

Dr. Solomon Leung received his Ph.D. in Civil & Environmental Engineering in 1989 from the University of Iowa. His research interests include can be divided into 4 categories:

- Physicochemical treatment processes, particularly chemical oxidations applied to the treatment of soils and groundwater; disinfection and by-products generation in water and wastewater;
- Environmental risk assessment and toxicology;
- Nanotechnology, biosensor and novel applications with nanotechnology;
- Tissue engineering, biosignaling, and cancer therapy.

EDUCATION

Post-Doctoral Research Fellow

Department of Civil Engineering, Feb 1989 to Aug 1989,
University of Nevada-Reno, Reno, Nevada

Ph.D. Civil & Environmental Engineering, 1989, University of Iowa, Iowa City, Iowa

M.S. Chemical Engineering, 1982, University of Iowa, Iowa City, Iowa

B.A. Chemistry, 1978, University of Iowa, Iowa City, Iowa

MAJOR RESEARCH PROJECTS

2007-Date	Biosensor and bioengineering, cancer therapy
2001-Date	Novelty use of membranes in biomedical applications
1996-Date	Novelty separation of wastes by membranes and applications, nanotechnology
1996-Date	Environmental risk assessment and emergency response preparedness for radionuclides fallout and chemical spills
1995-Date	Investigation of Turbulence and stability Class Relationships in Atmospheric Air Transport
1993-Date	Uranium particles uptake by workers in environment with depleted uranium
1992-Date	Photodegradation of organic contaminants in soils and groundwater
1992-Date	Chemical-biological treatment of PCB and organic contaminated soils
1992-1993	Evapotranspiration-as related to waste management areas
1990-Date	Modeling of groundwater contaminated by organic chemicals that are important to transportation industry
1989 -Date	Fenton's reagent treatment for organic hazardous waste spills
1986-Date	Chlorine disinfection for drinking water and the by-product generation
1990-1991	Impacts of rail lubrication to the environment
1990-1991	Remediation technologies for petroleum waste contamination
1987-1988	Equilibrium modeling of copper toxicity to microorganisms
1985-1986	Mineral weathering of alkali-feldspars

1984-1985	Surface kinetics modeling and the effectiveness factors of different shapes
1980-1982	Effect of freezing to solute redistribution in aqueous solution
1980-1981	Acid-rain modeling for the Northeastern United States
1980-1981	Design and computer simulation of a solar vacuum distillation column for ethanol production

CONTRIBUTION TO CONFERENCES (abstracts with presentations, 2007-present)

117. S. Lu, A. Bhushan, **S.W. Leung**, C.K. Daniels and J.C.K. Lai, “Cytotoxic Effects of Four Metallic Oxide Nanoparticles on Dorsal Root Ganglion (DRG) Neurons”, sent to NSTI Nanotechnology Conference and Expo – Nanotech 2012, June 18-21, Santa Clara, CA

116. J.C.K. Lai, W. Gao, A. Bhushan and **S.W. Leung**, “Cytotoxic Effects of Short Multi-Wall Carbon Nanotubes in Dorsal Root Ganglion (DRG) Neurons”, sent to NSTI Nanotechnology Conference and Expo – Nanotech 2012, June 18-21, Santa Clara, CA

115. David Assan, Xiang Gao, James C.K. Lai, and **Solomon W. Leung***, “Surfactant Effect on Intercellular Transport of DNA, Proteins, and Electrolytes”, sent to NSTI Nanotechnology Conference and Expo – Nanotech 2012, June 18-21, Santa Clara, CA

114. Krishnaveni Mukka, Vujwala Kasarla, Satyamurthy Tadinada, Yin Yin W. Wong, Alok Bhushan, Christopher K. Daniels, **Solomon W. Leung**, and James C.K. Lai, “Exposure to Zinc Oxide and Other Metallic Oxide Nanoparticles Induces Cytotoxicity and Morphological Alternations in Dorsal Root Ganglion Neurons, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

113. Suela Kumbulla, Vinay Kuma Idikuda, Ratan Singh, Ashvin R. Jaiswal, Lina Alaydi, Alok Bhushan, **Solomon W. Leung**, Christopher K. Daniels, and James C.K. Lai, “Comparison of Effects of Several Metal-Based Nanoparticles on R3 Schwann Cells”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

112. Maibam Ratan Mani Singh, Suela Kumbulla, Vinay Idikuda, Ashvin Jaiswal, Alok Bhushan, Christopher K. Daniels, **Solomon W. Leung**, and James C.K. Lai, “Neurotoxicity of Magnesium Oxide Nanoparticles as Elicited in Schwann Cells, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

