

## **John C. Little**

Professor

Department of Civil & Environmental Engineering

Virginia Tech, Blacksburg, VA 24061-0246

Phone: (540) 231 8737 Email: jcl@vt.edu

### **Qualifications**

- P.E. (Professional Chemical Engineer), Certificate #CH 4738, California, 1992
- Ph.D. (Environmental Engineering), University of California, Berkeley, 1990
- M.S. (Environmental Engineering), University of California, Berkeley, 1988
- B.Sc. (Chemical Engineering), University of Cape Town, 1985
- M.Sc. (Physical Chemistry), University of Cape Town, 1984

### **Academic and Professional Experience**

- Professor, Department of Civil & Environmental Engineering, Virginia Tech, Blacksburg, Virginia (Aug 2004 – present)
- Associate Professor, Department of Civil & Environmental Engineering, Virginia Tech, Blacksburg, Virginia (Aug 1998 – Jul 2004)
- Assistant Professor, Department of Civil & Environmental Engineering, Virginia Tech, Blacksburg, Virginia (Aug 1993 – Jul 1998)
- Postdoctoral Fellow, Indoor Environment Program, Lawrence Berkeley National Laboratory, Berkeley, California (Jan 1991 – Jun 1993)
- Project Engineer, Binnie & Partners, Environmental Engineering Consultants, Johannesburg, South Africa (Jan 1985 – Jun 1987)

### **Visiting Professor**

- Department of Building Science, Tsinghua University, Beijing, China (May 2007; Sep 2007; Jun 2009)
- Instituto del Agua, Universidad de Granada, Spain (Apr 2007 – Jun 2007)
- Department of Surface Waters, Swiss Federal Institute for Aquatic Science and Technology (Eawag), Kastanienbaum, Switzerland (Jan 2000 – Dec 2000; Jan 2007 – Mar 2007; Jul 2007 – Dec 2007)

### **Awards**

- Association of Environmental Engineering and Science Professors (AEESP)/CH2M Hill Outstanding Doctoral Dissertation Award (2011)
- International Society of Indoor Air Quality and Climate (ISIAQ) Academy of Fellows (2008)
- National Science Foundation CAREER Award (1996)

### **Selected Student Awards and Achievements**

- Ying Xu received the 2011 Yaglou Award from the Academy of Indoor Air Sciences for being the most promising young (under age of 37) researcher in the field of indoor air sciences
- Lee Bryant received the 2011 CH2M Hill/AEESP Outstanding Doctoral Dissertation Award for completing the top PhD dissertation in the environmental science and engineering field in 2010
- Lee Bryant received a 2-year NSF Earth Sciences Postdoctoral Fellowship in 2010
- Ying Xu accepted a faculty position in the Department of Civil, Architectural and Environmental Engineering at the University of Texas, Austin in 2009
- Lee Bryant won first place in the Paul E. Torgersen Graduate Student Research Excellence PhD Poster Competition in 2009

### **Selected Recent Professional and Consulting Activities**

- Chair of International Water Association (IWA) Specialist Group on Lake and Reservoir Management
- Chair of International Society of Indoor Air Quality and Climate (ISIAQ) Scientific and Technical Committee: Sources, Monitoring and Evaluation: Chemicals
- Editorial Board Member of Indoor Air – An International Journal of Indoor Environment and Health
- Editorial Board Member of Building Simulation – An International Journal
- Consultant to the City of Atlanta – Optimizing Reservoir Water Quality at the Conceptual Design Stage: Bellwood Quarry Reservoir, Atlanta, Georgia, USA
- Consultant to National Center for Environmental Assessment, US EPA, Cincinnati, Ohio – Developing Model to Predict Leaching of Alkyltin Stabilizers from PVC Pipe into Drinking Water

### **Selected Department/College Service Activities**

- Coordinator, Environmental and Water Resources Engineering Program
- Director, NSF IGERT Program: EIGER – Exploring Interfaces through Graduate Education and Research
- Chair, P&T Committee, Department of Civil and Environmental Engineering

### **Primary Teaching**

- CEE 5794 Environmental Engineering Principles
- CEE 5774 Hazardous Waste Management
- CEE 5126 Environmental Engineering Design II
- CEE 4134 Environmental Sustainability
- CEE 3104 Introduction to Environmental Engineering

### **Research Interests**

Primary interests are cross-media mass transfer and process dynamics in environmental systems. Current focus is on emissions from building materials and consumer products, the sustainable management of lakes and reservoirs, and interdisciplinary research.

### **Selected Recent Research Projects**

- Little, J. C. Developing a Reference Material for Formaldehyde Emissions Testing, Environmental Protection Agency, 6/01/11 – 2/15/12, \$150,000.
- Little, J. C. and Xu, Y. Collaborative Research: Phthalate Plasticizers: Temperature Dependence of Material/Air Equilibria and Consequences for Emissions, Exposure and Risk, National Science Foundation, 5/01/11 – 4/30/14, \$422,364.
- Socolofsky, S. A. and Little, J. C. Collaborative Research: Managing Oxygen Demand in Lakes and Reservoirs – A Competition between Natural and Artificial Forcing, National Science Foundation, 9/01/10 – 8/31/13, \$492,224.
- Little, J. C. and Marand, E. Developing Barrier Layers to Minimize Volatile Emissions from Structural Insulated Panels, National Science Foundation, 4/01/06 – 3/31/10, \$375,000.
- Little, J. C. and Marr, L. C. Emission of Phthalates from Vinyl Flooring and Interaction with Fine Particles, National Science Foundation, 9/01/05 – 8/31/10, \$396,392.
- Hochella, M. F., Filz, G. M., Foti, R. J., Little, J. C. and Winkel, B. S. IGERT: EIGER – Exploring Interfaces through Graduate Education and Research, National Science Foundation, 7/01/05 – 6/30/12, \$3,101,844.

