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PROFESSOR

DEPARTMENT OF CHEMICAL AND ENVIRONMENTAL ENGINEERING
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EDUCATION

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

Jul.2015 – present	Professor, Department of Chemical and Environmental Engineering, Yale 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
Apr. 2013 – Jun.2013	Professor, School of CEE, Georgia Tech
Jul.2012 – Jun.2013	Associate Chair for Undergraduate Programs, School of CEE, Georgia Tech
Mar.2012 – Jun.2013	Georgia Power Distinguished Professor, School of CEE, Georgia Tech
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
May.2010 – Jun.2010	Visiting Scientist, Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Dübendorf, Switzerland
Oct.2002 – Aug. 2009	Assistant Professor, School of CEE, Georgia Tech
Jun.2007 – Jul.2007	Visiting Professor, Department of Architectural, Civil and Environmental Engineering, Korea University, Seoul, Korea
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

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

2015	AEESP Distinguished Service Award, Association of Environmental Engineering and Science Professors
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	<i>Environmental Science & Technology</i> 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 Excellence in Review Award, *Environmental Science & Technology*
 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

2014 Stephanie Loeb, Canadian National Sciences and Engineering Research Council 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 Crome, 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 Crome, 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

Honors and Recognition

2008 Hyung et al., 2007 selected by Thomson Reuters' Essential Science Indicators as a Fast Breaking Paper (one of the most-cited papers in its discipline published during the past two years) in the field of Environment/Ecology in October 2008 (www.sciencewatch.com)
 2007 Hyung et al., 2007 rated as 4th Most Accessed Paper in 2007 (whole year) in ACS *Environmental Science & Technology*

PUBLICATIONS AND SCHOLARLY WORKS

Peer-Reviewed Journal Articles

Published

1. Moor, K.J.; Snow, S.; Kim, J.H. "The Differential Photoactivity of Aqueous [C₆₀] and [C₇₀] Fullerene Aggregates." ***Environmental Science & Technology***, 49, 5990-5998
2. Moor, K.J.; Valle, D.; Li, C.; Kim, J.H. "Improving the Visible Light Photoactivity of Supported Fullerene Photocatalysts through the Use of [C₇₀] Fullerene." ***Environmental Science & Technology***, 49, 6190-6197
3. Kim, J.; Kim, J.H. "Triplet Emulsion Microcapsules for Highly Efficient Multispectral Upconversion in the Aqueous Phase." ***ACS Photonics***, 2, 633-638
4. Snow, S.; Kim, K.C.; Moor, K.J.; Jang, S.S.; Kim, J.H. "Functionalized Fullerenes in Water: A Closer Look." ***Environmental Science & Technology***, 49, 2147-2155
5. Choi, J.I.; Snow, S.; Kim, J.H.; Jang, S.S. "Interaction of C₆₀ with Water: First-Principles Modeling." ***Environmental Science & Technology***, 49 (3), 1529-1536
6. Gandhi, V.; Bryant, D.B.; Socolofsky, S.A.; Stoesser, T.; Kim, J.H. "Concentration Based Decomposition of the Flow around a Confined Cylinder in a UV Disinfection Reactor." ***ASCE Journal of Engineering Mechanics*** (in press)
7. Li, C.; Koenigsmann, C.; Ding, W.; Rudsteyn, B.; Yang, K.R.; Regan, K.P.; Konezny, S.J.; Batista, V.S.; Brudvig, G.W.; Schmuttenmaer, C.A.; Kim, J.H. "Facet-Dependent Photoelectrochemical Performance of TiO₂ Nanostructures: An Experimental and Computational Study." ***Journal of the American Chemical Society***, 137, 1520-1529
8. Kwon, O.S.; Kim, J.; Cho, J.K.; Kim, J.H. "Triplet-Triplet Annihilation Upconversion in CdS-Decorated SiO₂ Nanocapsules for Sub-Bandgap Photocatalysis." ***ACS Applied Materials & Interfaces***, 7, 318-325
9. Cates, E.L.; Wilkinson, A.P.; Kim, J.H. (2015). "Visible-to-UVC Upconversion Efficiency and Mechanisms of Lu₅O₄F₇:Pr³⁺ and Y₂SiO₅:Pr³⁺ Ceramics." ***Journal of Luminescence***, 160, 202-209
10. Crome, 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
11. 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
12. 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
13. Lee, H.; 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
14. 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*)
15. Ge, L.; Moor, K.; Zhang, B.; He, Y.; Kim, J.H. (2014). "Electron Transfer Mediation by Aqueous C₆₀ Aggregates in H₂O₂/UV Advanced Oxidation of Indigo Carmine." ***Nanoscale***, 6, 13579-13585
16. Park, G.W.; Cho, M.; Cates, E.L.; Lee, D.; Oh, B.T.; Vinjé, J.; Kim, J.H. (2014). "Fluorinated TiO₂ as Ambient Light-Activated Virucidal Surface-Coating Material for the Control of Human Norovirus." ***Journal of Photochemistry and Photobiology B: Biology***, 140, 315-320
17. 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
18. Moor, K.; Kim, J.H. (2014). "A Simple Method Towards Solid Supported C₆₀ Visible Light-Activated Photocatalysts." ***Environmental Science & Technology***, 48, 2785-2791
19. 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
20. 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

