, Department of Environmental Engineering, Seoul, Korea, June 2007
85. Korea Advanced Institute of Science and Technology (KAIST), Department of Civil and Environmental Engineering, Daejeon, Korea, June 2007
86. Conoco-Phillips Research and Development Center, Bartlesville, OK, April 2007
87. Korea Water Corporation, Taejeon, Korea, August 2005
88. Korean Institute of Construction Technology, Seoul, Korea, August 2005
89. The Center of Advanced Materials for Purification of Water with Systems (WaterCAMPWS) Annual Symposium, Atlanta, GA, April 2005
90. Georgia Water & Pollution Control Association, Fall Conference and Exposition, Dalton, GA, November 2004
91. Special Workshop on Advanced Oxidation Process and DBPs Control in Water Treatment, Korean Society on Water Quality, Seoul, Korea, July 2004
92. Saehan Industry, Inc., Seoul, Korea, May 2004
93. Samsung Construction Engineering, Sunghnam, Korea, May 2004
94. Research and Development Center, Dong-Woo FineChem, Pyungtak, Korea, May 2004
95. Symposium for Future Technologies in Water and Wastewater Treatment, Water Recycle Technology Center, Gwangju Institute of Science and Technology, Gwangju, Korea, May 2004
96. Hoseo University, Department of Civil and Environmental Engineering, Chunan, Korea, May 2004
97. Seoul National University, Department of Public Health, Seoul, Korea, May 2004

98. Seoul National University, Department of Chemical and Biological Engineering, Seoul, Korea, May 2004

## EXTERNAL SUPPORT

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### *Externally Funded Research Projects*

1. Engineering Research Center for Nanotechnology Enabled Water Treatment Systems (NEWT), National Science Foundation, Total budget = \$18,500,000, Jaehong Kim budget = \$603,882 (PI: Pedro Alvarez, Rice University. Yale PI: Menachem Elimelech), as a collaborator, 2015-2020
2. Quantifying the Disinfection Efficiency of Household UV Systems, Daelim Industrial, \$140,000, 2015-2016
3. Emerging Carbon-Based Nanomaterials in the Environment, Korea Institute of Toxicology, 2015-2016, \$182,000
4. Developing in-situ and Self-Healing Techniques for Water Treatment Membranes, Korea Institute of Advancement of Technology, \$600,000 (\$450,000+\$0+\$150,000), 2014-2017
5. Triplet-triplet Annihilation Upconversion in Silica Nanocapsules for Visible-Light Photocatalysis, Korea Institute of Industrial Technology, \$37,500, 2014
6. Upconversion Enhanced Visible Light Sensitization of Semiconductor Photocatalysts for Environmental Application, National Science Foundation, \$330,000, 2014-2017
7. Quantitative Insights on Environmental Implication of Functionalizing Fullerenes, National Science Foundation, \$310,000, 2012-2015
8. Optimizing Upconversion Phosphor Materials for Antimicrobial Surface Coating, Hwaseung T&C, \$879,630, 2011-2014
9. Converting Visible Light to UVC: Lanthanide Upconversion Nano-Phosphors for Light-Activated Biocidal Surface Development, National Science Foundation, \$318,939, 2011-2013
10. Laboratory and Field Scale Evaluation of the Hoesung Central Water Purifier Phase II, GE Foundation, Co-PI: Kevin Caravati and Joseph Hughes, 2010, \$87,500 (as a donation)
11. Developing Novel Surface Immobilized Photocatalysts Using Functionalized C<sub>60</sub>, National Science Foundation, \$159,713, 2010-2012
12. Coagulation-Ceramic Membrane Filtration Processes for U.S. Surface Water Treatment: the Effect of Coagulation and Membrane Fouling, Water Research Foundation, 2010-2012, \$20,000 from Water Research Foundation and \$60,000 from Cash Contribution (Donation) and \$10,000 in-kind contribution from GS Engineering & Construction Corporation
13. Developing Surface Disinfection Techniques For Human Norovirus Indicators, Co-PI: Min Cho, Centers for Disease Control and Prevention (CDC), 2010, \$9,990
14. Boron Rejection Simulation In Full-Scale Seawater Reverse Osmosis Systems, GS Construction & Engineering, Subcontracted under Korea Institute of Construction Technology (KICT), 2009-2010, \$76,500
15. Laboratory and Field Scale Evaluation of the Hoesung Central Water Purifier, GE Foundation, Co-PI: Kevin Caravati and Joseph Hughes, 2009, \$80,000 (as a donation).
16. Evaluation of Computational Fluid Dynamics Modeling Approaches Applied to Ozone Contactor Design, USEPA, PI: Thorsten Stoesser, Co-PI: Jaehong Kim, 2009-2010, \$14,043
17. Developing a Novel Membrane Pore Size Analysis Technique Using Quantum Dots, Korea Institute of Industry Technology, 2008-2009, \$40,000
18. Development of Automation Control System for Sequential Disinfection Processes, Korean Ministry of Environment, Subcontract Under Korea Institute of Construction Technology (KICT), 2008-2011, \$250,000
19. Removal of Emerging Contaminants by Reverse Osmosis Membranes, Korean Ministry of Construction and Transportation, Subcontracted Under Korea University, 2007-2012, \$199,894
20. Visualization and Quantification of UV Dose and Mixing in UV Reactors by 3D Laser-Induced Fluorescence, American Water Works Association Research Foundation (Unsolicited Program), Co-PI: Philip Roberts, Thorsten Stoesser, Harold Wright, and Kyunghyuk Lee, 2007-2009, \$257,251 (\$149,863+\$107,388 (\$40,000 cash contribution)+\$0)
21. Design, Construction, and Feasibility Testing of a Computer-Automated Remote-Controlled Pilot-Scale Drinking Water Treatment System & Practical Application of a Distribution System Model, Gwinnett County, GA, Subcontractor: Dr. James Amburgey, University of South Carolina at Charlotte, 2007-2008, \$120,780
22. Investigating Mixing in Baffled Ozone Contactors Using 3-D Laser Induced Fluorescence and Reactive Transport Model, USEPA, Co-PI: Philip Roberts, 2006-2007, \$14,677