## Selected Publications

- Bryant, L. D., Hsu-Kim, H., Gantzer, P. A. and Little, J. C. "Solving the Problem at the Source: Controlling Mn Release at the Sediment-Water Interface via Hypolimnetic Oxygenation," Water Research, Vol. 45, 2011, 6381-6392.
- Adams, W. A., Xu, Y., Little, J. C., Fristachi, A. F., Rice, G. E., and Impellitteri, C. A. "Predicting the Migration Rate of Dialkyl Organotins from PVC Pipe into Water," Environmental Science & Technology, Vol. 45, 2011, pp. 6902-6907.
- Zhang, Y., Mo, J., Li, Y., Sundell, J., Wargocki, P., Zhang, J., Little, J. C., Corsi, R., Deng, Q., Leung, M., Fang, L., Chen, W., Li, J., Sun, Y. "Can commonly-used indoor air cleaning technologies improve indoor air quality? A literature review," Atmospheric Environment, Vol. 45, 2011, 4329-4343.
- Bryant, L. D., Gantzer, P. A. and Little, J. C. "Increased Sediment Oxygen Uptake Caused by Oxygenation-Induced Hypolimnetic Mixing," Water Research, Vol. 45, 2011, 3692-3703.
- Howard-Reed, C., Liu, Z., Benning, J., Cox, S. S., Samarov, D., Leber, D., Hodgson, A., Mason, S., Won, D. and Little, J. C. "Diffusion-Controlled Reference Material for Volatile Organic Compound Emissions Testing: Pilot Inter-laboratory Study," Building and Environment, Vol. 46, 2011, pp. 1504-1511.
- Singleton, V. L., Rueda, F. J. and Little, J. C. "A Coupled Bubble Plume-Reservoir Model for Hypolimnetic Oxygenation," Water Resources Research, Vol. 46, 2010, W12538.
- Bryant, L. D., Lorrai, C., McGinnis, D. F., Brand, A., Little, J. C. and Wüest, A. "Evaluating Oxygen Fluxes Using Microprofiles from Both Sides of the Sediment-Water Interface," Limnology and Oceanography: Methods, Vol. 8, 2010, pp. 610-627.
- Cox, S. S., Liu, Z., Little, J. C., Howard-Reed, C., Nabinger, S., and Persily, A. "Diffusion-Controlled Reference Material for VOC Emissions Testing: Proof of Concept," Indoor Air, Vol. 20, No. 5, 2010, pp. 424-433.
- Clausen, P. A., Liu, Z., Xu, Y., Kofoed-Sørensen, V., and Little, J. C. "Influence of Air Flow Rate on Emission of DEHP from Vinyl Flooring: Measurements and CFD Simulation," Atmospheric Environment, Vol. 44, 2010, pp. 2760-2766.
- Knocke, W. R., Zuravnsky, L., Little, J. C. and Tobiason, J. E. "Adsorptive Contactors for Removal of Soluble Manganese During Drinking Water Treatment," Journal AWWA, Vol. 102, No. 8, 2010, pp. 64-75.
- Bryant, L. D., Lorrai, C., McGinnis, D. F., Brand, A., Wüest, A. and Little, J. C. "Variable Sediment Oxygen Uptake in Response to Dynamic Forcing," Limnology and Oceanography, Vol. 55, No. 2, 2010, pp. 950-964.
- Xu, Y., Cohen Hubal, E. A. and Little, J. C. "Predicting Residential Exposure to Phthalate Plasticizer Emitted from Vinyl Flooring – Sensitivity, Uncertainty, and Implications for Biomonitoring," Environmental Health Perspectives, Vol. 118, No. 2, 2010, pp. 253-258.
- Herrera-Alonso, J. M., Marand E., Little, J.C., Cox, S. S. "Polymer/Clay Nanocomposites as VOC Barrier Materials and Coatings," Polymer, Vol. 50, 2009, pp. 5744-5748.
- Fristachi, A., Xu, Y., Rice, G., Impellitteri, C. A., Carlson-Lynch, H. and Little, J. C. "Using Probabilistic Modeling to Evaluate Human Exposure to Organotin in Drinking Water Transported by Polyvinyl Chloride Pipe," Risk Analysis, Vol. 29, No. 11, 2009, pp. 1615-1628.
- Gilmore, K. R., Little, J. C., Smets, B. F. and Love N. G. "Oxygen Transfer Model for a Flow-Through Hollow-Fiber Membrane Biofilm Reactor," Journal of Environmental Engineering, ASCE, Vol. 135, No. 9, 2009, pp. 806-814.
- Herrera-Alonso, J. M., Marand E., Little, J.C., Cox, S. S. "Transport Properties in Polyurethane/Clay Nanocomposites as Barrier Materials: Effect of Processing Conditions," Journal of Membrane Science, Vol. 337, 2009, pp. 208-214.
- Xu, Y., Cohen Hubal, E. A., Clausen, P. A. and Little, J. C. "Predicting Residential Exposure to Phthalate Plasticizer Emitted from Vinyl Flooring – A Mechanistic Analysis," Environmental Science & Technology, Vol. 43, 2009, pp. 7512-7520.
- Gantzer, P. A., Bryant, L. D. and Little, J. C. "Effect of Hypolimnetic Oxygenation on Oxygen Depletion Rates in Two Water-Supply Reservoirs" Water Research, Vol. 43, 2009, 1700-1710.
- Gantzer, P. A., Bryant, L. D. and Little, J. C. "Controlling Soluble Iron and Manganese in a Water-Supply Reservoir using Hypolimnetic Oxygenation," Water Research, Vol. 43, 2009, 1285-1294.

- Yuan, H., Little, J. C., Marand, E. and Liu, Z. "Using Fugacity to Predict Volatile Emissions from Layered Materials with a Clay/Polymer Diffusion Barrier," Atmospheric Environment, Vol. 41, 2007, pp. 9300-9308.
- Yuan, H., Little, J. C. and Hodgson, A. T. "Transport of Polar and Non-Polar Volatile Compounds in Polystyrene Foam and Oriented Strand Board," Atmospheric Environment, Vol. 41, 2007, pp. 3241-3250.
- Morrison, G. C., Little, J. C., Xu, Y., Rao, M. and Enke, D. "Gas-Phase Exposure History Derived from Material-Phase Concentration Profiles," Atmospheric Environment, Vol. 41, 2007, pp. 3276-3286.
- Clausen, P. A., Xu, Y., Kofoed-Sørensen, V., Little, J. C. and Wolkoff, P. "The Influence of Humidity on the Emission of Di-(2-Ethylhexyl) Phthalate (DEHP) from Vinyl Flooring in the Emission Cell "FLEC"," Atmospheric Environment, Vol. 41, 2007, pp. 3217-3224.
- Qian, K., Zhang, Y., Little, J. C. and Wang, X. "Dimensionless Correlations to Predict VOC Emissions from Dry Building Materials," Atmospheric Environment, Vol. 41, 2007, pp. 352-359.
- Singleton, V. L., Gantzer, P. and Little, J. C. "Linear Bubble Plume Model for Hypolimnetic Oxygenation – Full-Scale Validation and Sensitivity Analysis," Water Resources Research, Vol. 43, 2007, W02405.
- Singleton, V. L. and Little, J. C. "Designing Hypolimnetic Aeration and Oxygenation Systems – A Review," Environmental Science & Technology, Vol. 40, 2006, pp. 7512-7520.
- Xu, Y. and Little, J. C. "Predicting Emissions of SVOCs from Polymeric Materials and Their Interaction with Airborne Particles," Environmental Science & Technology, Vol. 40, 2006, pp. 456-461.
- Leung, S. M., Little, J. C. Holst, T., and Love, N. G. "Air/Water Oxygen Transfer in a Biological Aerated Filter," Journal of Environmental Engineering, ASCE, Vol. 132, 2006, pp. 181-189.
- Britton, J. P., Filz, G. M. and Little, J. C. "The Effect of Variability in Hydraulic Conductivity on Contaminant Transport Through Soil-Bentonite Cutoff Walls," Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Vol. 131, 2005, pp. 951-957.
- McGinnis, D. F., Lorke, A., Wüest, A., Stöckli, A. and Little, J. C. "Interaction between a Bubble Plume and the Near Field in a Stratified Lake," Water Resources Research, Vol. 40, 2004, W10206.
- Zhao, D. Y., Little, J. C. and Cox, S. S. "Characterizing Polyurethane Foam as a Sink for or Source of VOCs in Indoor Air," Journal of Environmental Engineering, ASCE, Vol. 130, 2004, pp. 983-989.
- Kim, E., Little, J. C. and Chiu, N. "Estimating Exposure to Chemical Contaminants in Drinking Water," Environmental Science & Technology, Vol. 38, 2004, pp. 1799-1806.
- Kumar, D. and Little, J. C. "Characterizing the Source/Sink Behavior of Double-Layer Building Materials," Atmospheric Environment, Vol. 37, 2003, pp. 5529-5537.
- Kumar, D. and Little, J. C. "A Single-Layer Model to Predict the Source/Sink Behavior of Diffusion-Controlled Building Materials," Environmental Science & Technology, Vol. 37, 2003, pp. 3821-3827.
- Burris, V. L., McGinnis, D. F. and Little, J. C. "Predicting Oxygen Transfer and Water Flow Rate in Airlift Aerators," Water Research, Vol. 36, 2002, pp. 4605-4615.
- McGinnis, D. F. and Little, J. C. "Predicting Diffused-Bubble Oxygen Transfer Rate using the Discrete-Bubble Model," Water Research, Vol. 36, 2002, pp. 4627-4635.
- Zhao, D. Y., Little, J. C. and Hodgson, A. T., Modeling the Reversible, Diffusive Sink Effect in Response to Transient Contaminant Sources, Indoor Air, Vol. 12, 2002, pp. 184-190.
- Cox, S. S., Little, J. C. and Hodgson, A. T. "Predicting the Emission Rate of Volatile Organic Compounds from Vinyl Flooring," Environmental Science & Technology, Vol. 36, 2002, pp. 709-714.
- Cox, S. S., Hodgson, A. T. and Little, J. C. "Measuring Concentrations of Volatile Organic Compounds in Vinyl Flooring," Journal Air & Waste Management Association, Vol. 51, 2001, pp. 1195-1201.
- Cox, S. S., Zhao, D. and Little, J. C. "Measuring Partition and Diffusion Coefficients for Volatile Organic Compounds in Vinyl Flooring," Atmospheric Environment, Vol. 35, 2001, pp. 3823-3830.
- Filz, G. M., Widdowson, M. A. and Little, J. C. "Barrier-Controlled Monitored Natural Attenuation," Environmental Science & Technology, Vol. 35, No. 15, 2001, pp. 3225-3230.
- Little, J. C. and Mariñas, B. J. "Crossflow versus Counterflow Air-Stripping Towers," Journal of Environmental Engineering, ASCE, Vol. 123, 1997, pp. 668-674.
- Lin, T-F., Little, J. C. and Nazaroff, W. W. "Transport and Sorption of Organic Gases in Activated Carbon," Journal of Environmental Engineering, ASCE, Vol. 122, 1996, pp. 169-175.
- Little, J. C. "Hypolimnetic Aerators: Predicting Oxygen Transfer and Hydrodynamics," Water Research, Vol. 29, No. 11, 1995, pp. 2475-2482.