21. Lee, S.; Kim, J.H. (2014). "Differential Natural Organic Matter Fouling of Ceramic versus Polymeric Ultrafiltration Membranes." **Water Research**, 48, 43-51
22. Moor, K.; Kim, J.; Snow, S.; Kim, J.H. (2013). "[C₇₀] Fullerene-Sensitized Triplet-Triplet Annihilation Upconversion." **Chemical Communications**, 49, 10829-10831
23. Cates, E.L.; Kim, J.H. (2013). "Upconversion under Polychromatic Excitation: Y₂SiO₅:Pr³⁺,Li⁺ Converts Violet, Cyan, Green, and Yellow Light into UVC." **Optical Materials**, 35, 2347-2351
24. 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
25. 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
26. 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
27. 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
28. 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
29. 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
30. 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
31. 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
32. Cates, E.L.; Wilkinson, A.P.; Kim, J.H. (2012). "Delineating Mechanisms of Upconversion Enhancement by Li⁺ Codoping in Y₂SiO₅:Pr³⁺." **The Journal of Physical Chemistry C**, 116, 12772-12778
33. Kim, J.; Deng, F.; Castellano, F.N.; Kim, J.H. (2012). "High Efficiency Low-Power Upconverting Soft Materials." **Chemistry of Materials**, 24, 2250-2252
34. 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
35. 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
36. 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
37. 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 C₆₀ Aminofullerene Derivatized Silica under Visible Light Irradiation." **Environmental Science & Technology**, 45, 10598-10604
38. Cho, M.; Snow, S.; Hughes, J.B.; Kim, J.H. (2011). "*Escherichia coli* Inactivation by UVC-Irradiated C60: Kinetics and Mechanisms." **Environmental Science & Technology**, 45, 9627-9633
39. 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
40. 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
41. 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
42. Cates, E.L.; Cho, M.; Kim, J.H. (2011) "Converting Visible Light into UVC: Microbial Inactivation by Pr³⁺-Activated Upconversion Materials." **Environmental Science & Technology**, 45, 3680-3686 (2011 Top Environmental Technology Paper Award from *Environmental Science & Technology*).
43. Cho, M.; Cates, E.L.; Kim, J.H. (2011). "Inactivation and Surface Interactions of MS-2 Bacteriophage in a TiO₂ Photoelectrocatalytic Reactor." **Water Research**, 45, 2104-2110

44. 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/H₂O₂ Followed by Free Chlorine." **Water Research**, 45, 1063-1070
45. Lee, J.; Mackeyev, Y.; Cho, M.; Wilson, L.J.; Kim, J.H.; Alvarez, P.J.J. (2010). "C₆₀ Aminofullerene Immobilized on Silica as a Visible-Light-Activated Photocatalyst." **Environmental Science & Technology**, 44, 9488-9495
46. 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
47. 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 C₆₀ Derivative." **Environmental Science & Technology**, 44, 6685-6691
48. 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 C₆₀ Cluster to OH Radical Oxidation and Hydrated Electron Reduction" **Environmental Science & Technology**, 44, 3786-3792
49. 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
50. 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
51. 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
52. 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
53. Zhang, B.; Cho, M.; Hughes, J.B.; Kim, J.H. (2009). "Translocation of C₆₀ from Aqueous Stable Colloidal Aggregates into Surfactant Micelles." **Environmental Science & Technology**, 43, 9124-9129
54. Cho, M.; Fortner, J.D.; Hughes, J.B.; Kim, J.H. (2009). "*Escherichia coli* Inactivation by Water Soluble, Ozonated C₆₀ Derivative: Kinetics and Mechanisms." **Environmental Science & Technology**, 43, 7410-7415
55. Mane, P.; Park, P.K.; Hyung, H.; Brown, J.C.; Kim, J.H. (2009). "Modeling Boron Rejection in Pilot- and Full-Scale Reverse Osmosis Desalination Processes." **Journal of Membrane Science**, 338, 119-127
56. Lee, J.; Mackeyev, Y.; Cho, M.; Li, D.; Kim, J.H.; Wilson, L.J.; Alvarez, P.J.J. (2009). "Photochemical and Antimicrobial Properties of Novel C₆₀ Derivatives in Aqueous Systems." **Environmental Science & Technology**, 43, 6604-6610
57. Hyung, H.; Kim, J.H. (2009). "Dispersion of C₆₀ in Natural Water and Removal by Conventional Drinking Water Treatment Processes." **Water Research**, 43, 2463-2470
58. Lee, J.; Cho, M.; Fortner, J.D.; Hughes, J.B.; Kim, J.H. (2009). "Transformation of Aggregated C₆₀ in the Aqueous Phase by UV Irradiation." **Environmental Science & Technology**, 43, 4878-4883
59. Miyashita, Y.; Park, S.H.; Hyung, H.; Huang, C.H.; and Kim, J.H. (2009). "Removal of *N*-Nitrosamines and Their Precursors by Nanofiltration and Reverse Osmosis Membranes." **ASCE Journal of Environmental Engineering**, 135, 788-795
60. Zhang, B.; Cho, M.; Fortner, J.D.; Lee, J.; Huang, C.H.; Hughes, J.B.; Kim, J.H. (2009). "Delineating Oxidative Processes of Aqueous C₆₀ Preparations: Role of THF Peroxide" **Environmental Science & Technology**, 43, 108-113
61. Hyung, H.; Kim, J.H. (2008). "Natural Organic Matter (NOM) Adsorption to Multi-Walled Carbon Nanotubes: Effect of NOM Characteristics and Water Quality Parameters." **Environmental Science & Technology**, 42, 4416-4421
62. Lee, J.; Yamakoshi Y.; Hughes, J.B.; Kim, J.H. (2008). "Mechanism of C₆₀ Photoreactivity in Water: Fate of Triplet State and Radical Anion and Production of Reactive Oxygen Species." **Environmental Science & Technology**, 42, 3459-3464
63. Lee, J.; Kim, J.H. (2008). "Effect of Encapsulating Agents on Dispersion Status and Photochemical Reactivity of C₆₀ in the Aqueous Phase." **Environmental Science & Technology**, 42, 1552-1557
64. Marda, S.; Kim, D.I.; Kim, M.J.; Gordy, J.; Pierpont, S.; Gianatasio, J.; Amirtharajah, A.; Kim, J.H. (2008). "Plant Conversion Experience: Ozone-BAC Process Installation and Disinfectant Residual Control." **Journal American Water Works Association**, 100(4), 117-128