111. Vinay Kumar Idikuda, Ratan Singh, Suela Kumbulla, Ashvin R. Jaiswal, Alok Bhushan, Christopher K. Daniels, **Solomon W. Leung**, and James C.K. Lai, “Morphological Changes of Schwann Cells after Exposure to Magnesium Oxide Nanoparticles”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

110. Vujwala Kasarla, Krishvaveni Mukka, Satya Murthy Tadinada, Yin Yin W. Wong, Alok Bhushan, Christopher K. Daniels, **Solomon W. Leung**, and James C.K. Lai, “Differential Cytotoxic Effects of Zinc Oxide Nanoparticles on S16 Schwann Cells and DRG Neurons”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

109. Xiang Gao, David Assan, James C. K. Lai, and **Solomon W. Leung***, “Anaerobic Biofuel Cell Modified with Nano Particles and Polymers for Biomedical Applications”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

108. Shuangyun Lu, Ashvin R. Jaiswal, Yin Yin W. Wong, Alok Bhushan, **Solomon W. Leung**, Christopher K. Daniels, and James C.K. Lai, “Characterization of Neural Cells Derived from the Peripheral

Nervous System and Effects of Titanium Oxide Nanoparticles Thereon”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

107. Yin Yin W. Wong, Ashvin Jaiswal, Shuangyun Lu, Vikas W. Dukhande, Alok Bhushan, Christopher K. Daniels, **Solomon W. Leung**, and James C.K. Lai, “Neuroprotective Role of Pioglitazone, a PPAR γ Agonist, on Nanoparticles-Induced Cytotoxicity and Stress in Astrocytes-Like U87 Astrocytoma Cells”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

106. Ashvin R. Jaiswal, Shuangyun Lu, Alok Bhushan, Christopher K. Daniels, **Solomon W. Leung**, and James C.K. Lai, “Toxicity of Nanoparticles: Assessment Using Cells from Peripheral Nervous System”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

105. David Assan, **Solomon Leung***, and Christian Trigo, “Cancer Incidence Assessment in Idaho and Its Implications”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

104. Wenjuan Gao, James C.K. Lai, and **Solomon W. Leung**, “Effects of Chitosan on Schwann Cells and Dorsal Root Ganglion Neurons”, presented at the 53rd Annual Symposium of the Idaho Academy of Science, March 31-April 2, 2011, College of Idaho, Caldwell, Idaho.

103. **Solomon W. Leung*** and James C.K. Lai, “Advanced Dehydrogenase Biofuel Cell Modified with Highly Branched Polymers”, presented at 2011 International Conference on Agricultural and Biosystems Engineering (ICABE 2011), Hong Kong, China, Feb 20-21, 2011

102. **Solomon Leung***, Brad Williams, Alex Chan, Margret Minski, and James C.K. Lai, “Elemental Analyses in Organ Systems in a Small Animal after Long Controlled Diet”, presented at 2011 International Conference on Agricultural and Biosystems Engineering (ICABE 2011), Hong Kong, China, Feb 20-21, 2011

101. James C.K. Lai, Ashvin R. Jaiswal, Shuangyun Lu, Jean Pfau, Yin Yin W. Wong, Alok Bhushan, Christopher K. Daniels, and **Solomon W. Leung***, “Differential Cytotoxicity of Silicon Dioxide Nanoparticles on Neural Cells Derived from Peripheral Nervous System”, presented at International Conference on Materials for Advanced Technologies, Suntec, Singapore, June 26-July 1, 2011

100. **Solomon W. Leung***, W. Guo, and James C.K. Lai, “Nanoparticles Modulate the Effects of Chitosan on Survival of Schwann Cells and Dorsal Root Ganglion Neurons”, presented at International Conference on Materials for Advanced Technologies, Suntec, Singapore, June 26-July 1, 2011

99. **S. W. Leung*** and J. C. K. Lai, “Advanced Biofuel Cell Composed of Highly Modified Electrodes for Biomedical Applications”, presented at NSTI Nanotechnology Conference and Expo – Nanotech 2011, June 13-16, 2011, Boston, MA.

98. Jain A, Jaiswal AR, Lu S, Wong YYW, Bhushan A, **Leung SW**, Daniels CK & Lai JCK (2011) Molecular Effects of Silicon Dioxide Nanoparticles on Cell Survival Signaling of Dorsal Root Ganglion (DRG) Neurons and Schwann Cells, presented at NSTI Nanotechnology Conference and Expo – Nanotech 2011, June 13-16, 2011, Boston, MA.

97. Wong YYW, Jaiswal AR, Dukhande VV, Bhushan A, **Leung SW** & Lai JCK (2011) New *In Vitro* Strategy of Astrocytoma (Astrocytes-like) Cells Treated with Pioglitazone (PPAR gamma agonist) Offers Neuroprotection Against Nanoparticle-Induced Cytotoxicity, presented at NSTI Nanotechnology Conference and Expo – Nanotech 2011, June 13-16, 2011, Boston, MA.