- Little, J. C., Hodgson, A. T. and Gadgil, A. J. "Modeling Emissions of Volatile Organic Compounds from New Carpets," Atmospheric Environment, Vol. 28, 1994, pp. 227-234.
- Lin, T-F., Little, J. C. and Nazaroff, W. W. "Transport and Sorption of VOCs and Water Vapor within Dry Soil Grains," Environmental Science & Technology, Vol. 28, 1994, pp. 322-330.
- Little, J. C., Daisey, J. M. and Nazaroff, W. W. "Transport of Subsurface Contaminants into Buildings," Environmental Science & Technology, Vol. 26, 1992, pp. 2058-2066.
- Little, J. C. "Applying the Two-Resistance Theory to Contaminant Volatilization in Showers," Environmental Science & Technology, Vol. 26, 1992, pp. 1341-1349.
- Little, J. C. and Selleck, R. E. "Evaluating the Performance of Two Plastic Packings in a Crossflow Aeration Tower," Journal American Water Works Association, Vol. 83, No. 6, 1991, pp. 88-95.

### Well-Cited Publications

1. [108 Citations ISI] Little, J. C., Hodgson, A. T. and Gadgil, A. J. "Modeling Emissions of Volatile Organic Compounds from New Carpets," Atmospheric Environment, Vol. 28, 1994, pp. 227-234.
2. [53 Citations ISI] Little, J. C., Daisey, J. M. and Nazaroff, W. W. "Transport of Subsurface Contaminants into Buildings," Environmental Science & Technology, Vol. 26, 1992, pp. 2058-2066.
3. [50 Citations ISI] Cox, S. S., Zhao, D. Y. and Little, J. C. "Measuring Partition and Diffusion Coefficients for Volatile Organic Compounds in Vinyl Flooring," Atmospheric Environment, Vol. 35, 2001, pp. 3823-3830.
4. [46 Citations ISI] Cox, S. S., Little, J. C. and Hodgson, A. T. "Predicting the Emission Rate of Volatile Organic Compounds from Vinyl Flooring," Environmental Science & Technology, Vol. 36, 2002, pp. 709-714.
5. [42 Citations ISI] Lin, T-F., Little, J. C. and Nazaroff, W. W. "Transport and Sorption of VOCs and Water Vapor within Dry Soil Grains," Environmental Science & Technology, Vol. 28, 1994, pp. 322-330.
6. [40 Citations ISI] Little, J. C. "Applying the Two-Resistance Theory to Contaminant Volatilization in Showers," Environmental Science & Technology, Vol. 26, 1992, pp. 1341-1349.

### Selected Invited Presentations

- Little, J. C. "Introduction to Oxygen and Aeration Systems for Lakes and Reservoirs," Australian Water Quality Research Centre, Adelaide, Australia, Aug 5, 2011.
- Little, J. C., Schmid, M., and Wüest, A. "The Effect of Changes in Wind, River Inflow, and Air Temperature on Deep Mixing in a Medium-Sized Lake," Symposium on "Climate Change and Water Quality: What Does it Mean for Water Utilities?" Australian Water Quality Research Centre, Adelaide, Australia, Aug 2, 2011.
- Little, J. C. "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 27, 2011.
- Little, J. C. "Comparing Systems that Replenish Oxygen in Lakes and Reservoirs – Speece Cone, Airlift Aerator and Bubble Plume Diffuser," IWA World Water Congress, Montreal, Canada, September 19 to 24, 2010.
- Little, J. C. "Gas-Phase Emissions of DEHP and Interaction with Airborne Particles," Joint Conference of International Society of Exposure Science & International Society for Environmental Epidemiology, ISES-ISEE 2010, Seoul, Korea, Aug 29 to Sep 2, 2010.
- Little, J. C. "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 28, 2010.
- Little, J. C. "Characterizing Sources of VOCs and SVOCs," Eawag Summer School, Kastanienbaum, Switzerland, Jul 10, 2010.
- Little, J. C. "Gas-Phase Emission of DEHP and the Resulting Distribution and Exposure in the Indoor Environment," 1<sup>st</sup> International Workshop on SVOCs in the Indoor Environment, Tsinghua University, Beijing, China, Jun 1 to 2, 2010.

- Little, J. C. "Predicting Gas-Phase Emissions of DEHP and the Resulting Distribution and Exposure in a Residential Environment," Workshop on Human Exposure to Phthalates: Relevant Sources, Exposure Paths, and Toxicokinetics – Examples DEHP and DINP, Berlin, Germany, Feb 22 to 23, 2010.
- Little, J. C. "Sources, Emissions, Transport, Exposure and Rapid Screening for Exposure," Indoor Air Institute Workshop on Semi-Volatile Organic Compounds (SVOCs) in the Residential Environment, EPA, Research Triangle Park, NC, Aug 18 to 19, 2009.
- Little, J. C. "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 21, 2009.
- Little, J. C. "Hypolimnetic Oxygenation: A Review," IWA Workshop on Lake and Reservoir Management: Drinking Water Security and Emergency Response, Tongji University, Shanghai, China, Jul 8 to 11, 2009.
- Little, J. C. "Hypolimnetic Oxygenation: A Review," The First IWA Symposium on Lake and Reservoir Management - New Approaches for Managing Source Water to Meet Water Treatment Targets, National Cheng Kung University, Tainan, Taiwan, Jun 28 to Jul 2, 2009.
- Little, J. C. "Emissions of VOCs and SVOCs from Building Materials and Consumer Products," Third International Conference on Built Environment and Public Health, Guilin, Guangxi, China, May 29 to 31, 2009.
- Little, J. C., Filz, G. M., Foti, R. J., Hochella, M. F. and Winkel, B. S., "EIGER – Exploring Interfaces through Graduate Education and Research," Virginia Tech Summit on Interdisciplinary Research, Blacksburg, Aug 11, 2008.
- Little, J. C. "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 16, 2008.
- Little, J. C. "Modelling and Measuring VOC and SVOC Emissions and Transport," Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, La Rochelle, France, Jul 8, 2008.
- Little, J. C. and Wüest, A. "Effect of a Changing Climate on the Stability of Lakes and Reservoirs," 5<sup>th</sup> Swiss Geoscience Meeting, Geneva, Switzerland, Nov 17, 2007.
- Little, J. C. "Characterizing Indoor Sources of VOCs and SVOCs," Fraunhofer Wilhelm-Klauditz Institute, Braunschweig, Germany, November 9, 2007.
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Monday Seminar, Eawag, Kastanienbaum, Switzerland, October 22, 2007.
- Little, J. C. "Characterizing Indoor Sources of VOCs and SVOCs," Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, September 21, 2007.
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs, Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, September 20, 2007.
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs, CAST Annual Conference 2007 – International Environmental Security and Human Health Workshop, Chinese Society of Environmental Sciences, Wuhan, China, September 9, 2007.
- Little, J. C. "Characterizing Indoor Sources of VOCs and SVOCs," Chinese Indoor Environment and Health Association, Beijing, China, May 31, 2007.
- Little, J. C. "Characterizing Indoor Sources of VOCs and SVOCs," Workshop on Indoor Air Pollution, Department of Building Science, Tsinghua University, Beijing, China, May 28, 2007.
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Special Seminar, Instituto del Agua, Universidad de Granada, Spain, May 11, 2007.
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Friday Seminar, Eawag, Dübendorf, Switzerland, March 23, 2007.
- Little, J. C. "Characterizing Indoor Sources of VOCs and SVOCs," Department of Civil and Environmental Engineering, University of California, Berkeley, California, April 7, 2006.
- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," Institute for Health & Consumer Protection, European Commission Joint Research Centre, Ispra, Italy, June 20, 2005.
- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," Department of Mechanical Engineering, University of Hong Kong, China, December 17, 2004.
- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," Institute for Health & Consumer Protection, European Commission Joint Research Centre, Ispra, Italy, October 26, 2004.

- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," National Institute of Occupational Health, Copenhagen, Denmark, September 2, 2004.
- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," International Centre for Indoor Environment and Energy, Technical University of Denmark, Lyngby, Denmark, September 3, 2004.
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," University of Illinois, Urbana-Champaign, Illinois, April 9, 2004.
- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," Department of Building Science, Tsinghua University, Beijing, China, October 8, 2003.
- Little, J. C. "Source/Sink Behavior of Diffusion-Controlled Building Materials," Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, La Rochelle, France, June 26, 2003.
- Little, J. C. "Hypolimnetic Oxygenation of Lakes and Reservoirs," Korea Institute of Science and Technology, Seoul, Korea, November 29, 2002.
- Little, J. C. "Meromixis – The Impact of Salt Fluxes on Mixing in Lakes," Department of Environmental Science and Engineering, EWHA Woman's University, Seoul, Korea, November 27, 2002.
- Little, J. C. "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Civil and Environmental Engineering, Korea University, Seoul, Korea, November 26, 2002.
- Little, J. C. "Environmental Mass Transfer Processes: From Fundamental Theory to Practical Application," Invited series of six research lectures given in the Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, July 1 to July 31, 1999:
- Little, J. C. "Hypolimnetic Oxygenation of Stratified Reservoirs," Environmental & Water Resources Engineering Program, Department of Civil Engineering, University of Texas, Austin, April 2, 1999.
- Little, J. C. "Impact of Building Materials on Indoor Air Quality," Environmental & Water Resources Engineering Program, Department of Civil Engineering, University of Texas, Austin, April 1, 1999.
- Little, J. C. "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Environmental Physics, Eawag, Dübendorf, Switzerland, May 26, 1997.
- Little, J. C. "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Civil and Environmental Engineering, University of California, Berkeley, California, March 7, 1997.

## Theses and Dissertations

Postdoctoral associates, dissertations, and theses

Name	Degree	Advising Role	Start Date	Completion Date
Benning, Jennifer	Postdoc	Co-advisor	Spring, 09	Summer, 10
Cox, Steve	Postdoc	Advisor	Fall, 01	Continuing
Park, JinSoo	Postdoc	Advisor	Summer, 06	Fall, 07
Tadanier, Chris	Postdoc	Co-advisor	Spring, 98	Fall, 99
Zhao, Dongye	Postdoc	Advisor	Fall, 97	Spring, 99
Britton, Jeremy	Ph.D.	Co-Advisor	Fall, 98	Fall, 01
Bryant, Lee	Ph.D.	Co-Advisor	Fall, 03	Spring, 10
Cox, Steve	Ph.D.	Advisor	Fall, 97	Spring, 01
Gantzer, Paul	Ph.D.	Advisor	Fall, 02	Spring, 08
Liu, Zhe	Ph.D.	Advisor	Fall, 06	Continuing
McGinnis, Dan	Ph.D.	Advisor	Fall, 00	Fall, 03
Singleton, Vickie	Ph.D.	Advisor	Spring, 03	Spring, 08
Stewart, Melissa	Ph.D.	Advisor	Fall, 09	Continuing
Xu, Ying	Ph.D.	Advisor	Fall, 04	Summer, 09
Yuan, Huali	Ph.D.	Advisor	Fall, 02	Fall, 05
Bierlein, Kevin	M.S.	Advisor	Spring, 10	Continuing
Browne, Rick	M.S.	Advisor	Fall, 11	Continuing
Burris, Vickie	M.S.	Advisor	Spring, 96	Fall, 98
Busiek, Brian	M.S.	Advisor	Spring, 01	Fall, 02
Dorsel, Danny	M.S.	Advisor	Fall, 96	Spring, 98
Elam, Kevin	M.S.	Advisor	Fall, 06	Fall, 08
Fronk, Robert	M.S.	Advisor	Spring, 95	Fall, 96
Gantzer, Paul	M.S.	Advisor	Spring, 00	Spring, 02
Husovitz, Kari	M.S.	Co-advisor	Fall, 97	Spring, 99
Jones, Steven	M.S.	Advisor	Fall, 07	Spring, 10
Khanal, Rajesh	M.S.	Advisor	Spring, 98	Spring, 99
Kumar, Deept	M.S.	Advisor	Fall, 99	Spring, 02
Leung, Susanna	M.S.	Co-advisor	Fall, 01	Spring, 03
McGinnis, Dan	M.S.	Advisor	Fall, 96	Spring, 00
Olinde, Lindsay	M.S.	Advisor	Fall, 05	Spring, 07
Royston, Wendy	M.S.	Advisor	Fall, 94	Spring, 96
Sankaran, Karpagam	M.S.	Advisor	Fall, 96	Fall, 98
Zuravnsky, Lauren	M.S.	Co-Advisor	Fall, 04	Fall, 06

## Student Evaluations of Instruction

Recent course evaluations

Semester	Course No.	Exlt	Good	Fair	Poor	Resp.	Enrol.	Rating
Spring, 01	CEE 5126	5	9	0	0	14	14	3.36
Fall, 01	CEE 5774	7	3	0	0	10	12	3.70
Fall, 01	CEE 5794	16	3	0	0	19	19	3.84
Spring, 02	CEE 3104	15	14	3	0	32	52	3.38
Fall, 02	CEE 5774	2	2	0	0	4	4	3.50
Fall, 02	CEE 5794	12	14	0	0	26	48	3.46 <sup>†</sup>
Spring, 03	CEE 3104	21	21	0	0	42	51	3.50
Fall, 03	CEE 5794	21	9	2	0	32	32	3.59
Spring, 04	CEE 3104	29	16	0	0	45	59	3.64
Fall, 04	CEE 5774	10	6	0	0	16	19	3.63 <sup>†</sup>
Fall, 04	CEE 5794	10	13	2	0	25	28	3.32
Spring, 05	CEE 5126	7	2	1	0	10	11	3.60
Fall, 05	CEE 5794	13	6	0	0	19	19	3.68
Spring, 06	CEE 5774	3	1	0	0	4	10	3.75 <sup>†</sup>
Fall, 06	CEE 5794	7	18	1	0	26	50	3.23 <sup>†</sup>
Spring, 07	Sabbatical							
Fall, 07	Sabbatical							
Fall, 08	CEE 5774	5	7	0	0	12	18	3.42 <sup>†</sup>
Spring, 09	CEE 4984	10	8	1	0	19	20	3.47
Fall, 09	CEE 5794	33	2	0	0	35	39	3.94
Spring, 10	CEE 4984	16	15	1	0	32	34	3.47
Fall, 10	CEE 5794	18	6	1	0	25	65	3.68 <sup>†</sup>
Spring, 11	CEE 5984	14	4	0	0	18	22	3.78
Totals		274	179	12	0	465	626	3.56

<sup>†</sup>TV class

## Publications

Refereed journal publications

1. Bryant, L. D., Hsu-Kim, H., Gantzer, P. A. and Little, J. C. "Solving the Problem at the Source: Controlling Mn Release at the Sediment-Water Interface via Hypolimnetic Oxygenation," Water Research, Vol. 45, 2011, 6381-6392.
2. Adams, W. A., Xu, Y., Little, J. C., Fristachi, A. F., Rice, G. E., and Impellitteri, C. A. "Predicting the Migration Rate of Dialkyl Organotins from PVC Pipe into Water," Environmental Science & Technology, Vol. 45, 2011, pp. 6902-6907.
3. Zhang, Y., Mo, J., Li, Y., Sundell, J., Wargocki, P., Zhang, J., Little, J. C., Corsi, R., Deng, Q., Leung, M., Fang, L., Chen, W., Li, J., Sun, Y. "Do commonly-used indoor air cleaning technologies improve indoor air quality? A literature review," Atmospheric Environment, Vol. 45, 2011, 4329-4343.