65. McCallum, E.A.; Hyung, H.; Do, T.A.; Huang, C.H. and Kim, J.H. (2008). "Adsorption, Desorption, and Steady-State Removal of 17 β -Estradiol by Nanofiltration Membranes" **Journal of Membrane Science**, 319, 38-43
66. Kim, D.I.; Fortner, J.D.; Kim, J.H. (2007). "A Multi-Channel Stopped Flow Reactor for Measuring Ozone Decay Rate: Instrument Development and Application." **Ozone: Science and Engineering**, 29, 121-129
67. Kim, D.I.; Hasan, S.; Tang, G.; Mariñas, B.J. Couillard, L.; Shukairy, H.M.; Kim, J.H. (2007). "Simultaneous Simulation of Pathogen Inactivation and Bromate Formation in Full-Scale Ozone Contactors by Computer Software." **Journal American Water Works Association**, 99(8), 77-91
68. Fortner, J.D.; Kim, D.I.; Boyd, A.M.; Falkner, J.C.; Moran, S.; Colvin, V.L.; Hughes, J.B.; Kim, J.H. (2007). "Reaction of Water-Stable C₆₀ Aggregates with Ozone" **Environmental Science & Technology**, 41, 7497-7502
69. Lee, J.; Fortner, J.D.; Hughes, J.B.; Kim, J.H. (2007). "Photochemical Production of Reactive Oxygen Species by C₆₀ in the Aqueous Phase during UV Irradiation." **Environmental Science & Technology**, 41, 2529-2535
70. Hyung, H.; Fortner, J.D.; Hughes, J.B.; Kim, J.H. (2007) "Natural Organic Matter Stabilizes Carbon Nanotubes in the Aqueous Phase." **Environmental Science & Technology**, 41, 179-184
71. Kim, J.H.; Elovitz, M.S.; Shukairy, H.M.; von Gunten, U.; Mariñas, B.J. (2007). "Modeling *Cryptosporidium parvum* Oocyst Inactivation and Bromate in a Flow-Through Ozone Contactor Treating Natural Water." **Water Research**, 41, 467-475
72. Shah, A.D.; Kim, J.H.; Huang, C.H. (2006). "Reaction Kinetics and Transformation of Carbadox and Structurally Related Compounds with Aqueous Chlorine." **Environmental Science & Technology**, 40, 7228-7235
73. Cho, M.; Kim, J.H.; Yoon, J.Y. (2006). "Investigating Synergism during Sequential Inactivation of *Bacillus subtilis* Spores with Several Disinfectants." **Water Research**, 40, 2911-2920
74. Park, Y.G.; Skelland, A.H.P.; Forney, L.J.; Kim, J.H. (2006). "Removal of Phenol and Substituted Phenols by Newly Developed Emulsion Liquid Membrane Process" **Water Research**, 40, 1763-1772
75. Hyung, H.; Kim, J.H. (2006). "A Mechanistic Study on Boron Rejection by Sea Water Reverse Osmosis Membranes" **Journal of Membrane Science**, 286, 269-278
76. Tang, G.; Adu-Sarkodie, K.; Kim, D.I.; Kim, J.H.; Teefy, S.; Shukairy, H.M.; Mariñas, B.J. (2005). "Modeling *Cryptosporidium parvum* Oocyst Inactivation and Bromate Formation in a Full-Scale Ozone Contactor." **Environmental Science & Technology**, 39, 9343-9350
77. Park, Y.G.; Forney, L.J.; Kim, J.H.; Skelland, A.H.P. (2004). "Optimum Emulsion Liquid Membranes Stabilized by Non-Newtonian Conversion in Taylor-Couette Flow." **Chemical Engineering Science**, 59, 5725-5734
78. Mi, B.; Eaton C.L.; Kim, J.H.; Colvin, C.K.; Lozier, J.C.; Mariñas, B.J. (2004). "Removal of Biological and Non-Biological Viral Surrogates by Spiral-Wound Reverse Osmosis Membrane Elements with Intact and Compromised Integrity." **Water Research**, 38, 3821-3832
79. Kim, J.H.; von Gunten, U.; Mariñas, B.J. (2004). "Simultaneous Prediction of *Cryptosporidium parvum* Oocyst Inactivation and Bromate Formation during Ozonation of Synthetic Waters." **Environmental Science & Technology**, 38, 2232-2241
80. Kitis, M.; Lozier, J.C.; Kim, J.H.; Mi, B.; Mariñas, B.J. (2003). "Microbial Removal and Integrity Monitoring of RO and NF Membranes." **Journal American Water Works Association**, 95(12), 105-119
81. Kitis, M.; Lozier, J.C.; 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." **Water Science and Technology: Water Supply**, 3(5-6), 81-92
82. Kim, J.H.; Rennecker, J.L.; Tomiak, R.B.; Mariñas, B. J.; Miltner, R.J.; Owens, J.H. (2002). "Inactivation of *Cryptosporidium* Oocysts in a Pilot-Scale Ozone Bubble-Diffuser Contactor. II: Model Validation and Application." **ASCE Journal of Environmental Engineering**, 128(6), 522-532
83. Kim, J.H.; Tomiak, R.B.; Mariñas, B.J. (2002). "Inactivation of *Cryptosporidium* Oocysts in a Pilot-Scale Ozone Bubble-Diffuser Contactor. I: Model Development." **ASCE Journal of Environmental Engineering**, 128(6), 514-521
84. Rennecker, J.L.; Kim, J.H.; Corona-Vasquez, B.; Mariñas, B.J. (2001). "Role of Disinfectant Concentration and pH in the Inactivation Kinetics of *Cryptosporidium parvum* Oocysts with Ozone and Monochloramine." **Environmental Science & Technology**, 35, 2752-2757
85. Kim, J.H.; Choo, K.H.; Yi, H.S.; Lee, S.H.; Lee, C.H. (2001). "Effect of Membrane Support Material on Permeability in the Microfiltration of Brining Wastewater." **Desalination**, 140(1), 55-65

86. Yi, H.S.; Kim, J.H.; Hyung, H.; Lee, S.H.; Lee, C.H. (2001). "Cleaner Production Option in a Food (*Kimchi*) Industry." *Journal of Cleaner Production*, 9(1), 35-41
87. Wang, Y.; Kim, J.H.; Choo, K.H.; Lee, Y.S.; Lee, C.H. (2000). "Hydrophilic Modification of Polypropylene Microfiltration Membranes by Ozone-Induced Graft Polymerization." *Journal of Membrane Science*, 169, 269-276
88. Lee, S.; Kim, J.H.; Lee, C.H. (1999). "Analysis of CaSO₄ Scale Formation Mechanism in Various Nanofiltration Modules." *Journal of Membrane Science*, 163, 63-74

Submitted

89. Lee, S.J.; Getachew, B.A.; Kim, J. H. "In Situ Healing of Compromised Hollow Fiber Membranes to Restore Virus Removal." *Journal of Membrane Science*
90. Cates, E.L.; Kim, J.H. "Bench-Scale Evaluation of Water Disinfection by Visible-to-UVC Upconversion during High-Intensity Excitation." *Journal of Photochemistry and Photobiology B: Biology*