23. Optimization of Ozone Contactor Design and Operation Parameters through Laser Induced Fluorescence, Hankuk Engineering, Co., LTD., Co-PI: Philip Roberts, 2006-2007, \$35,000
24. Fate and Transformation of C<sub>60</sub> Nanoparticles in Water Treatment Processes, USEPA Science to Achieve Results (STAR) Grant, Co-PI: Joseph Hughes, 2005-2008, \$426,013 (\$375,000+\$0+\$51,013)
25. A Computer-Based Design of New Ozone Contactor Treating Paldang Dam Reservoir Water, Shinwoo Engineering, 2005, \$10,759
26. Heavy Metal And Ionic Species Removal From Phosphoric Acid Solutions: Phase I – Emulsion Liquid Membrane, Tata Chemicals, Ltd., 2005-2006, \$45,278
27. Boron Rejection by Reverse Osmosis Membranes: National Reconnaissance and Mechanism Study – Phase I., Bureau of Reclamation, US Department of Interior, 2004-2006, \$125,885 (\$87,885+\$39,000+\$0)
28. Removal of Emerging Trace Organic Contaminants in Surface Water by Ultrafiltration and Nanofiltration, Saehan Industries, Inc., Co-PI: Ching-Hua Huang, 2004-2005, \$45,000
29. Water Quality and Treatment Process Study I. Understanding the fate of organic matter at the DLT Water Treatment Plant of Tampa City, City of Tampa, FL. Subcontract under Gannett Fleming, as Co-PI, PI: Michael Perdue, 2004-2006, \$89,081
30. Water Quality and Treatment Process Study II. Evaluation and Assessment of Biological GAC filters at the DLT Water Treatment Plant of Tampa City, City of Tampa, FL. Subcontract under Black & Veatch, 2004-2006, \$99,436 (\$89,055+\$0+\$10,381)
31. Lanier Filter Plant Treatment Process and Distribution System Study, Gwinnett County Public Utilities, Gwinnett County, GA, Co-PI: James Amburgey, 2004-2005, \$68,004
32. M/DBP Model for the Optimization of Full-Scale Process Design and Operation: Enhancing the Ozone Contactor Simulation Software, USEPA, subcontract under University of Illinois at Urbana-Champaign, 2004, \$16,325