4. Bryant, L. D., Gantzer, P. A. and Little, J. C. "Increased Sediment Oxygen Uptake Caused by Oxygenation-Induced Hypolimnetic Mixing," Water Research, Vol. 45, 2011, 3692-3703.
5. Howard-Reed, C., Liu, Z., Benning, J., Cox, S. S., Samarov, D., Leber, D., Hodgson, A., Mason, S., Won, D. and Little, J. C. "Diffusion-Controlled Reference Material for Volatile Organic Compound Emissions Testing: Pilot Inter-laboratory Study," Building and Environment, Vol. 46, 2011, pp. 1504-1511.
6. Singleton, V. L., Rueda, F. J. and Little, J. C. "A Coupled Bubble Plume-Reservoir Model for Hypolimnetic Oxygenation," Water Resources Research, Vol. 46, 2010, W12538.
7. Bryant, L. D., Lorrai, C., McGinnis, D. F., Brand, A., Little, J. C. and Wüest, A. "Evaluating Oxygen Fluxes Using Microprofiles from Both Sides of the Sediment-Water Interface," Limnology and Oceanography: Methods, Vol. 8, 2010, pp. 610-627.
8. Knocke, W. R., Zuravnsky, L., Little, J. C. and Tobiasson, J. E. "Adsorptive Contactors for Removal of Soluble Manganese During Drinking Water Treatment," Journal AWWA, Vol. 102, No. 8, 2010, pp. 64-75.
9. Cox, S. S., Liu, Z., Little, J. C., Howard-Reed, C., Nabinger, S., and Persily, A. "Diffusion-Controlled Reference Material for VOC Emissions Testing: Proof of Concept," Indoor Air, Vol. 20, No. 5, 2010, pp. 424-433.
10. Clausen, P. A., Liu, Z., Xu, Y., Kofoed-Sørensen, V., and Little, J. C. "Influence of Air Flow Rate on Emission of DEHP from Vinyl Flooring: Measurements and CFD Simulation," Atmospheric Environment, Vol. 44, 2010, pp. 2760-2766.
11. Bryant, L. D., Lorrai, C., McGinnis, D. F., Brand, A., Wüest, A. and Little, J. C. "Variable Sediment Oxygen Uptake in Response to Dynamic Forcing," Limnology and Oceanography, Vol. 55, No. 2, 2010, pp. 950-964.
12. Xu, Y., Cohen Hubal, E. A. and Little, J. C. "Predicting Residential Exposure to Phthalate Plasticizer Emitted from Vinyl Flooring – Sensitivity, Uncertainty, and Implications for Biomonitoring," Environmental Health Perspectives, Vol. 118, No. 2, 2010, pp. 253-258.
13. Gantzer, P. A., Bryant, L. D. and Little, J. C. "Lake and Reservoir Management," Water Environment Research, Vol. 81, No. 10, 2009, pp. 1854-1956.
14. Herrera-Alonso, J. M., Marand E., Little, J.C., Cox, S. S. "Polymer/Clay Nanocomposites as VOC Barrier Materials and Coatings," Polymer, Vol. 50, 2009, pp. 5744-5748.
15. Fristachi, A., Xu, Y., Rice, G., Impellitteri, C. A., Carlson-Lynch, H. and Little, J. C. "Using Probabilistic Modeling to Evaluate Human Exposure to Organotin in Drinking Water Transported by Polyvinyl Chloride Pipe," Risk Analysis, Vol. 29, No. 11, 2009, pp. 1615-1628.
16. Gilmore, K. R., Little, J. C., Smets, B. F. and Love N. G. "Oxygen Transfer Model for a Flow-Through Hollow-Fiber Membrane Biofilm Reactor," Journal of Environmental Engineering, ASCE, Vol. 135, No. 9, 2009, pp. 806-814.

17. Herrera-Alonso, J. M., Marand E., Little, J.C., Cox, S. S. "Transport Properties in Polyurethane/Clay Nanocomposites as Barrier Materials: Effect of Processing Conditions," Journal of Membrane Science, Vol. 337, 2009, pp. 208-214.
18. Xu, Y., Cohen Hubal, E. A., Clausen, P. A. and Little, J. C. "Predicting Residential Exposure to Phthalate Plasticizer Emitted from Vinyl Flooring – A Mechanistic Analysis," Environmental Science & Technology, Vol. 43, 2009, pp. 7512-7520.
19. Gantzer, P. A., Bryant, L. D. and Little, J. C. "Effect of Hypolimnetic Oxygenation on Oxygen Depletion Rates in Two Water-Supply Reservoirs" Water Research, Vol. 43, 2009, 1700-1710.
20. Gantzer, P. A., Bryant, L. D. and Little, J. C. "Controlling Soluble Iron and Manganese in a Water-Supply Reservoir using Hypolimnetic Oxygenation," Water Research, Vol. 43, 2009, 1285-1294.
21. Gantzer, P. A., Singleton, V. L. and Little, J. C. "Lake and Reservoir Management," Water Environment Research, Vol. 80, No. 10, 2008, pp. 1743-1790.
22. Yuan, H., Little, J. C., Marand, E. and Liu, Z. "Using Fugacity to Predict Volatile Emissions from Layered Materials with a Clay/Polymer Diffusion Barrier," Atmospheric Environment, Vol. 41, 2007, pp. 9300-9308.
23. Yuan, H., Little, J. C. and Hodgson, A. T. "Transport of Polar and Non-Polar Volatile Compounds in Polystyrene Foam and Oriented Strand Board," Atmospheric Environment, Vol. 41, 2007, pp. 3241-3250.
24. Morrison, G. C., Little, J. C., Xu, Y., Rao, M. and Enke, D. "Gas-Phase Exposure History Derived from Material-Phase Concentration Profiles," Atmospheric Environment, Vol. 41, 2007, pp. 3276-3286.
25. Clausen, P. A., Xu, Y., Kofoed-Sørensen, V., Little, J. C. and Wolkoff, P. "The Influence of Humidity on the Emission of Di-(2-Ethylhexyl) Phthalate (DEHP) from Vinyl Flooring in the Emission Cell "FLEC"," Atmospheric Environment, Vol. 41, 2007, pp. 3217-3224.
26. Hu, H. P., Zhang, Y. P., Wang, X. K., and Little, J. C. "An Analytical Mass-Transfer Model for Predicting VOC Emissions from Multi-Layered Building Materials with Convective Surfaces on Both Sides," International Journal of Heat and Mass Transfer, Vol. 50, 2007, pp. 2069-2077.
27. Ömür-Özbek, P., Little, J. C. and Dietrich, A. M. "Ability of Humans to Smell Geosmin, 2-MIB and Nonadienal in Indoor Air when using Contaminated Drinking Water," Water Science & Technology, Vol. 55, No. 5, 2007, pp. 249-256.
28. Qian, K., Zhang, Y., Little, J. C. and Wang, X. "Dimensionless Correlations to Predict VOC Emissions from Dry Building Materials," Atmospheric Environment, Vol. 41, 2007, pp. 352-359.
29. Singleton, V. L., Gantzer, P. and Little, J. C. "Linear Bubble Plume Model for Hypolimnetic Oxygenation – Full-Scale Validation and Sensitivity Analysis," Water Resources Research, 43, 2007, W02405.