Book Chapters

1. Kim, J.H.; Park, P.K. (2015). "Basic Principles of Simulating Boron Removal in Reverse Osmosis Processes." *Boron Separation Processes*, Edited by Kabay, N.; Bryak, M.; and Hilal, N. Elsevier.
2. Fortner, J.D.; Lee, J. Kim, J.H.; Hughes, J.B. (2008). "Chapter 8. Chemical and Photochemical Reactivity of Fullerenes in the Aqueous Phase." *Nanoscience and Nanotechnology: Environmental and Health Impacts*. Edited by Grassian, V., John Wiley & Sons, Inc., Hoboken, NJ
3. Lozier, J.C.; Kitis, M.; Kim, J.H.; Mi, B.; Mariñas, B.J. (2006). "Chapter 18. Evaluation of Biologic and Nonbiologic Methods for Assessing Virus Removal by and Integrity of High Pressure Membrane Systems." *Membrane Treatment for Drinking Water and Reuse Applications: A Compendium of Peer-Reviewed Papers*. Edited by Howe, K. J., American Water Works Association, Denver, CO

Patent

1. Kim, J.H.; Cates, E.Z.; Cho, M. "Method for Microbial Inactivation and Inhibition using Ultraviolet-Emitting Upconversion Luminescence", Pending in US (US12/785.207), Korea, Japan, and China
2. Alvarez, P.J.J.; Lee, J.S.; Wilson, L.J.; Mackeyev, Y.; Kim, J.H. "Fullerene Compositions and Methods for Photochemical Purification." PCT/US2010/039833

Conference Presentations

1. Song, H.S.; Kwon, O.S.; Conde, J.; Kim, J.H.; Artzi, N. (2015). "Cancer specific and multicolor bioimaging using triple-triplet annihilation upconversion nanocapsules." Society for Biomaterials Annual Conference and Exposition, Charlotte, NC
2. Snow, S.; Kim, K.C.; Moor, K.J.; Jang, S.S.; Kim, J.H. (2014). "Functionalized fullerenes in water: a closer look." Sustainable Nanotechnology Organization Conference, Boston, MA
3. Snow, S.; Kim, J.H. (2014). "Photochemistry and photobiological implications of functionalized fullerenes in aqueous systems." ACS National Meeting and Exposition, San Francisco, CA
4. Moor, K.; Snow, S.; Kim, J.H. (2014). "Differential photoactivity of aqueous [C₆₀] and [C₇₀] fullerene aggregates." ACS National Meeting and Exposition, San Francisco, CA
5. Kim, J.; Kwon, O.S.; Kim, J.H. (2014). "Triplet-triplet annihilation-based upconversion micro- and nano-capsules for enhanced visible light photocatalysis." ACS National Meeting and Exposition, Dallas, TX
6. Cates, E.; Kim, J.H. (2014). "Microbial inhibition through singlet oxygen photosensitization by silicon nanocrystals under visible and IR radiation." ACS National Meeting and Exposition, Dallas, TX
7. Cates, S.; Li, C.; Cates, E.; Kim, J.H. (2014). "Photocatalyst/upconversion hybrid materials for visible-light-activated water disinfection." ACS National Meeting and Exposition, Dallas, TX
8. Gandhi, V.; Roberts, P.; Kim, J.H. (2013). "How IT is distributed in a UV reactor: Visualization using 3-Dimensional Laser Induced Fluorescence" International Ultraviolet Association World Congress 2013, Las Vegas, NV.