96. **S.W. Leung***, A. Chan, M. Minski, and J.C.K. Lai, “Comparison of Elemental Distribution in Rat’s Brain after Lifelong Treatment with Excessive Mn $^{2+}$ in Drinking Water and the Health Implications, presented at International Water Convention, Singapore, July 4-8, 2011. IWA-6218-R1.

95. **S.W. Leung***, A. Chan, M. Minski, and J.C.K. Lai, “Effects of Lifetime Consumption of Excessive Mn $^{2+}$ in Drinking Water to Elemental Distribution in Vital Organs”, presented at International Water Convention, Singapore, July 4-8, 2011. IWA-6243.

94. G.L. Wright, J.C.K. Lai, A. Chan, M. Minski, and **S.W. Leung***, “Influence of Metallomic Distribution in Brain by Prolong Consumption of Contaminant in Drinking Water”, presented at International Water Convention, Singapore, July 4-8, 2011. IWA-6228R1.
93. Ashvin R. Jaiswal, Shuangyun Lu, Jean Pfau, Yin Yin W. Wong, Alok Bhushan, **Solomon W Leung**, Christopher K. Daniels, and James C.K. Lai, “Effects of Silicon Dioxide Nanoparticles on Peripheral Nervous System Neural Cell Models”, presented at NanoTech Conference and Expo, Boston, MA, June 13-16, 2011.
92. Shuangyun Lu, Ashvin R. Jaiswal, Yin Yin W. Wong, Alok Bhushan, **Solomon W Leung**, Christopher K. Daniels, and James C.K. Lai, “Differential Cytotoxic Effects of Titanium Oxide Nanoparticles on Peripheral Nervous System Neural Cells”, presented at NanoTech Conference and Expo, Boston, MA, June 13-16, 2011.
91. J.C.K. Lai, W. Gao, and **S. W. Leung***, “Effects of Chitosan and Nanoparticles on Survival of Schwann Cells and Dorsal Root Ganglion Neurons”, presented at NanoTech Conference and Expo, Boston, MA, June 13-16, 2011.
90. Bhushan A, Patil PP, Bhardwaj V, Lai MB, Daniels CK, **Leung SW** & Lai JCK (2010) “Cross Resistance of Magnesium Oxide Nanoparticles to Cisplatin in Leukemia Cells: Mechanistic Studies”, presented at Mechanical Engineers Seminar on Nanotechnology in Medicine and Biotechnology, October 5, 2010, London, UK.
89. G. L. Wright, J.C.K. Lai, A. Chan, M. Minski, and **S. W. Leung***, “Metallomic Distribution in Various Regions of the Brain as Influenced by Dietary Intakes and Implications”, to be presented at International Society for Environmental Information Sciences (ISEIS) 2010 Annual Conference, August 27-29, 2010, Beijing, China
88. **S. W. Leung***, B. Williams, A. Chan, M. Minski, C. Daniels, and J.C.K. Lai, “Effects of Diet Intakes on Metal and Electrolyte Distributions in Vital Organs”, to be presented at International Society for Environmental Information Sciences (ISEIS) 2010 Annual Conference, August 27-29, 2010, Beijing, China
87. Yin Yin Wendy Wong, Ashvin R. Jaiswal, Alok Bhushan, **Solomon W. Leung**, and James C.K. Lai, "Further Elucidation of Neuroprotective Properties of Astrocytoma (Astrocytes-like) Cells", presented at 51st Annual Meeting of Idaho Academy of Science Symposium, March 11 – 13, 2010, College of Southern Idaho, Twin Falls, Idaho.
86. Bhushan Gokhale and **Solomon Leung**, “Radon, its distribution in groundwater and sorption phenomena with the surrounding soils in Antelope Creek Valley”, presented at 51st Annual Meeting of Idaho Academy of Science Symposium, March 11 – 13, 2010, College of Southern Idaho, Twin Falls, Idaho
86. Wenjuan Gao, James C.K.Lai, Alok Bhushan, and **Solomon W. Leung**, Treatment with Chitosan Film/Membrane Suppresses Proliferation of PANC-1 Cells and Activates Akt and ERK Signaling”, presented at Idaho State University Graduate Research Symposium, April 9, 2010.
85. Wenjuan Gao, James C.K.Lai, Alok Bhushan, and **Solomon W. Leung***, “Mechanistic Analysis of Treatment of Panc-1 Cells with Chitosan Film/Membrane”, presented at 51st Annual Meeting of Idaho Academy of Science Symposium, March 11 – 13, 2010, College of Southern Idaho, Twin Falls, Idaho
84. **S. W. Leung***, W. Gao, H. Gu, A. Bhushan, and J.C.K. Lai, “Chitosan Membrane in Combinations with Nanoparticles and Adriamycin as a Treatment to Inhibit Glioma Growth and Migration”, presented at Annual NSTI Nanotech Conference & Expo, June 21-25, 2010, Anaheim, CA
83. **S. W. Leung***, Y. Wang, H. Gu, and J.C.K. Lai, “Biomedical Applications of Modified Carbon Glassy Electrode Sensor with Nanoparticles and Dendrimers”, presented at Annual NSTI Nanotech Conference & Expo, June 21-25, 2010, Anaheim, CA
82. Wong YYW, Jaiswal AR, Dukhande VV, Bhushan A, **Leung SW** & Lai JCK (2010) Elucidation of Neuroprotective Properties of Astrocytoma (Astrocytes-like) Cells in Neural Cell Culture Models *In Vitro*: Applications in Tissue Engineering and Nanotoxicology. presented at 2010 NSTI Nanotechnology