30. Singleton, V. L. and Little, J. C. "Designing Hypolimnetic Aeration and Oxygenation Systems – A Review," Environmental Science & Technology, Vol. 40, 2006, pp. 7512-7520.
31. Xu, Y. and Little, J. C. "Predicting Emissions of SVOCs from Polymeric Materials and Their Interaction with Airborne Particles," Environmental Science & Technology, Vol. 40, 2006, pp. 456-461.
32. Leung, S. M., Little, J. C. Holst, T., and Love, N. G. "Air/Water Oxygen Transfer in a Biological Aerated Filter," Journal of Environmental Engineering, ASCE, Vol. 132, 2006, pp. 181-189.
33. Britton, J. P., Filz, G. M. and Little, J. C. "The Effect of Variability in Hydraulic Conductivity on Contaminant Transport Through Soil-Bentonite Cutoff Walls," Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Vol. 131, 2005, pp. 951-957.
34. McGinnis, D. F., Lorke, A., Wüest, A., Stöckli, A. and Little, J. C. "Interaction between a Bubble Plume and the Near Field in a Stratified Lake," Water Resources Research, Vol. 40, 2004, W10206.
35. Zhao, D. Y., Little, J. C. and Cox, S. S. "Characterizing Polyurethane Foam as a Sink for or Source of VOCs in Indoor Air," Journal of Environmental Engineering, ASCE, Vol. 130, 2004, pp. 983-989.
36. Kim, E., Little, J. C. and Chiu, N. "Estimating Exposure to Chemical Contaminants in Drinking Water," Environmental Science & Technology, Vol. 38, 2004, pp. 1799-1806.
37. Kumar, D. and Little, J. C. "Characterizing the Source/Sink Behavior of Double-Layer Building Materials," Atmospheric Environment, Vol. 37, 2003, pp. 5529-5537.
38. Kumar, D. and Little, J. C. "A Single-Layer Model to Predict the Source/Sink Behavior of Diffusion-Controlled Building Materials," Environmental Science & Technology, Vol. 37, 2003, pp. 3821-3827.
39. McGinnis, D. F. and Little, J. C. "Predicting Diffused-Bubble Oxygen Transfer Rate using the Discrete-Bubble Model," Water Research, Vol. 36, 2002, pp. 4627-4635.
40. Burris, V. L., McGinnis, D. F. and Little, J. C. "Predicting Oxygen Transfer and Water Flow Rate in Airlift Aerators," Water Research, Vol. 36, 2002, pp. 4605-4615.
41. Zhao, D. Y., Little, J. C. and Hodgson, A. T., "Modeling the Reversible, Diffusive Sink Effect in Response to Transient Contaminant Sources," Indoor Air, Vol. 12, 2002, pp. 184-190.
42. Cox, S. S., Little, J. C. and Hodgson, A. T. "Predicting the Emission Rate of Volatile Organic Compounds from Vinyl Flooring," Environmental Science & Technology, Vol. 36, 2002, pp. 709-714.
43. Kim, E., Little, J. C., Chiu, N. and Chiu, A. "Inhalation Exposure to Volatile Chemicals in Drinking Water," Journal of Environmental Science and Health, Vol. C19, No. 2, 2001, pp. 387-413.

44. Little, J. C. and McGinnis, D. F. "Hypolimnetic Oxygenation: Predicting Performance Using a Discrete-Bubble Model," Water Science & Technology: Water Supply, Vol. 1, No. 4, 2001, pp. 185-191.
45. Cox, S. S., Zhao, D. Y. and Little, J. C. "Measuring Partition and Diffusion Coefficients for Volatile Organic Compounds in Vinyl Flooring," Atmospheric Environment, Vol. 35, 2001, pp. 3823-3830.
46. Cox, S. S., Hodgson, A. T. and Little, J. C. "Measuring Concentrations of Volatile Organic Compounds in Vinyl Flooring," Journal Air & Waste Management Association, Vol. 51, 2001, pp. 1195-1201.
47. Filz, G. M., Widdowson, M. A. and Little, J. C. "Barrier-Controlled Monitored Natural Attenuation," Environmental Science & Technology, Vol. 35, No. 15, 2001, pp. 3225-3230.
48. Burris, V. L. and Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Hypolimnetic Aerator," Water Science & Technology, Vol. 37, No. 2, 1998, pp. 293-300.
49. McGinnis, D. F. and Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Speece Cone," Water Science & Technology, Vol. 37, No. 2, 1998, pp. 285-292.
50. Little, J. C. and Mariñas, B. J. "Crossflow versus Counterflow Air-Stripping Towers," Journal of Environmental Engineering, ASCE, Vol. 123, 1997, pp. 668-674.
51. Merkle, P. B., Knocke, W., R., Gallagher, D. L., and Little, J. C. "Dynamic Model for Soluble Mn(II) Removal by Oxide-Coated Filter Media," Journal of Environmental Engineering, ASCE, Vol. 123, 1997, pp. 650-658.
52. Lin, T-F., Little, J. C. and Nazaroff, W. W. "Transport and Sorption of Organic Gases in Activated Carbon," Journal of Environmental Engineering, ASCE, Vol. 122, 1996, pp. 169-175.
53. Little, J. C. "Hypolimnetic Aerators: Predicting Oxygen Transfer and Hydrodynamics," Water Research, Vol. 29, No. 11, 1995, pp. 2475-2482.
54. Little, J. C., Hodgson, A. T. and Gadgil, A. J. "Modeling Emissions of Volatile Organic Compounds from New Carpets," Atmospheric Environment, Vol. 28, 1994, pp. 227-234.
55. Lin, T-F. Little, J. C. and Nazaroff, W. W. "Transport and Sorption of VOCs and Water Vapor within Dry Soil Grains," Environmental Science & Technology, Vol. 28, 1994, pp. 322-330.
56. Little, J. C. Daisey, J. M. and Nazaroff, W. W. "Transport of Subsurface Contaminants into Buildings," Environmental Science & Technology, Vol. 26, 1992, pp. 2058-2066.
57. Little, J. C. "Applying the Two-Resistance Theory to Contaminant Volatilization in Showers," Environmental Science & Technology, Vol. 26, 1992, pp. 1341-1349.

58. Little, J. C. and Selleck, R. E. "Evaluating the Performance of Two Plastic Packings in a Crossflow Aeration Tower," Journal American Water Works Association, Vol. 83, No. 6, 1991, pp. 88-95.
59. Linder, P. W. and Little, J. C. "Prediction by Computer Modelling of the Precipitation of Stone Forming Solids from Urine," Inorganica Chimica Acta, Vol. 123, 1986, pp. 137-145.
60. Linder, P. W. and Little, J. C. "Formation Constants for the Complexes of Orthophosphate with Magnesium and Hydrogen Ions," Talanta, Vol. 32, No. 1, 1985, pp. 83-85.

#### Refereed book chapters

1. Tadanier, C. J., Little, J. C., Berry, D. F. and Hochella, M. F. "Microbial Acquisition of Nutrients from Mineral Surfaces," In R. Hellmann, and S.A. Wood (ed.) Water-Rock Interactions, Ore Deposits, and Environmental Geochemistry, Geochemical Society, Special Publication No. 7, 2002, pp. 339-364.
2. Little, J. C. and Chiu, N. "Transfer of Volatile Compounds from Drinking Water to Indoor Air," In: Exposure to Contaminants in Drinking Water: Estimating Uptake through the Skin and by Inhalation, ILSI Risk Science Institute, S. S. Olin, Ed., CRC Press, Boca Raton, FL, 1999, pp. 89-101.
3. Little, J. C. and Hodgson, A. T. "A Strategy for Characterizing Homogeneous, Diffusion-Controlled, Indoor Sources and Sinks," In: Characterizing Sources of Indoor Air Pollution and Related Sink Effects, ASTM STP 1287, B. A. Tichenor, Ed., American Society for Testing and Materials, Philadelphia, PA, 1996, pp. 294-304.

#### Discussion papers

1. Little, J. C. and Mariñas, B. J. "Cross-Flow versus Counterflow Air Stripping Towers – Closure," Journal of Environmental Engineering, ASCE, Vol. 125, 1999, pp. 887-888.
2. Little, J. C. "Comment on: Human Exposure to Volatile Organic Compounds in Household Tap Water," Environmental Science & Technology, Vol. 26, 1992, pp. 836-837.