9. Gandhi, V.; Roberts, P.; Kim, J.H. (2013). "How IT is distributed in a UV reactor: Visualization using 3-Dimensional Laser Induced Fluorescence" AWWA Water Quality Technology Conference, Long Beach, CA
10. Kim, J.; Moor, K.J.; Kim, J.H. (2013). "Encapsulated Triplet-Triplet Annihilation-Based Upconversion in the Aqueous Phase for the Sub-Bandgap Semiconductor Photocatalysis." ACS National Meeting and Exposition, Indianapolis, IN
11. Kim, J.; Moor, K.J.; Kim, J.H. (2013). "Encapsulated Triplet-Triplet Annihilation-Based Upconversion in the Aqueous Phase for the Sub-Bandgap Semiconductor Photocatalysis." Association of Environmental Engineering and Science Professors, Golden, CO
12. Snow, S.D.; Park, K.E.; Moor, K.J.; Lee, J.; Kim, J.H. (2013). "Implication of Functionalization on the Photophysical Properties of Fullerene Aggregates." Gordon Research Conference, Stowe, VT
13. Moor, K.J.; Kim, J.H. (2013). "Photodynamic Inactivation using Solid-Supported Fullerene." Gordon Research Conference, Stowe, VT
14. Snow, S. D.; Moor, K. J.; Kim, J. H. (2013). "Photochemistry of Aqueous Fullerene Aggregates as a Function of Size Fractionation and Surface Functionalization." ACS National Meeting and Exposition, New Orleans, LA.
15. Chinnapongse, S.; Cates, E.; Kim, J. H. (2013). "Ceramic and composite systems for furthering applicability of upconversion materials to antimicrobial technologies." ACS National Meeting and Exposition, New Orleans, LA
16. Cates, E.L.; Kim, J.H. (2013). "New host crystal systems for improved antimicrobial visible-to-UVC upconversion phosphors". ACS National Meeting and Exposition, New Orleans, LA.
17. Cates, E.L.; Kim, J.H. (2013). "Oxyfluoride Host Crystals for Efficient Visible-to-UVC Upconversion by Pr^{3+} ". Materials Research Society National Meeting, San Francisco, CA.
18. Snow, S.; Park, K.E.; Kim, J.H. (2012). "Antimicrobial Properties of Fullerene Derivatives as a Function of Structure and Aggregation State." International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, Banff, AB, Canada
19. Cates, E.Z.; Wilkinson, A.; Kim, J.H. (2012). "Delineating Optical Enhancement Mechanisms by Li^+ Doping in the Visible-to-Ultraviolet Upconversion Material, $\text{Y}_2\text{SiO}_5:\text{Pr}^{3+}$." Material Research Society National Conference and Exposition, San Francisco, CA
20. Lee, J.S.; Kim, C.K.; Kim, J.H. (2012). "The Effect of Membrane Configuration and Operational Modes on the Fouling Characteristics of Ceramic MF and UF Membranes." American Water Works Association Annual Conference and Exposition, Dallas, TX
21. Snow, S. D.; Park, K. E.; Kim, J. H. (2012). "Antimicrobial Properties of Fullerene Derivatives as a Function of Structure and Aggregation State." Sustainable Nanotechnology Organization Conference, Arlington, VA.
22. Kim, J.H.; Cho, M.; Snow, S. (2012). "Escherichia coli Inactivation by UVC-Irradiated C_{60} : Kinetics and Mechanisms." ACS National Meeting and Exposition, San Diego, CA
23. Snow, S.; Kim, J.H. (2012). "Quantitative analysis of the impact of functionalization on physical and photochemical properties of fullerenes." ACS National Meeting and Exposition, San Diego, CA
24. Kim, J.H.; Castellano, F.N.; Kim, J.H. (2012). "Photon Upconversion in Polymer Matrix based on Sensitized Triplet-Triplet Annihilation: Application to Photocatalysis." ACS National Meeting and Exposition, San Diego, CA
25. Cates, E.Z.; Wilkinson, A.; Kim, J.H. (2012). "Delineating Optical Enhancement Mechanisms by Li^+ Ions in the Antimicrobial Upconversion Material, $\text{Y}_2\text{SiO}_5:\text{Pr}^{3+}$ " ACS National Meeting and Exposition, San Diego, CA
26. Kim, J.H.; Cho, M.; Snow, S.M. (2012). "Escherichia coli Inactivation by UVC-Irradiated C_{60} : Kinetics and Mechanisms." ACS National Meeting and Exposition, San Diego, CA
27. Lee, S.; Dilaver, M.; Park, P.P.; Kim, J.H. (2011). "Fouling Characteristics of Ceramic Microfiltration and Ultrafiltration Membranes Treating Surface Waters." AWWA Water Quality Technology Conference, Phoenix, AZ
28. Kim, J.H. (2010). "Photocatalytic Nanoparticles for Water and Surface Disinfection." Nano 2010 Conference, Clemson University, Clemson, SC
29. Cates, E.; Cho, M.; Kim, J.H. (2010) "Converting Visible Light to UVC: Lanthanide Upconversion Nano-Phosphors for Light-Activated Biocidal Surfaces." ACS National Meeting and Exposition, Boston, MA
30. Hwang, T.M.; Nam, S.H.; Go, W.B.; Lee, S.; Cho, M.; Kim, J.H. (2010). "Enhanced Inactivation and DBPs Control by Sequential Disinfection Using Ozone/Chlorine or Chlorine Dioxide/Chlorine." International Ozone Association (IOA)-EA3G International Conference, Geneva, Switzerland
31. Lee, J.; Mackeyev, Y.; Cho, M.; Kim, J.H.; Wilson, L.J.; Alvarez, P.J.J. (2010). "Water-soluble C_{60} Derivatives as Novel Photocatalyst: Photochemical Properties." ACS National Meeting and Exposition, San Francisco, CA

32. Cho, M.; Lee, J.; Mackeyev, Y.; Wilson, L.J.; Alvarez, P.J.J.; Hughes, J.B.; Kim, J.H. (2010). "Water-soluble C₆₀ Derivatives as Novel Photocatalyst: Biocidal Properties." ACS National Meeting and Exposition, San Francisco, CA
33. Kim, D.; Kim, J.H.; Stoesser, T. (2009). "LES of Flow in an Ozone Contactor: Mean and Instantaneous Turbulent Flow Characteristics." IAHR Conference, Vancouver, Canada.
34. Wang, Y.; Baek, J.B.; Kim, J.H.; Pennell, K. (2009). "Transport and Retention of Multi-Wall Carbon Nanotubes (MWNTs) in Quartz Sands." Soil Science Society of America (ASA-CSSA-SSSA) Annual Meetings, Pittsburgh, PA
35. *Gandhi, V.; Cho, M.; Kim, D. J.; Wright, H.; Lee, K. H. Roberts, P.; Stoesser, T.; Kim, J. H. (2009). "Visualizing Flow and Dose Delivery in UV Reactors Using 3-Dimensional Laser Induced Fluorescence." AWWA Water Quality Technology Conference, Seattle, WA
36. Wang, Y.; Baek, J.B.; Kim, J.H. and Pennell, K.D. (2009). "Effect of Tube Length on Transport of Multiwall Nanotubes (MWNTs) in a Water-Saturated Quartz Sand," American Geological Union Meeting, San Francisco, CA
37. Kim, J.H.; Cho, M.; Lee, J.; Fortner, J.D.; Song, W.; Hughes, J.B.; Alvarez, P.J.; Cooper, W.J.; Jang, S.S. (2009). "Transformation of C₆₀ in the Aqueous Phase and Impact on Microbial Toxicity." 4th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, University of Vienna, Vienna, Austria
38. *Hyung, H.; Kim, J. H. (2008). "Fate of Carbon Nanomaterials in Natural and Engineered Water Environments." American Water Works Association Annual Conference and Exposition, Atlanta, GA
39. *Shah, S.; Huang, C. H.; Kim, J. H. (2008). "Modeling Rejection of Select Antibiotics by Nanofiltration Membranes under varying Water Quality Conditions." American Water Works Association Annual Conference and Exposition, Atlanta, GA
40. *Miyashita, Y.; Park, S. H., Hyung, H.; Huang, C. H.; Kim, J. H. (2008). "Removal of *N*-Nitrosamines and Their Precursors by Nanofiltration and Reverse Osmosis Membranes." American Water Works Association Annual Conference and Exposition, Atlanta, GA
41. *Gandhi, V.; Cho, M.; Kim, D. J.; Kim, D.; Wright, H.; Lee, K. H. Roberts, P.; Stoesser, T.; Kim, J. H. (2008). "UV Process Flow Visualization and Characterization Using 3-Dimensional Laser Induced Fluorescence." American Water Works Association Annual Conference and Exposition, Atlanta, GA
42. Kim, J. H.; Huang, C. H. (2008). "Removal of Emerging Drinking Water Contaminants by High Pressure Membrane Processes." Georgia Water & Pollution Control Association Annual Conference and Exposition, Atlanta, GA
43. Gandhi, V.; Cho, M.; Kim, D.J.; Kim, D.I.; Kim, S.H.; Wright, H.; Lee, K.H.; Roberts, P.; Stoesser, T.; Kim, J.H. (2009). "UV Process Flow Visualization and Quantification using 3-Dimensional Laser Induced Fluorescence." Water Environmental Federation Disinfection 2009 Conference, Atlanta, GA
44. Lee, J.; Yamakoshi, Y.; Hughes, J. B.; Kim, J. H. (2008). "Changes in Dispersion Status and Photochemical Property of C₆₀ in the Aqueous Phase by Encapsulating Agents." ACS National Meeting and Exposition, New Orleans, LA
45. Zhang, B.; Fortner, J. D.; Lee, J. S.; Huang, C. H.; Kim, J. H.; Hughes, J. B. (2008). "Catalytic Degradation of Indigo Dye by Aqueous Stable C₆₀ Aggregates." ACS National Meeting and Exposition, New Orleans, LA
46. Hyung, H.; Fortner, J. D.; Hughes, J. B.; Kim, J. H. (2008). "Natural Organic Matter Assisted Dispersion of Carbon Nanotubes in the Aqueous Phase." ACS National Meeting and Exposition, New Orleans, LA
47. 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
48. 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
49. *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
50. Lee, J.; Fortner, J. D.; Hughes, J. B.; Kim, J. H. (2007). "Photochemical Production of Reactive Oxygen Species (ROS) by Aqueous C₆₀ Colloids during the UV Illumination." ACS National Meeting and Exposition, Chicago, IL
51. Fortner, J. D.; Kim, D. I.; Boyd, A. M.; Falkner, J. C.; Moran, S.; Hughes, J. B.; Kim, J. H. (2007). "Ozonation of C₆₀ in Water." ACS National Meeting and Exposition, Chicago, IL