### **Educational Projects**

1. Georgia Tech Environmental Engineering Research Internship Program, Laurus & Education, Co. Ltd., 2007-2009, \$67,193
2. Technology Fee Funds for Upgrade of CEE 3340 Undergraduate Environmental Engineering Laboratory Course, Georgia Institute of Technology, 2007, \$29,656

<Note> \$Total Budget (\$A+\$B+\$C), where \$A = Major Sponsor Award, \$B = Collaborating Organization Cash and In-Kind Contribution, \$C = Georgia Tech In-kind Contribution

### **Endowments** (*Philanthropic Funds raised by Kim to support his Research and Educational Activities*)

1. OCI Enterprise, 2015 (\$50,000 over five years)
2. BKT, 2015 (\$50,000 over five years)
3. Lintec of America, Inc., 2013 (\$15,000)
4. Laurus & Education, Co., Ltd, 2010-2012 (\$108,000 over three years)
5. Hwaseung Group, 2010-2012 (\$500,000 over three years)
6. Kolon Engineering & Construction, Co., Ltd., 2008-2009 (\$200,000 over two years)
7. Laurus & Education, Co., Ltd., 2006 (\$10,000)
8. Saehan Industries, Inc., 2005, 2006 (Total \$45,000)

## **SERVICE**

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### **Professional Contributions**

#### Editorial

Editorial Advisory Board, *Environmental Science & Technology Letters*, Mar. 2015 - Present  
 Associate Editor, *ASCE Journal of Environmental Engineering*, Mar. 2012 – Feb. 2015  
 Associate Editor, *Water Research*, Aug. 2008 – Jul. 2012

### Professional Organization

American Water Works Association (AWWA)  
American Society of Civil Engineers (ASCE)  
American Chemical Society (ACS)  
Association of Environmental Engineering and Science Professors (AEESP)

### Journal Article Review

Environmental Science & Technology / Environmental Science & Technology Letters / Water Research / ASCE  
Journal of Environmental Engineering / Ozone: Science and Engineering / Journal of Membrane Science / Journal  
of Environmental Engineering Science / Journal of the Physical Chemistry / Journal of Nanoparticle Research /  
Journal of Environmental Quality / Environmental Pollution / Journal of the American Chemical Society / Chemical  
Engineering Communication / Environmental Toxicology and Chemistry / Journal American Water Works  
Association / Korean Journal of Civil Engineering / Microscopy and Microanalysis / Nature Nanotechnology /  
Journal of Hazardous Materials / Langmuir / Small / Chemosphere / Nature Nanotechnology / Nature Chemistry /  
Chemical Communication

### Book Chapter Review

Best Membrane Papers, American Water Works Association  
MWH's Water Treatment Principles and Design, 3rd Edition, Kerry Howe et al.

### Proposal Review

ACS Petroleum Research Fund (2011)  
Natural Environment Research Council (2007)  
Cooperative Institute for Coastal and Estuarine Environmental Technology (2006)  
National Science Foundation (2004, 2006)

### Proposal Review Panel

National Science Foundation CBS Division (2014)  
National Science Foundation CES Division (2013)  
National Science Foundation CBET Division (2010, 2013)  
National Science Foundation BES Division (2006)

### Symposium and Conference Session Organization

Symposium Co-organizer, Advanced Materials and Technologies for Desalination and Wastewater Reuse, ACS  
National Meeting and Exposition, to be held in Boston, August 2015  
Conference Chair, 2015 Association of Environmental Engineering and Science Professors (AEESP) Research  
and Education Conference, to be held at Yale University, June 2015  
Symposium Co-organizer, Advances in Materials for Water and Energy, ACS National Meeting and Exposition,  
March 2014

### Professional Consulting

Jan.2011 – Dec.2013    Hwaseung R&A  
Jul.2010 – Jul.2012    Chosun University  
May.2008 – Aug.2008    H2L, Co. Ltd.  
Sep.2006 – Feb.2007    Malcolm-Pirnie

### **University Service Activities**

#### Thesis Committee

Rabib Chaudhury (Ph.D. in progress)  
Chanhee Boo (Ph.D. in progress)  
Xiaodong Zhu (Ph.D. 2017)  
Minwei Yao (M.S. 2016)  
Chang-Min Kim (Ph.D. in progress)

#### Advisor

Tarek Fahmy  
Menachem Elimelech  
Eric Altman  
Hokyong Sohn  
Insu Kim

#### School

Yale University  
Yale University  
Yale University  
University of Technology, Sidney  
Gwangju Institute of Science & Technology