#### Editorials

1. Weschler, C. J. and Little, J. C. "Chemical and Physical Factors that Influence Pollutant Dynamics in Indoor Atmospheric Environments," Atmospheric Environment, Vol. 41, 2007, pp. 3109-3110.

Papers in refereed conference proceedings (accepted based on peer review of paper)

1. \*Liu, Z., Howard-Reed, C., Cox, S. S. and **Little, J. C.** Diffusion-controlled reference material for VOC emissions testing: validation and application of a mass transfer model. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Short Paper)
2. \*Liu, Z., \*Xu, Y. and Little, J. C. Characterizing emissions of di-2-ethylhexyl phthalate from vinyl flooring in a specially-designed chamber. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Short Paper)
3. **Liu, C.**, \*Liu, Z., Little, J. C. and Zhang, Y. The influence of convective mass transfer on sink surfaces on emissions of SVOCs: an improved modeling and dimensionless analysis. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Paper)
4. **Clausen, P. A.**, \*Liu, Z., Kofoed-Sørensen, V., Little, J. C. and Wolkoff, P. The influence of temperature on the emission of di-(2-ethylhexyl) phthalate (DEHP) from PVC flooring in the emission cell FLEC. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Short Paper)
5. **Benning, J.**, \*Liu, Z., \*Tiwari, A., Little, J. C. and Marr, L. C. Charactering the gas/particle interactions of phthalate plasticizer emitted from vinyl flooring. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Paper)
6. \***Jones, S.**, \*Liu, Z., Little, J. C. Mercury emissions from polyurethane flooring in gymnasiums. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Short Paper)
7. **Howard-Reed, C.**, \*Liu, Z., Cox, S. S., Samarov, D., Leber, D. and Little, J. C. Assessing the shelf-life of a prototype reference material for product emissions testing. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Poster Presentation and Published Paper)
8. **Howard-Reed, C.**, \*Liu, Z., Cox, S. S., Little, J. C. Horn, W., Wilke, O., Wiegner, K. and Persily, A. Inter-laboratory study approach to validate the performance of a prototype reference material for product emissions testing. Proceedings of Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011. (Oral Presentation and Published Paper)
9. \*Xu, Y., Hubal, E. A. C., Clausen, P. A. and **Little, J. C.** 2008. Exposure to Phthalate Emitted from Vinyl Flooring and Sorbed to Interior Surfaces, Dust, Airborne Particles and Human Skin. Proceedings of Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008. (Oral Presentation and Published Proceedings Paper).
10. \*Herrera-Alonso, J., Marand, E., **Little, J. C.**, and Cox, S. S. 2008. Polymer/clay Nanocomposites used as Barrier Materials to Reduce Volatile Emissions. Proceedings of Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008. (Oral Presentation and Published Proceedings Paper).
11. \***Xu, Y.**, Park, J. K., Clausen, P. A., Kofoed-Sørensen, V., and Little, J. C. 2008. Characterizing emissions of phthalate plasticizer from vinyl flooring in a specially-

designed chamber. Proceedings of Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008. (Oral Presentation and Published Proceedings Paper).

12. Cox, S. S., Marand, E., and **Little, J. C.** 2008. Developing a standard reference VOC emissions source. Proceedings of Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008. (Oral Presentation and Published Proceedings Paper).
13. \***Xu, Y.** and Little, J. C. 2005. Modeling Emissions of SVOCs from Vinyl Flooring, Proceedings of the 10<sup>th</sup> International Conference on Indoor Air Quality and Climate (Indoor Air 2005), Beijing, China, September 4 to 9, 2005. (Oral Presentation and Published Proceedings Paper)
14. Cox, S. S., **Little, J. C.**, and Hodgson, A. T. 2005. Effect of Glass Transition Temperature on Volatile Emissions from Polymer Materials, Proceedings of the 10<sup>th</sup> International Conference on Indoor Air Quality and Climate (Indoor Air 2005), Beijing, China, September 4 to 9, 2005. (Oral Presentation and Published Proceedings Paper)
15. \*Yuan, H., **Little, J. C.**, Cox, S. S., and Hodgson, A. T. 2005. A Multi-Layer Model for Predicting VOC Emissions from Structural Insulated Panels, Proceedings of the 10<sup>th</sup> International Conference on Indoor Air Quality and Climate (Indoor Air 2005), Beijing, China, September 4 to 9, 2005. (Oral Presentation and Published Proceedings Paper)
16. **Clausen, P. A.**, Kofoed-Sørensen, V., Little, J. C., and Wolkoff, P. 2005. The Influence of Air Humidity on the Emission of Di-(2-Ethylhexyl)-Phthalate (DEHP) from Vinyl Flooring in the Emission Cell FLEC, Proceedings of the 10<sup>th</sup> International Conference on Indoor Air Quality and Climate (Indoor Air 2005), Beijing, China, September 4 to 9, 2005. (Poster Presentation and Published Proceedings Paper)
17. **Morrison, G.**, Grow, D., and Little, J. C. 2005. Gas-Phase Exposure History Derived from Material-Phase Concentration Profiles, Proceedings of the 10<sup>th</sup> International Conference on Indoor Air Quality and Climate (Indoor Air 2005), Beijing, China, September 4 to 9, 2005. (Oral Presentation and Published Proceedings Paper)
18. McGinnis, D. F., Lorke, A., Wüest, A., Stöckli, A. and **Little, J. C.** 2004. Interaction between a Bubble-Plume and the Near-Field in a Stratified Lake, Proceedings of 4<sup>th</sup> International Symposium on Environmental Hydraulics (ISEH), Hong Kong, China, December 15 to 18, 2004. (Oral Presentation and Published Proceedings Paper)
19. **Little, J. C.**, \*Yuan, H., Cox, S. S., and Hodgson, A. T. 2004. A Multi-Layer Model for Predicting VOC Emissions from Structural Insulated Panels, ASTM Conference on Indoor Emissions Testing – Methods and Interpretation, Sponsored by Committee D22 Air Quality and Subcommittee D22.05 on Indoor Air, Washington, DC, October 4 to 5, 2004. (Oral Presentation and Published Proceedings Paper)
20. **Cox, S.S.**, Little, J.C., and Hodgson, A.T., 2004. Effect of Glass Transition Temperature on Volatile Emissions from Building Materials, ASTM Conference on Indoor Emissions Testing – Methods and Interpretation, Sponsored by Committee D22 Air Quality and Subcommittee D22.05 on Indoor Air, Washington, DC, October 4 to 5, 2004. (Oral Presentation and Published Proceedings Paper)