Conference and Trade Show, June 21-25, 2010, Anaheim, CA

81. Solomon W. Leung* and Songqiao Chen, “In-situ treatment of groundwater for arsenic removal in rural areas”, sent to IWA Water Congress and Exhibition, September 19-24, 2010, Montreal, Canada

80. Solomon W. Leung* and James C. K. Lai “Development of Biocompatible Biosensor and Applications in Metabolic Detections” presented at the Inaugural Symposium on Enzymes & Biocatalysis-2010 (SEB-2010), April 21-24, 2010, Shanghai, China

79. Gao W, Leung SW, Lai JCK & Bhushan A (2010) Mechanistic Analysis of Treatment of PANC-1 Cells with Chitosan Film/Membrane. 52nd Annual Symposium of the Idaho Academy of Sciences, March 11-13, 2010, College of Southern Idaho, Twin Falls, ID, Program/Abstract Volume, p. 15.

78. Solomon W. Leung* and James C. K. Lai “Development of Biocompatible Biosensor and Applications in Metabolic Detections” to be presented at the Inaugural Symposium on Enzymes & Biocatalysis-2010 (SEB-2010), April 21-24, 2010, Shanghai, China

77. Solomon W. Leung*, Yuanhong Wang, and James C.K. Lai, Rapid Response Sensor for Water Quality Measurements at Trace Level, presented at 14th Intermountain Conference on the Environment (ICE) & 42nd Engineering Geology and Geotechnical Engineering Symposium (EGGES), November 5-6, 2009, Pocatello, ID

76. Shilpa Siddhanti, James C.K. Lai, and **Solomon W. Leung***, “Effects of Polluted Water Intakes on Elemental Distributions in Vital Organs”, presented at 14th Intermountain Conference on the Environment (ICE) & 42nd Engineering Geology and Geotechnical Engineering Symposium (EGGES), November 5-6, 2009, Pocatello, ID

75. Ananthakrishnan G, Dukhande VV, Gokhale M, Jandhyam S, Bhushan A, **Leung SW** & Lai JCK (2009) “Silicon Dioxide Nanoparticles Induce a Decrease in Cell Survival and Alterations in Expression of Phospho-ERK and Mitochondrial Proteins in U-87 (Astrocytes-Like) cells”, Annual Meeting, Society for Neuroscience, October, 2009, Chicago, IL

74. Patil PP, Lai MB, **Leung SW**, Lai JCK & Bhushan A (2009) Comparative Cytotoxic Effects of Magnesium Oxide Nanoparticles on Human Glioblastoma and Murine Leukemia Cells. Snake River Association for Neuroscience, Fall Conference, October 27, 2009, Idaho State University, Pocatello, ID

73. Gao WJ, Wang Y-H, Gu H-Y, Jandhyam S, Dukhande VV, Lai MB, **Leung SW**, Bhushan A & Lai JCK (2009) Chitosan Film/Membrane as a Surface to Alter Brain Glioma Growth and Migration. Snake River Association for Neuroscience, Fall Conference, October 27, 2009, Idaho State University, Pocatello, ID

72. W. Gao, J.C.K. Lai, and **S.W. Leung**, “Influence of Chitosan on Growth/Survival of Cancer Cells (U87 Cell and Panc-1 Cell)”, presented at the 2009 Graduate Student Symposium for Research and Creative Excellence, April 10, 2009

71. Wong YYW, Gao W, Dukhande VV, Jandhyam S, **Leung SW**, Bhushan A & Lai JCK (2009) “Extracellular Matrix Effects on Neural Cell Model *In Vitro*: Applications in Tissue Engineering”, Idaho State University Graduate Student Research and Creative Excellence Symposium, Pocatello, ID, April 10, 2009