Devin Schaffer (Ph.D. 2016)	Menachem Elimelech	Yale University
Jiewein Wu (Ph.D. 2016)	John Fortner	Washington University in St. Louis
Ngai Yin Yip (Ph.D. 2014)	Menachem Elimelech	Yale University
Hyunju Jeong (Ph.D.2013)	John Crittenden	Georgia Institute of Technology
Zakiya Seymoor (Ph.D. 2013)	Joseph Hughes	Georgia Institute of Technology
Malek Hajaya (Ph.D. 2011)	Spyros Pavlostathis	Georgia Institute of Technology
Eunhye Chung (Ph.D. 2011)	Sotira Yiacoumi	Georgia Institute of Technology
Daisuke Minakata (Ph.D. 2010)	John Crittenden	Georgia Institute of Technology
Sara Gibson (M.S. 2010)	Ching-Hua Huang	Georgia Institute of Technology
Lokesh Padhye (Ph.D. 2010)	Ching-Hua Huang	Georgia Institute of Technology
Yonggang Wang (Ph.D. 2009)	Kurt Pennell	Georgia Institute of Technology
Wan-Ru Chen (Ph.D. 2008)	Ching-Hua Huang	Georgia Institute of Technology
John Fortner (Ph.D. 2006)	Joseph Hughes	Rice University
Piti Piyachaturawat (M.S. 2005)	Ching-Hua Huang	Georgia Institute of Technology
Jeremy Noonan (M.S. 2005)	Sotira Yiacoumi	Georgia Institute of Technology
Jason Check (M.S. 2005)	Michael Saunders	Georgia Institute of Technology
Michael Dodd (M.S. 2003)	Ching-Hua Huang	Georgia Institute of Technology

### University Committee

- Member, Standing Advisory and Appointments Committee for the School of Forestry & Environmental Studies, Yale, 2016 - present
- Member, Yale College Dean's Research Fellowship Review Committee, Yale, 2014 – 2015
- Member, College of Engineering ABET Committee, Georgia Tech, 2012 – 2013
- Member, International Program Committee, Georgia Tech, 2012 – 2013
- Member, College of Engineering Retention, Promotion and Tenure Committee, Georgia Tech, 2009 – 2012
- Member, Korea Strategy Committee, Georgia Tech, 2008 – 2011
- Member, Georgia Tech-Singapore Initiative Committee, Georgia Tech, 2006 – 2007

### School/Department Committee

- Member, SEAS Synergy Faculty Search Committee, Yale, 2015
- Member, Energy Science Institute/Engineering and Applied Science Junior Faculty Search Committee, Yale, 2015
- Member, Environmental Engineering Graduate Program Application Review Committee, Yale, 2015
- Member, Chemical Engineering Junior Faculty Search Committee, Yale, 2015
- Freshman Advisor, Timothy-Dwight College, Yale, 2014-2015
- Member, CEE Undergraduate Curriculum Committee, Georgia Tech, 2012 – present
- Member, CEE Strategic Planning Committee, Georgia Tech, 2012 – present
- Member, CEE Chair Search Committee, Georgia Tech, 2012
- Member, Environmental Engineering Program Admissions Committee, Georgia Tech, 2008 – 2012
- Chair, Environmental Engineering Program Environment Committee, Georgia Tech, 2008 – 2012
- Chair, Ph.D. Qualifying Exam Committee, Georgia Tech, 2008 – 2009
- Member, Environmental Engineering Program Facility Committee, Georgia Tech, 2006 – 2007
- Chair, Environmental Engineering Committee for Georgia-Tech Singapore Initiative, Georgia Tech, 2006 – 2007
- Member, Environmental Engineering Graduate Lab Course Development Ad-hoc Committee, Georgia Tech, 2003
- Member, Environmental Engineering Seminar Development Ad-hoc Committee, Georgia Tech, 2002

### Student Organization

- Faculty advisor, New Haven High School Summer Science Research Institute (SSRI), Yale, 2014-present
- Faculty advisor, Table Tennis Association, Georgia Tech, 2006 – 2013
- Faculty advisor, Student for Christ, Georgia Tech, 2003 – 2013
- Faculty advisor, Association of Environmental Engineering Students, Georgia Tech, 2010-2012