52. 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
53. *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
54. *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
55. *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.
56. *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.
57. *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.
58. *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.
59. 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 C₆₀ Aggregates in Water" Gordon Research Conference, Environmental Sciences: Water, Plymouth, NH.
60. *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
61. Fortner, J. D.; Kim, D. Kim, J. H.; Hughes, J. B. (2005) "Ozonation of C₆₀ Aggregates in Water" Society of Environmental Toxicology and Chemistry, 26th Annual Meeting, Baltimore, MD
62. *Fortner, J.; Kim, J. H.; Hughes, J. B. (2005). "Fate and transformation of water-stable, nanoscale C₆₀ aggregates during ozonation and UV irradiation processes." AWWA Water Quality Technology Conference, Quebec, Quebec
63. *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
64. *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
65. *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
66. *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.
67. *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.
68. 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
69. *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
70. *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
71. *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.

72. 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.
73. 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
74. *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
75. *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
76. *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
77. *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.
78. *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.
79. *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.
80. *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.
81. *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." 1st World Congress of the International Water Association, Paris, France
82. *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, 1st World Congress of the International Water Association, Paris, France.
83. *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.
84. *Roustan, M.; Kim, J. H.; Mariñas, B. J. (2000). "Hydrodynamics of Ozone Contactors." International Specialized Symposium IOA 2000, International Ozone Association, Toulouse, France.
85. *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.
86. *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.
87. 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.
88. 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.
89. 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.
90. 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.
91. 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.

92. *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.
93. 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
94. *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.

* Presentations with proceeding papers

Keynote Speeches and Honorable Talks

1. Invited Speech, UV Research Frontiers Conference, International Ultraviolet Association, Leeuwarden, Netherlands, May 2015
2. Invited Speech, ULTRA (Universal Linkage for Top Research Advisor) Program, The Korean Federation of Science and Technology Societies, San Francisco, CA, August 2014
3. Keynote Speech, Materials for Water Sustainability Session, American Chemical Society Annual Conference, Philadelphia, PA, August 2012.
4. Invited Speech, Gordon Research Conference on Environmental Sciences: Water, Holderness, NH, June 2012
5. Keynote Speech, Environmental Implication and Application of Nanotechnology session, American Chemical Society Annual Conference, Boston, MA, August 2010
6. Invited Speech, Gordon Research Conference on Environmental Nanotechnology, Waterville Valley, NH, June 2011.
7. Keynote Speech, Korean Scientists and Engineers Association, Southeastern Regional Conference, Atlanta, GA, April 2011

Invited Seminars

1. Tianjin University, School of Environmental Science and Engineering, Co-hosted by Nankai University, College of Environmental Science and Engineering, Tianjin, China, June 2015
2. Tsinghua University, School of Environment, Beijing, China, June 2015
3. Hong Kong University of Science and Technology, Department of Civil and Environmental Engineering, Hong Kong, November 2014
4. The Chinese University of Hong Kong, Department of Chemistry, Hong Kong, November 2014
5. Korean Society of Environmental Engineers, Emerging Contaminant Expert Group Workshop, Kyunghee University, July 2014
6. Korea Institute of Industrial Technology, Chonan, Korea, July 2014
7. Samsung C&T, Research and Development Center, July 2014
8. Yonsei University, Department of Environmental Engineering, Wonju, Korea, July 2014
9. Shanghai Jiatong University, School of Environmental Science & Engineering, Shanghai, China, July 2014
10. Ehwa Woman's University, Department of Environmental Science and Engineering, Seoul, Korea, July 2014
11. Harbin Engineering University, School of Material Science and Chemical Engineering, Harbin, China, July 2014
12. Tsinghua University, School of Environment, Beijing, China, July 2014
13. Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China, July 2014
14. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, July 2014
15. Pusan National University, Department of Environmental Engineering, Pusan, Korea, June 2014
16. Yonsei University, School of Civil and Environmental Engineering, Seoul, Korea, June 2014
17. Kyoto University, Department of Environmental Engineering, Kyoto, Japan, June 2014
18. University of Tokyo, Department of Urban Engineering, Tokyo, Japan, June 2014
19. Tufts University, Co-hosted by Department of Civil and Environmental Engineering and Department of Chemical Engineering, Boston, MA, February 2014