70. Solomon W. Leung, Yuanhong. Wang, Wenjuan Gao, and James.C.K. Lai, “Characterization of Nanoparticles Modified Au Smart Sensor and Its Application on Detection of NO₂⁻ and Peroxide”, Idaho State University’s 2nd Annual Research and Creative Activities Day, Tuesday, March 31, 2009

69. J.C.K. Lai, Y. Wang, W. Gao, H. Gu, and **S. W. Leung***, “Performance Comparisons of Nanoparticle Modified Sensor Electrodes for the Detection of Nitrite and Peroxide”, presentation at Nanotech, May 3 - 7, 2009, Houston, Texas

68. S. W. Leung*, Y. Wang, H. Gu, and J.C.K. Lai, “Characterization and Applications of Modified Gold Electrode Sensor with Nanoparticles”, presentation at Nanotech, May 3 - 7, 2009, Houston, Texas

67. W.J. Gao, Y.-H. Wang, H.-Y. Gu, S. Jandhyam, V.V. Dukhande, M.B. Lai, **S.W. Leung**, A. Bhushan and J.C.K. Lai, "Chitosan Film/Membrane as a Surface to Alter Brain Glioma Growth and Migration", presented at Nanotech, May 3 - 7, 2009, Houston, Texas
66. M.B. Lai, S. Jandhyam, V.V. Dukhande, A. Bhushan, C.K. Daniels, **S.W. Leung**, and J.C.K. Lai, "Cytotoxicity of metallic oxide nanoparticles in human neural and non-neural cells", presented at Nanotech, May 3 - 7, 2009, Houston, Texas
65. James C.K. Lai, Maria B. Lai, Sirisah Jandhyam, Vikas V. Dukhande, Alok Bhushan, Christopher K. Daniels, and **Solomon W. Leung**, "Human Astrocytoma Cells Are Differentially Susceptible to the Cytotoxic Effects of Metal Oxide Nanoparticles", presentation at the Special Symposium for the Society For Biomaterials, Translational Biomaterial Research: Advancing Discoveries from the Laboratory to the Clinic, September 11-13, 2008, Buckhead (Atlanta), Georgia.
64. **Solomon W. Leung***, Carmen S. Bartolin, Christopher K. Daniels, and James C.K. Lai, "Differential Effects of Surfactants on DNA and Protein Transport through a Semipermeable Membrane", presentation at the Special Symposium for the Society For Biomaterials, Translational Biomaterial Research: Advancing Discoveries from the Laboratory to the Clinic, September 11-13, 2008, Buckhead (Atlanta), Georgia.
63. S. Jandhyam, M.B. Lai, V.V. Dukhande, A. Bhushan, C.K. Daniels, **S.W. Leung**, and J.C.K. Lai, "Cell death mechanisms underlying the toxicity of titanium dioxide (TiO₂) micro- and nanoparticles in human cell types", presented at the 50th Idaho Academy of Science Annual Meeting, March 27-29, 2008, College of Western Idaho, Nampa, Idaho. Pg. 33.
62. Maria B. Lai, Sirisha Jandhyam, Vikas V. Dukhande, Alok Bhushan, Christopher K. Daniels, Solomon **W. Leung**, and James C.K. Lai, "Cytotoxic Effects of Magnesium and Zinc Oxide Nanoparticles on Cancerous and Noncancerous Cells", presented at the 50th Idaho Academy of Science Annual Meeting, March 27-29, 2008, College of Western Idaho, Nampa, Idaho. Pg. 43.
61. **S.W. Leung***, C.S. Bartolin, C.K. Daniels, and J.C.K. Lai, "Effect of Carbon Nanotube on Transport of DNA through Microchannels", presented at the 50th Idaho Academy of Science Annual Meeting, March 27-29, 2008, College of Western Idaho, Nampa, Idaho. Pg. 50.
60. Y.-H. Wang, W.J. Gao, S. Jandhyam, V.V. Dukhande, H.-Y. Gu, M.B. Lai, **S.W. Leung**, and J.C.K. Lai, "Contact and Non-Contact Cell Culture Models for Tissue Engineering and Nanotoxicity Research", presented at the 50th Idaho Academy of Science Annual Meeting, March 27-29, 2008, College of Western Idaho, Nampa, Idaho. Pg. 51.
59. James C.K. Lai, Vikas Bhardway, Tranushree Chatterji, Naish Rizvi, Alfred O. Isaac, Maria B. Lai, Tara Johnson, **Solomon W. Leung**, Christopher K. Daniels, and Alok Bhushan, "Inhibitors of Glycolytic Enzymes: Induction of Cancer Cell Death and Alteration in Cell Signaling", presented at the 50th Idaho Academy of Science Annual Meeting, March 27-29, 2008, College of Western Idaho, Nampa, Idaho. Pg. 12.
58. Y.-H. Wang, S. Jandhyam, V.V. Dukhande, W.J. Gao, H.-Y. Gu, M.B. Lai, **S.W. Leung**, and J.C.K. Lai, "A Co-Culture Model for Nanotoxicity and Tissue Engineering Studies", presented at the 11th Annual NSTI Nanotechnology Conference, June 1-5, 2008, Boston, MA
57. W.J. Gao, V.V. Dukhande, S. Jandhyam, Y.-H. Wang, H.-Y. Gu, M.B. Lai, J.C.K. Lai, and **S.W. Leung***, "A Non-Contact Culture Model for Investigating Cell Signaling and Nanotoxicity", presented at the 11th Annual NSTI Nanotechnology Conference, June 1-5, 2008, Boston, MA
56. M.B. Lai, S. Jandhyam, V.V. Dukhande, A. Bhushan, C.K. Daniels, **S.W. Leung**, and J.C.K. Lai, "Differential Cytotoxicity of Metallic Oxide Nanoparticles in Mammalian Cells", presented at the 11th Annual NSTI Nanotechnology Conference, June 1-5, 2008, Boston, MA
55. S. Jandhyam, M.B. Lai, V.V. Dukhande, A. Bhushan, C.K. Daniels, **S.W. Leung**, and J.C.K. Lai, "Silicon Dioxide Nanoparticles Exert Dissimilar Cytotoxic Effects on Mammalian Cell Types", presented at the 11th Annual NSTI Nanotechnology Conference, June 1-5, 2008, Boston, MA