## **TEACHING**

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### **Student Guidance**

### Past Postdoctoral Researchers

1. Hyoung-Il Kim	Sep.2014 – Feb.2017	Assistant Professor, Yonsei University, Korea
2. Yi Yang	Sep.2016 – Aug. 2017	Researcher, Connecticut Agricultural Experiment Station
3. Hong-Shin Lee	Jun.2015 – Apr.2017	Research Associate, UNIST
4. Chuanhao Li	Sep.2013 – Aug. 2016	Professor, Sun Yat-Sen University, China
5. Ohseok Kwon	Aug.2013 – Apr.2015	Korea Research Institute of Bioscience & Biotechnology
6. Fan Dang	Aug.2014 – Mar.2015	Researcher, Perkin Elmers, CT
7. Seonjoo Park	Aug.2014 – Feb.2015	Research Assistant Professor, KAIST, Korea
8. Jae-Hyuk Kim	Oct.2010 – Feb.2014	Assistant Professor, Busan National University, Korea
9. Min Cho	Aug.2007 – Aug.2010	Associate Professor, Chunbook National University, Korea
10. Pyungkyu Park	Sep.2008 – Sep.2010	Assistant Professor, Yonsei University, Korea
11. Bo Zhang <sup>b</sup>	Jul.2007 – Mar.2009	Associate Professor, Shanghai-Jiatong University, China
12. John Fortner <sup>b</sup>	Jan.2007 – Jan.2008	Associate Professor, Washington University in St. Louis
13. Jaesang Lee <sup>b</sup>	Mar.2006 – Apr.2008	Assistant Professor, Korea University

#### Past Ph.D. Students

1. Kyle Moor	Aug.2011 – Jun.2016	Postdoctoral Researcher, ETH Zurich
2. Stephanie Cates	Aug.2010 – May. 2015	Materials Specialist, Milliken & Company, SC
3. Samuel Snow	Aug.2009 – Aug.2014	Assistant Professor, Louisiana State University, LA
4. Seungjin Lee*	Aug.2009 – Jul.2013	Assistant Professor, Georgia Gwinnett College, GA
5. Ezra Cates*	Aug.2008 – May.2013	Assistant Professor, Clemson University, SC
6. Varun Gandhi	Aug.2007 – Dec.2012	Carollo Engineers, Boise, ID
7. Dongjin Kim <sup>c</sup>	Aug.2007 – May.2011	Assistant Professor, Georgia State University, GA
8. Amisha Shah <sup>a</sup>	Oct.2002 – Jul.2008	Assistant Professor, Purdue University, IN
9. Hoon Hyung	Aug.2004 – Jun.2008	Vice President, LG-Nano H <sub>2</sub> O Inc., Irvine, CA
10. Dooil Kim	Oct.2002 – May.2007	Associate Professor, Dankook University, Korea
11. Yonggyun Park	Oct.2002 – May.2005	Senior Engineer, GS Engineering & Construction, Korea

<sup>a</sup> co-advised with Ching-Hua Huang

<sup>b</sup> co-advised with Joseph Hughes

<sup>c</sup> co-advised with Thorsten Stoesser

\* also did postdoctoral training

#### Past M.S. Students

1. Tyler Cromey	Aug.2012 – May.2014	Southern Company, Birmingham, AL
2. Mehmet Dilaver	Aug.2008 – May.2011	Environment and Clearner Production Institute, Turkey
3. Pranay Mane	Aug.2005 – May.2007	ARCADIS, Atlanta, GA
4. Yu Miyashita	Aug.2005 – May.2007	Ch2MHill, Atlanta, GA
5. Edward McCallum	Aug.2003 – May. 2005	Hazen and Sawyer, Atlanta, GA
6. Richard Elliott	Aug.2003 – Jul.2005	Montgomery Watson Harza, Atlanta, GA
7. Saurabh Marda	Aug.2003 – May.2005	Marakon, New York, NY