20. University of Massachusetts, Department of Civil and Environmental Engineering, Amherst, MA, October 2013
21. Johns Hopkins University, Department of Geography and Environmental Engineering, October 2012
22. Carnegie Mellon University, Department of Civil and Environmental Engineering, Pittsburg, October 2012
23. University of Pittsburg, Department of Chemical and Petroleum Engineering, October 2012
24. Michigan State University, Department of Civil and Environmental Engineering, September 2012
25. Harvard University, School of Engineering and Applied Science, April 2012
26. Korea Environmental Industry & Technology Institute, Seoul, Korea, May 2012
27. SK Chemical Corporation, Suwon, Korea, May 2012
28. Kookmin University, Department of Civil and Environmental Engineering, Seoul, Korea, May 2012
29. Dankook University, Department of Civil and Environmental Engineering, Suwon, Korea, May 2012
30. Washington University in St. Louis, Department of Energy, Environment and Chemical Engineering, St. Louis, MO, November 2011
31. University of South Carolina, Department of Civil and Environmental Engineering, October 2011
32. Rice University, Department of Civil and Environmental Engineering, September 2011
33. University of Seoul, Department of Environmental Engineering, Seoul, Korea, June 2011
34. University of New Mexico, Department of Civil and Environmental Engineering, Albuquerque, NM, April 2011
35. Yale University, Department of Chemical and Environmental Engineering, New Haven, CT, October 2010
36. University of Georgia, Department of Crop and Soil Sciences, Griffin, GA, October 2010
37. Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Zurich, Switzerland, May 2010
38. American Society of Civil Engineers, Georgia Section, Atlanta, GA, April 2010
39. Auburn University, Department of Civil Engineering, Auburn, AL, October 2009
40. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, June 2009
41. Ehwa Woman's University, Department of Environmental Science and Engineering, Seoul, Korea, June 2009
42. Seoul National University, Department of Chemical and Biological Engineering, Seoul, Korea, June 2009
43. Kolon Engineering & Construction, Yongin, Korea, September 2008
44. Nanotechnology and the Environment Conference, Assessment of Nanomaterials in the Environment (ANE) Center at Purdue University, Indianapolis, IN, August 2008
45. University of Illinois at Urbana-Champaign, Department of Civil and Environmental Engineering, Urbana, IL, February 2008
46. Doosan Hydro Technology, Inc, Tampa, FL, January 2008
47. Emory University, Department of Environmental Studies, Atlanta, GA, January 2008
48. Korea University, Department of Architectural, Civil and Environmental Engineering, Seoul, Korea, July 2007
49. Korean Institute of Construction Technology, Seoul, Korea, July 2007
50. Myungji University, Department of Environmental Engineering and Biotechnology, Yongin, Korea, July 2007
51. Hanyang University, Department of Civil Engineering, Seoul, Korea, June 2007
52. Korea Institute of Science and Technology (KIST), Seoul, Korea, June 2007
53. Kunkuk University, Department of Environmental Engineering, Seoul, Korea, June 2007
54. Korea Advanced Institute of Science and Technology (KAIST), Department of Civil and Environmental Engineering, Daejun, Korea, June 2007
55. Conoco-Philips Research and Development Center, Bartlesville, OK, April 2007
56. Korea Water Corporation, Taejeon, Korea, August 2005
57. Korean Institute of Construction Technology, Seoul, Korea, August 2005
58. The Center of Advanced Materials for Purification of Water with Systems (WaterCAMPWS) Annual Symposium, Atlanta, GA, April 2005
59. Georgia Water & Pollution Control Association, Fall Conference and Exposition, Dalton, GA, November 2004
60. Special Workshop on Advanced Oxidation Process and DBPs Control in Water Treatment, Korean Society on Water Quality, Seoul, Korea, July 2004
61. Saehan Industry, Inc., Seoul, Korea, May 2004
62. Samsung Construction Engineering, Sunghnam, Korea, May 2004
63. Research and Development Center, Dong-Woo FineChem, Pyungtak, Korea, May 2004

64. Symposium for Future Technologies in Water and Wastewater Treatment, Water Recycle Technology Center, Gwangju Institute of Science and Technology, Gwangju, Korea, May 2004
65. Hoseo University, Department of Civil and Environmental Engineering, Chunan, Korea, May 2004
66. Seoul National University, Department of Public Health, Seoul, Korea, May 2004
67. Seoul National University, Department of Chemical and Biological Engineering, Seoul, Korea, May 2004

EXTERNAL SUPPORT

Externally Funded Research Projects

1. NSF Engineering Research Center for Nanotechnology Enabled Water Treatment Systems (NEWT), 2015-2020, Total budget = \$18,500,000, Yale budget = \$2,388,151 (PI: Pedro Alvarez, Rice University. Yale PI: Menachem Elimelech), as a collaborator
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 C₆₀, 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 C₆₀ 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. Laurus & Education, Co., Ltd., 2006 (\$10,000)
2. Saehan Industries, Inc., 2005, 2006 (Total \$45,000)
3. Kolon Engineering & Construction, Co., Ltd., 2008-2009 (\$200,000 over two years)
4. Hwaseung Group, 2010-2012 (\$500,000 over three years)
5. Laurus & Education, Co., Ltd, 2010-2012 (\$108,000 over three years)
6. Lintec of America, Inc., 2013 (\$15,000)

SERVICE

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

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

Proposal Review Panel

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

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

Advisor

School

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

Institute Committee

Member, College of Engineering ABET Committee, Georgia Tech, 2012 – 2013
Member, International Program Committee, Georgia Tech, 2012 – present
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
Member, Undergraduate Research Fellowship Committee, Yale, 2014-2015
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 Faculty 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

Student Guidance

Past Postdoctoral Researchers

1. Ohseok Kwon	Aug.2013 – Apr.2015	Korea Research Institute of Bioscience & Biotechnology
2. Fan Dang	Aug.2014 – Mar.2015	Researcher, Perkin Elmers, CT
3. Seonjoo Park	Aug.2014 – Feb.2015	Researcher, Samsung Electronics, Korea
4. Seungjin Lee	Sep.2013 – Sep.2014	Assistant Professor, Georgia Gwinnett College, GA
5. Ezra Cates	Aug.2012 – Aug.2014	Assistant Professor, Clemson University, SC
6. Jae-Hyuk Kim	Oct.2010 – Feb.2014	Assistant Professor, Pusan University, Korea
7. Min Cho	Aug.2007 – Aug.2010	Assistant Professor, Chunbook University, Korea
8. Pyungkyu Park	Sep.2008 – Sep.2010	Assistant Professor, Yonsei University, Korea
9. Bo Zhang ^b	Jul.2007 – Mar.2009	Assistant Professor, Shanghai-Jiatong University, China
10. John Fortner ^b	Jan.2007 – Jan.2008	Assistant Professor, Washington University in St. Louis
11. Jaesang Lee ^b	Mar.2006 – Apr.2008	Assistant Professor, Korea University