- 54. S. W. Leung***, S. Bartolin, C.K. Daniels, and J.C.K. Lai, “Characterization of DNA Transport through a Semipermeable Membrane with the Effect of Surfactants”, presented at the 11th Annual NSTI Nanotechnology Conference, June 1-5, 2008, Boston, MA
- 53.** James CK Lai, Marco P Schoen, Arya Ebrahimpour, Alok Bhushan, and **Solomon W Leung***, “Fast-Response Smart Self-Assembling Biosensors for Biomarker Detection”, presented at the 2007 ASME International Mechanical Engineering Congress and Exposition, Seattle, Washington, Nov 12-15, 2007.
- 52. Solomon W Leung**, Arya Ebrahimpour, Marco P Schoen, and James CK Lai, “Self-Cleansing Flexible Stent for Prevention of Clogging of Blood Vessels”, 2007 ASME International Mechanical Engineering Congress and Exposition, Seattle, Washington, , Nov 12-15, 2007
- 51.** Maria B. Lai, Sirisha Jandhyam, **Solomon W. Leung**, Alok Bhushan, Christopher K. Daniels, and James C.K. Lai, “Cytotoxic Effects of Titanium Oxide Nanoparticles in Human Neurotumor Cells”, presented at The Intermountain Conference on The Environment, Pocatello, ID Oct 18-19, 2007
- 50. Solomon. W. Leung**, Sandra Bartolin, Christopher. K. Daniels, and James. C. K. Lai, “Separation of DNA by a Semipermeable Membrane for Drinking Water and the Controlling Factors”, presented at The Intermountain Conference on The Environment, Pocatello, ID, Oct 18-19, 2007
- 49.** Bhushan Gokhale and **Solomon Leung**, “Radon -222 Concentrations in Groundwater of Antelope Creek, ID”, presented at The Intermountain Conference on The Environment, Pocatello, ID, Oct 18-19, 2007
- 48.** James C.K. Lai, Maria B. Lai, Alok Bhushan, Sirisha Jandhyam, Kristina L. Edgley, Christopher K. Daniels, and **Solomon W. Leung**, “Cytotoxicity of Silicon Dioxide Nanoparticles: Relevance to Environmental Health”, presented at The Intermountain Conference on The Environment, Pocatello, ID, Oct 18-19, 2007
- 47. Solomon W. Leung***, Christopher K. Daniels, James C.K. Lai, “Spectrophotometric Characterization of Surfactant Modulation on Herring DNA”, presented at the 62nd ACS Northwest Regional Meeting, Boise, Idaho, June 17 - 20, 2007.
- 46. Solomon W. Leung***, Songqiao Chen, Golam M.I. Chowdhury, and James C.K. Lai, “Simulation of In-Situ Arsenic Remediation in Groundwater: Iron Precipitation and Arsenic Immobilization by Batch and Column Experiments”, presented at the 62nd ACS Northwest Regional Meeting, Boise, Idaho, June 17 - 20, 2007.
- 45.** James C.K. Lai, Vikas Bhardwaj, Nisha Rizvi, Tanushree Chatterji, Alfred O. Isaac, Maria B. Lai, Tara Johnson, **Solomon W. Leung**, Christopher K. Daniels, and Alok Bhushan, “Glycolytic enzyme inhibitors as novel anti-cancer drugs”, presented at the 62nd ACS Northwest Regional Meeting, Boise, Idaho, June 17 - 20, 2007.
- 44.** James C.K. Lai, Cristian Trigo, Sandra Bartolin, and **Solomon W. Leung***, “Characterization of DNA Stability with Surfactants and DNA Transport across Semipermeable Membranes”, submitted to 49th Annual Meeting and Symposium of Idaho Academy of Science, April 19-21, 2007.
- 43. Solomon W. Leung***, Songqiao Chen, Golam M.I. Chowdhury, and James C.K. Lai, “In Situ Arsenic Remediation in Groundwater by Immobilization with Iron Oxide”, presented at the 49th Annual Meeting and Symposium of Idaho Academy of Science, April 19-21, 2007.
- 42.** Maria B. Lai, Golam M.I. Chowdhury, Sandeep B. Sheth, **Solomon W. Leung**, Alok Bhushan, Alex W.K. Chan, Margaret J. Minski, Christopher K. Daniels, and James C.K. Lai , “Differential Organ Distribution of Manganese from Drinking Water and Cellular Manganese Toxicity”, presented at the 49th Annual Meeting and Symposium of Idaho Academy of Science, April 19-21, 2007
- 41.** James CK Lai, Marco P Schoen, Arya Ebrahimpour, Alok Bhushan, and **Solomon W Leung***, “Fast-Response Smart Self-Assembling Biosensors for Biomarker Detection”, presented at 2007 ASME International Mechanical Engineering Congress and Exposition, Seattle, Washington, Nov 12-15, 2007