#### Current Postdoctoral Researchers and Students

1. David Warsinger	Jul.2017 – present	Postdoctoral Researcher (co-advised w/ Elimelech)
2. Yi Shen	Jul.2017 – present	Postdoctoral Researcher
3. Chiheng Chu	Jan.2017 – present	Postdoctoral Researcher
4. Sang-Ryoung Kim	Oct.2014 – present	Postdoctoral Researcher
5. Anna Hagstrom	Aug.2013 – present	Ph.D. Student
6. Beza Getachew	Aug.2013 – present	Ph.D. Student
7. Stephanie Loeb	Aug.2014 – present	Ph.D. Student
8. Eric Ryberg	Aug.2015 – present	Ph.D. Student
9. Minjeong Suh	Aug.2016 – present	Ph.D. Student
10. Xuechen Zhou	Aug.2016 – present	Ph.D. Student (co-advised w/ Elimelech)
11. Qianhong Zhu	Aug.2016 – present	Ph.D. Student (co-advised w/ Hu)
12. Brenna Hodges	Jan.2017 – present	Ph.D. Student
13. Chenxi Jiang	Aug.2017 – present	M.S. Student

#### Visiting Scholars and Non-Degree Graduate Advisees

1. Wenji Guo	Sep.2017 – Aug.2018	Tsinghua University, China
2. Dahong Huang	Nov.2016 – Apr.2018	Beijing Normal University, China
3. Yangying Zhao	Nov.2016 – Oct.2017	Tsinghua University, China
4. Jian Chen	Aug.2015 – Oct.2016	China University of Geosciences, China
5. Inseong Chang	Mar.2015 – Feb. 2016	Hoseo University, Korea
6. Behnaz Zaribaf	Jan.2013 – June.2013	Georgia Institute of Technology
7. Jong-Soo Kim	Dec.2011 – Nov.2012	Sun Moon University, Korea
8. Rui Chen	May.2011 – May.2012	Beijing Jiatong University, China
9. Youngkook Choi	Jul.2008 – Jul.2010	DongWoo Finechem, Korea
10. Seong Keun Yim	May.2008 – May.2010	Kolon Engineering & Construction, Inc., Korea
11. Fangbo Zhao	Oct.2008 – Mar.2010	Harbin Engineering University
12. Jinku Cho	Nov.2008 – Dec.2008	Korea Institute of Industrial Technology, Korea
13. Seong-Hong Kim	Jan.2007 – Jan.2008	Chosun University, Korea
14. Jooyeon Lee	Jan.2006 – Dec.2006.	University of Seoul, Korea
15. Yeon-Koo Jeong	Aug.2005 – Aug.2006	Kumoh National Institute of Technology, Korea
16. Sandeep Pathak	Oct.2005 – Dec.2005	Tata Chemicals, Ltd., India
17. K.C. Pathak	Jul.2005 – Oct.2005	Tata Chemicals., Ltd, India
18. Yong-Mo Cho	Jul.2004 – Dec.2004	Seoul Development Institute, Korea

### Undergraduate Students

1. Steven Lawrence	Sep.2017 – present	Yale University
2. Johanan Knight	Sep.2016 – present	Yale University
3. Daniel Raynor	Aug.2016 – Jul.2017	Yale University
4. Mitchell Weldon	Aug.2016 – Jul.2017	Yale University
5. Jonathan Simons	Aug.2016 – Jul.2017	Yale University
6. Adam Sokol	Aug.2016 – Jun.2017	Yale University
7. Madeline Landon	Aug.2015 – May.2016	Yale University
8. Kamya Jagadish	Aug.2015 – May.2016	Yale University
9. Sarah Spaulding	Feb.2015 – Aug.2015	Yale University
10. Jessica Alzamora	Feb.2015 – Aug.2015	Yale University
11. James Doss-Gollin	Aug.2014 – May. 2015	Yale University
12. Dhyan Valle	Jan.2014 – May. 2015	Yale University
13. Brady Currey	Jan.2014 – Apr.2014	Yale University
14. Helena Gail	Jan.2014 – Apr.2014	Yale University
15. Tyler Cromey	Aug.2010 – May.2012	Georgia Tech (PURA Awardee)
16. Kyoung Eun Park	Aug.2009 – May.2010	Georgia Tech (PURA Awardee)
17. Elizabeth West	Aug.2008 – May.2009	Georgia Tech (PURA Awardee)
18. Varun Ghandi	Aug.2006 – May.2007	Georgia Tech (PURA Awardee)
19. Annie Park	Aug.2004 – May.2005	Georgia Tech (PURA Awardee)
20. Joseph Ross	Aug.2004 – Dec. 2004	Georgia Tech