Past Ph.D. Students

1. Stephanie Cates	Aug.2010 – May. 2015	
2. Samuel Snow	Aug.2009 – Aug.2014	Postdoctoral Researcher, Michigan State University
3. Seungjin Lee	Aug.2009 – Jul.2013	Assistant Professor, Georgia Gwinnett College, GA
4. Ezra Cates	Aug.2008 – May.2013	Assistant Professor, Clemson University, SC
5. Varun Gandhi	Aug.2007 – Dec.2012	Carollo Engineers, Boise, ID
6. Dongjin Kim ^c	Aug.2007 – May.2011	Assistant Professor, Athens Technical College, GA
7. Amisha Shah ^a	Oct.2002 – Jul.2008	Assistant Professor, Purdue University, IN
8. Hoon Hyung	Aug.2004 – Jun.2008	Vice President, LG-Nano H ₂ O Inc., Irvine, CA
9. Dooil Kim	Oct.2002 – May.2007	Assistant Professor, Dankook University, Korea
10. Yonggyun Park	Oct.2002 – May.2005	GS Engineering & Construction, Korea

^a co-advised with Ching-Hua Huang

^b co-advised with Joseph Hughes

^c co-advised with Thorsten Stoesser

Past M.S. Students

1. Tyler Cromey	Aug.2012 – May.2014	Southern Company, Birmingham, AL
2. Mehmet Dilaver	Aug.2008 – May.2011	Ph.D. Student, Hacettepe University, 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 Group Members

1. Hong-Shin Lee	Jun.2015 – present	Postdoctoral Researcher
2. Sang-Ryoung Kim	Oct.2014 – present	Postdoctoral Researcher
3. Hyoung-Il Kim	Sep.2014 – present	Postdoctoral Researcher
4. Chuanhao Li	Sep.2013 – present	Postdoctoral Researcher
5. Kyle Moor	Aug.2011 – present	Ph.D. Student
6. Anna Hagstrom	Aug.2013 – present	Ph.D. Student
7. Beza Getachew	Aug.2013 – present	Ph.D. Student
8. Stephanie Loeb	Aug.2014 – present	Ph.D. Student

Visiting Scholars and Non-Degree Graduate Advisees

1. Inseong Chang	Mar.2015 – Feb. 2016	Hoseo University, Korea
2. Behnaz Zaribaf	Jan.2013 – June.2013	Georgia Institute of Technology
3. Jong-Soo Kim	Dec.2011 – Nov.2012	Sun Moon University, Korea

4. Rui Chen	May.2011 – May.2012	Beijing Jiatong University, China
5. Youngkook Choi	Jul.2008 – Jul.2010	DongWoo Finechem, Korea
6. Seong Keun Yim	May.2008 – May.2010	Kolon Engineering & Construction, Inc., Korea
7. Fangbo Zhao	Oct.2008 – Mar.2010	Harbin Engineering University
8. Jinku Cho	Nov.2008 – Dec.2008	Korea Institute of Industrial Technology, Korea
9. Seong-Hong Kim	Jan.2007 – Jan.2008	Chosun University, Korea
10. Se-Yong Nam	Jan.2006 – Dec.2006	Hankyung National University, Korea
11. Jooyeon Lee	Jan.2006 – Dec.2006	University of Seoul, Korea
12. Tien Ahn Do	Aug.2004 – May.2006	Ph.D. Student, University of Central Florida, FL
13. Yeon-Koo Jeong	Aug.2005 – Aug.2006	Kumoh National Institute of Technology, Korea
14. Sandeep Pathak	Oct.2005 – Dec.2005	Tata Chemicals, Ltd., India
15. K.C. Pathak	Jul.2005 – Oct.2005	Tata Chemicals., Ltd, India
16. Yong-Mo Cho	Jul.2004 – Dec.2004	Seoul Development Institute, Korea

Undergraduate Students

1. Sarah Spaulding	Feb.2015 – present	Yale University
2. Seif Labib	Feb.2015 – May.2015	Yale University
3. Jessica Alzamora	Feb.2015 – present	Yale University
4. James Doss-Gollin	Aug.2014 – May. 2015	Yale University
5. Dhyan Valle	Jan.2014 – May. 2015	Yale University
6. Brady Currey	Jan.2014 – Apr.2014	Yale University
7. Helena Gail	Jan.2014 – Apr.2014	Yale University
8. Tyler Cromey	Aug.2010 – May.2012	Georgia Tech (PURA Awardee)
9. Kyoung Eun Park	Aug.2009 – May.2010	Georgia Tech (PURA Awardee)
10. Elizabeth West	Aug.2008 – May.2009	Georgia Tech (PURA Awardee)
11. Varun Ghandi	Aug.2006 – May.2007	Georgia Tech (PURA Awardee)
12. Annie Park	Aug.2004 – May.2005	Georgia Tech (PURA Awardee)
13. Joseph Ross	Aug.2004 – Dec. 2004	Georgia Tech

Courses Taught

Courses

1. ENVE 410L Undergraduate Environmental Technology in the Developing World, Yale (Spring 15)
2. ENVE/CENG 377 Undergraduate Water Quality Control, Yale University (Fall 13)
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*
Fall 2013	ENVE/CENG 377	Water Quality Control	91	4.5
Spring 2015	ENVE 410	Environmental Technology in the Developing World	83	5.0

* 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 2006	CEE 4310A	Water Quality Engineering	100	4.7
Fall 2006	CEE 3340	Environmental Engineering Laboratory	89	4.8
Spring 2007	CEE 4310A	Water Quality Engineering	93	4.7
Spring 2008	CEE 4310A	Water Quality Engineering	100	4.5
Spring 2009	CEE 4310A	Water Quality Engineering	100	4.4
Spring 2011	CEE 4310A	Water Quality Engineering	93	4.5
Spring 2012	CEE 4803C	Environmental Technology in the Developing World	90	4.9
Spring 2013	CEE 4803C	Environmental Technology in the Developing World	100	5.0
			Average	4.7

Graduate Courses

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

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

LAST UPDATED: 8/23/15