40. Solomon W Leung, Arya Ebrahimpour, Marco P Schoen, and James CK Lai, “Self-Cleansing Flexible Stent for Prevention of Clogging of Blood Vessels”, presented at 2007 ASME International Mechanical Engineering Congress and Exposition, Seattle, Washington, Nov 12-15, 2007

39. S. W. Leung, C. Trigo, C.K. Daniels, A. Bhushan, and J.C.K. Lai, “Transport of Ionic Electrolytes and Proteins through Semipermeable Membrane with Effect of Surfactants”, presented at the 10th Annual NSTI Nanotech Conference, Silicon Valley, CA, May 20-24, 2007

38. James C.K. Lai, Maria B. Lai, Kristina L. Edgley, Alok Bhushan, Vikas V. Dukhande, Christopher K. Daniels, and **Solomon W. Leung**, “Silicon Dioxide Nanoparticles Can Exert Cytotoxic Effects on Neural Cells”, presented at the 5th Annual NSTI BioNano Conference, Silicon Valley, CA, May 20-24, 2007

Invited Session Chairs and Session Chairs

5. Invited Section Chair, Track 5-1: Enzymes for Diagnosis of Infective Diseases, Inaugural Symposium on Enzymes & Biocatalysis-2010 (SEB-2010), April 21-24, 2010, Shanghai, China

4. Invited Session and Chair: Bioinformatics on Nanotoxicity and the Environment at the 12th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2008 June 29th - July 2nd, 2008, Orlando, Florida, USA

3. Conference Co-Chair Track 9-3-2: Mechanical Systems and Control: Application of Modeling, Identification and Intelligent Systems - II (Technical Session), 2007 ASME International Mechanical Engineering Congress and Exposition, Seattle, Washington, Nov 12-15, 007

Invited Presentations

15. Solomon W. Leung, “Stability of DNA in Surfactants and Transport through a Semipermeable Membrane”, presented at College of Rural Health, Nantong University, Nantong, China, Oct 21, 2008

14. Golam M. I. Chowdhury, James C. K. Lai, **Solomon W. Leung**, Robin A. de Graaf, Graeme F. Mason, Fahmeed Hyder, Douglas L. Rothman, Kevin L. Behar, “Nanotoxicity Studies of the CNS: Potential Application of Magnetic Resonance Spectroscopy Methods”, to be presented at the 12th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2008 June 29th - July 2nd, 2008, Orlando, Florida, USA

13. James C.K. LAI, Sirisha JANDHYAM, Maria B. LAI, Vikas V. DUKHANDE, Alok BHUSHAN, Christopher K. DANIELS, **Solomon W. Leung**, “Cytotoxicity of Metallic Oxide Nanoparticles: New Insights into Methodological Problems and Advances in Elucidation of Underlying Mechanisms”, to be presented at the 12th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2008 June 29th - July 2nd, 2008, Orlando, Florida, USA

12. Solomon W. Leung, Sandra. Bartolin, Christian Trigo, Christopher K. Daniels, James C.K. Lai, “Environmental Effect: Comparison of DNA Transport with Proteins at Various pHs with and without Surfactants”, to be presented at the 12th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2008 June 29th - July 2nd, 2008, Orlando, Florida, USA.