### **Courses Taught**

#### Courses

1. ENVE 410L Undergraduate Environmental Technology in the Developing World, Yale (Spring 15,16)
2. ENVE/CENG 377 Undergraduate Water Quality Control, Yale University (Fall 13, 15, 16, 17)
3. CEE 3340 Undergraduate Environmental Engineering Laboratory, Georgia Tech (Fall 06, 08)
4. CEE 4310 Undergraduate Water Quality Engineering, Georgia Tech (Spring 06-11)
5. CEE 4803 Undergraduate Environmental Technology in the Developing World, Georgia Tech (Spring 12-13)
6. CEE 6319 Graduate Environmental Science and Engineering Laboratory, Georgia Tech (Spring 05)
7. CEE 6330 Graduate Physicochemical Processes, Georgia Tech (Spring 03-13)
8. CEE 6360 Graduate Design of Treatment Facilities for Drinking Water, Georgia Tech (Fall 03)
9. ACE 846 Graduate Advanced Water Treatment Process Modeling, Korea University (Summer 2007)

#### Seminar Courses

1. CEE 8094 Environmental Engineering Seminar (Fall 05)
2. CEE 8095C Research Seminar in Environmental Engineering (Spring 05-12)
3. CEE 8800C Advanced Topics in Water Science and Engineering (Spring 03)
4. CEE 8811C Advanced Topics in Water Science and Engineering (Fall 03, Spring 04)

## COURSE EVALUATION

### *Courses Taught at Yale University*

Semester	Course Number	Course Title	Percent (%) Responded	Median Score*
Spring 2017	ENVE 410	Environmental Technology in the Developing World	100	4.8
Fall 2016	ENVE/CENG 377	Water Quality Control	100	4.6
Spring 2016	ENVE 410L	Environmental Technology in the Developing World	100	5.0
Fall 2015	ENVE/CENG 377	Water Quality Control	82	4.0
Spring 2015	ENVE 410L	Environmental Technology in the Developing World	83	5.0
Fall 2013	ENVE/CENG 377	Water Quality Control	91	4.5
			Average	<b>4.7</b>

\* Median score, out of 5.0, for the question, "What is your overall assessment of this course?"

### *Courses Taught at Georgia Institute of Technology*

#### Undergraduate Courses

Semester	Course Number	Course Title	Percent (%) Responded	Median Score*
Spring 2013	CEE 4803C	Environmental Technology in the Developing World	100	5.0
Spring 2012	CEE 4803C	Environmental Technology in the Developing World	90	4.9
Spring 2011	CEE 4310A	Water Quality Engineering	93	4.5
Spring 2009	CEE 4310A	Water Quality Engineering	100	4.4
Spring 2008	CEE 4310A	Water Quality Engineering	100	4.5
Spring 2007	CEE 4310A	Water Quality Engineering	93	4.7
Fall 2006	CEE 3340	Environmental Engineering Laboratory	89	4.8
Spring 2006	CEE 4310A	Water Quality Engineering	100	4.7
			Average	<b>4.7</b>

#### Graduate Courses

Semester	Course Number	Course Title	Percent (%) Responded	Median Score*
Spring 2013	CEE 6330A	Physicochemical Processes	95	4.8
Spring 2012	CEE6330A	Physicochemical Processes	93	4.3
Spring 2011	CEE 6330A	Physicochemical Processes	93	4.4
Spring 2010	CEE 6330A	Physicochemical Processes	92	4.2
Spring 2009	CEE 6330A	Physicochemical Processes	94	4.3
Spring 2008	CEE 6330A	Physicochemical Processes	100	4.9
Spring 2007	CEE 6330A	Physicochemical Processes	100	4.7
Spring 2006	CEE 6330A	Physicochemical Processes	93	4.9
Spring 2005	CEE 6319	Environmental Science and Engineering Laboratory	83	4.1
Spring 2005	CEE 6330A	Physicochemical Processes	100	4.1
Spring 2004	CEE 6330A	Physicochemical Processes	100	4.2
Fall 2003	CEE 6360	Design of Treatment Facilities	100	4.8
Spring 2003	CEE 6330A	Physicochemical Processes	71	4.3
			Average	<b>4.5</b>

Median score, out of 5.0, for the question, "Instructor is an effective teacher"

LAST UPDATED: 11/8/17