11. Solomon Leung, “The World’s Problem in Arsenic and Simulation of In-situ Remediation of Groundwater: Iron Precipitation and Arsenic Immobilization by Batch and Column Experiments”, presented at the Shanghai Normal University, Shanghai, China, September 19, 2007

10. S. W. Leung, “Global Environment Sustainability: from Developed to Developing Countries”, on Oxford Round Table on Global Warming and Sustainable Development: Governing a Crisis, Aug 12-17, 2007, Harris Manchester College, Oxford, England

9. **Solomon Leung**, Joint Presentation with Alok Bhushan, “Detection of Cell Signaling Processes and Their Parallels in Bioengineering: Potential and Challenges for New Technologies”, special seminar on Robotics and Computer Assisted Micro-Surgery, Institution of Mechanical Engineers, Medical Engineering Board, London, UK, Nov 9, 2006
8. **Solomon Leung**, “Differential Effects of Surfactants on Activities of GDH, LDH, and MDH”, presented at Nantong University, Nantong, China, Oct 25, 2006
7. **Leung, Solomon W.**, “Advances of Nanotechnology in Engineering”, Idaho State University Office of Research Sponsored Research Colloquium, Oct. 11, 2006.
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4. **Leung, Solomon**, "Remedial Design Concepts: General Considerations", presented at Malaysia Department of Environment and Malaysia Institute of Engineers, Kuala Lumpur, Malaysia. 7/17/2002
3. **Solomon Leung**, “Chemical Degradation of Hazardous Organic Compounds by Fenton’s Reagent” at the Civil and Structural Engineering Department of Hong Kong University, 12/13/95; Civil and Structural Engineering Department of Hong Kong University of Science and Technology, 12/15/95
2. **Solomon Leung**. “State of the Art of Remediation Technologies and Needs in Environmental Engineering”, Industrial Technology Research Institute, Energy and Resources Laboratories, Hsinchu, Taiwan, summer, 1994
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29. David Assan, Christian Trigo, and **Solomon W. Leung***, “Cancer Incidence Assessment in Rural Idaho from 1998-2007 and Its Implications”, sent to Journal of Rural Health.
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20. Bhushan Gokhale and **Solomon Leung***, "Groundwater Radon-222 Concentrations in Antelope Creek, Idaho: Measurement and Interpolation", accepted for publication (6/6/2010), The Open Environmental & Biological Monitoring Journal, Bentham Science Publishers, Ltd
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BOOKS AND REPORTS

2. Leung*Corresponding author., **Solomon W.**, Soon Tae Kim, G.E. Start, Jerry Crescenti, “Variations of Wind Fluctuations Observed at Various Heights over Terrain near Boulder, CO”, Report, College of Engineering, Idaho State University, May, 1999

1. Contributing author, Air Toxics: Problems; and Solutions, Newark, Gordon & Breach Publishing Group, 1996

PUBLICATIONS IN PREPARATION

Leung, Solomon W., Minhua Xie, “Degradation of Urine in Titanium Dioxide Mediated Photoreaction”, in preparation.

Leung, Solomon W., Herb Grewing, “Health Assessment of Uranium Uptake by Workers in Environment with Depleted Uranium”, in preparation to ES&T

CO-EDITOR OF SPECIAL ISSUE OF JOURNAL:

Nanotoxicity and Signaling Mechanisms, *American Journal of Pharmacology and Toxicology* (in preparation)

JOURNAL AND PROPOSAL REVIEWER:

Served as referee for numerous journals and funding agencies on consistent basis.

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Thesis Examiner of universities from universities outside of U.S.A. (Australia, Hong Kong): M.S. (2), Ph.D. (1)

OTHER CONTRIBUTIONS (Visiting Scholars, Training Post-Doctoral Fellow)

1. Dr. Leung also served as a Ph.D. student mentor for Ajou University, Suwon, Korea 1999 (Soon Tae Kim, currently Assistant Professor in Environmental Engineering of Ajou University, Korea).

2. Serves as visiting host and research collaborator:

- Professor Man Soon Hong, Ajou University, Suwon, Korea, 1998
- Professor Young Kwon Kim, Hank Yong National University, Ansong, Korea, 2008
- Professor Byung-Yeal Cho, Chung-ju National University, Korea, current

CURRENT RESPONSIBILITIES

Coordinator of M.S. Environmental Engineering program

Steering Committee Member of Idaho Biomedical Research Institute (IBRI), Division Leader of Health Sciences and Engineering of IBRI

Steering Committee Member of ISU Idea Network of Biomedical Research Excellence (INBRE) Program

Professor of Civil and Environmental Engineering Department

Researcher of Biomedical Engineering Research Group, Measurement and Control Engineering Research Center of ISU