21. **Little, J. C.** and Wüest, A. Meromixis: The Effect of Wind and River Inflow, Proceedings of the 7<sup>th</sup> Workshop on Physical Processes in Natural Waters, Northern Water Problems Institute, Russian Academy of Sciences, Petrozavodsk, Russia, July 2 to 5, 2003, pp. 30-36. (Oral Presentation and Published Proceedings Paper)
22. Zhao, D.Y., **Little, J.C.** and Cox, S.S. 2003. Sorption/Desorption Behavior of Polyurethane Foam. Proceedings of Healthy Buildings 2003, Singapore, December 7 to 11, 2003. (Oral Presentation and Published Proceedings Paper)
23. **Little, J.C.** Cox, S.S. and Hodgson, A.T. 2003. Effect of Glass Transition Temperature on Volatile Emissions from Vinyl Flooring. Proceedings of Healthy Buildings 2003, Singapore, December 7 to 11, 2003. (Oral Presentation and Published Proceedings Paper)
24. **Little, J.C.**, Wüest, A. and Unis, S. 2002. The Impact of Salt Fluxes on Meromixis in Lakes, Proceedings of 4<sup>th</sup> International Conference on Reservoir Limnology and Water Quality, Ceske Budejovice, Czech Republic, August 12 to 16, 2002, pp. 188-191. (Oral Presentation and Published Proceedings Paper)
25. \*McGinnis, D. F., **Little, J.C.**, and Wüest, A. 2002. Coupling Bubble-Plume and Reservoir Models for Optimization of Hypolimnetic Oxygenation, Proceedings of 4<sup>th</sup> International Conference on Reservoir Limnology and Water Quality, Ceske Budejovice, Czech Republic, August 12 to 16, 2002, pp. 224-227. (Oral Presentation and Published Proceedings Paper)
26. **Cox, S.S.**, Hodgson, A.T. and Little, J.C. 2002. Effect of Ventilation Rate on Contaminant Emission Rates from Diffusion-Controlled Materials, Proceedings of the 9th International Conference on Indoor Air Quality and Climate, Monterey, California, June 30 to July 5 - Indoor Air 2002, Vol. 3, pp. 196-201. (Oral Presentation and Published Proceedings Paper)
27. \*Kumar, D. and **Little, J.C.** 2002. Barriers to Reduce Emission Rates from Diffusion-Controlled Materials, Proceedings of the 9th International Conference on Indoor Air Quality and Climate, Monterey, California, June 30 to July 5 - Indoor Air 2002, Vol. 3, pp. 570-575. (Oral Presentation and Published Proceedings Paper)
28. \***Cox, S. S.**, Hodgson, A. T. and Little, J. C. "Effect of Air Exchange Rate on Emissions of VOCs from Building Materials," Proceedings of the AWMA Annual Conference, Orlando, Florida, June 24 to 28, 2001. (Oral Presentation and Published Proceedings Paper)
29. \*Kumar, D., **Little, J. C.** and \*Cox, S. S. "Emissions of VOCs from Diffusion-Controlled Materials – Non-Uniform Initial Concentration," Proceedings of the AWMA Annual Conference, Orlando, FL, June 24 to 28, 2001. (Oral Presentation and Published Proceedings Paper)
30. **Little, J. C.** and \*McGinnis, D. F. 2000. Hypolimnetic Oxygenation: Predicting Performance using a Discrete-Bubble Model, Proceedings of 1<sup>st</sup> World Water Congress, International Water Association (IWA), Paris, France, July 3 to 7, 2000, Vol. 5, pp. 255-260. (Oral Presentation and Published Proceedings Paper)

31. Zhao, D.Y., \*Cox, S.S., and **Little, J.C.** 1999. Source/Sink Characterization of Diffusion-Controlled Building Materials, Proceedings of the 8th International Conference on Indoor Air Quality and Climate - Indoor Air '99, Vol. 1, pp. 408-413. (Oral Presentation and Published Proceedings Paper)
32. **Zhao, D.Y.**, Rouques, J., Little, J.C., and Hodgson, A.T. 1999. Effect of Reversible, Diffusion-Controlled Sinks on VOC Concentrations in Buildings, Proceedings of the 8th International Conference on Indoor Air Quality and Climate - Indoor Air '99, Vol. 5, pp. 264-269. (Poster Presentation and Published Proceedings Paper)
33. \***McGinnis, D. F.** and Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Speece Cone," Proceedings of the IAWQ/IWSA Joint Specialist Conference on Reservoir Management and Water Supply - An Integrated System, Prague, Czech Republic, May 1997, Vol. 2, pp. 289-296. (Poster Presentation and Published Proceedings Paper)
34. \***Burris, V. L.** and Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Hypolimnetic Aerator," Proceedings of the IAWQ/IWSA Joint Specialist Conference on Reservoir Management and Water Supply - An Integrated System, Prague, Czech Republic, May 1997, Vol. 2, pp. 297-303. (Poster Presentation and Published Proceedings Paper)
35. \*McGinnis, D. F., Cumbie, W., and **Little, J. C.** "Nutrient Control in Standley Lake: Evaluation of Three Oxygen Transfer Devices," Proceedings of the IAWQ/IWSA Joint Specialist Conference on Reservoir Management and Water Supply - An Integrated System, Prague, Czech Republic, May 1997, Vol. 2, pp. 139-144. (Oral Presentation and Published Proceedings Paper)
36. **Lin, T-F.**, Little, J. C. and Nazaroff, W. W. 1993. "Diffusion and Nonlinear Sorption of VOCs and Water Vapor within Dry Soil Grains," Proceedings of the Annual Air and Waste Management Association Conference, Denver, Colorado, June 13 to 18, 1993, 93-MP-3.02. (Oral Presentation and Published Proceedings Paper)

Papers in refereed conference proceedings (accepted based on peer review of abstract)

1. Cox, S. S. and **Little, J. C.**, 2009. "Developing a Standard Reference VOC Emissions Source," Proceedings of Healthy Buildings 2009, Syracuse, NY, September 13 to 17, 2009. (Oral Presentation and Published Proceedings Paper)
2. \***Liu, Z.**, Cox, S. S. and Little, J. C., 2009. "Evaluation of Solid-Phase Microextraction Method for Measuring Material-Phase Concentrations of VOCs in Building Materials," Proceedings of Healthy Buildings 2009, Syracuse, NY, September 13 to 17, 2009. (Oral Presentation and Published Proceedings Paper)
3. \***Xu, Y.**, Park, J. K., Clausen, P. A., Kofoed-Sørensen, V., and Little, J. C., 2009. "Characterizing Emissions of Phthalate Plasticizer from Vinyl Flooring in a Specially-Designed SVOC Emission Chamber," Proceedings of Healthy Buildings 2009, Syracuse, NY, September 13 to 17, 2009. (Oral Presentation and Published Proceedings Paper)
4. **Little, J. C.**, and Wüest, A. "Effect of a Changing Climate on the Stability of Lakes and Reservoirs: Causes and Consequences," Proceedings of ISEH V, Fifth International

Symposium on Environmental Hydraulics, Arizona State University, Tempe, Arizona, December 4 to 7, 2007. (Oral Presentation and Published Proceedings Paper)

5. \*Singleton, V. L., Rueda, F. J. and **Little, J. C.** “Coupled Bubble-Plume/Reservoir Model for Hypolimnetic Oxygenation: Full Scale Evaluation,” Proceedings of ISEH V, Fifth International Symposium on Environmental Hydraulics, Arizona State University, Tempe, Arizona, December 4 to 7, 2007. (Oral Presentation and Published Proceedings Paper)
6. **Little, J. C.**, Marand, E., Cox, S. S., Howard-Reed, C. and Persily, A., “Creating a Standard Reference VOC Source Using Designer Polymers,” Proceedings of ISHVAC07, Tsinghua University, Beijing, China, September 7 to 8, 2007. (Oral Presentation)
7. \*Yuan, H., **Little, J. C.**, Marand, E. and \*Liu, Z. “Using Fugacity to Predict Volatile Emissions from Layered Materials with a Clay/Polymer Diffusion Barrier,” Proceedings of ISHVAC07, Tsinghua University, Beijing, China, September 7 to 8, 2007. (Oral Presentation and Published Proceedings Paper)
8. \***Bryant, L. D.**, and Little, J. C., 2007. “The Impact of Hypolimnetic Oxygenation on Oxygen, Iron and Manganese Cycling at the Sediment/Water Interface,” Proceedings of 11<sup>th</sup> Workshop on Physical Processes in Natural Waters (PPNW), Baltic Sea Research Institute (IOW), Warnemunde, Germany, Sep 3 to 6, 2007. (Oral Presentation and Published Proceedings Paper)
9. \***Singleton, V. L.**, Rueda, F., McGinnis, D. F. and J. C. Little, “Coupled Bubble Plume/Reservoir Model for Hypolimnetic Oxygenation: Full-scale Evaluation,” Proceedings of 11<sup>th</sup> Workshop on Physical Processes in Natural Waters (PPNW), Baltic Sea Research Institute (IOW), Warnemunde, Germany, Sep 3 to 6, 2007. (Oral Presentation and Published Proceedings Paper)
10. **Little, J. C.**, McGinnis, D. F., Singleton, V. L., and Wüest, A., 2004. Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs, Proceedings of 8<sup>th</sup> European Workshop on Physical Processes in Natural Waters, Lund, Sweden, August 29 to September 1, 2004, pp. 165-171. (Oral Presentation and Published Proceedings Paper)
11. **McGinnis, D. F.**, Lorke, A., Wüest, A., Stöckli, A. and Little, J. C., 2004. Bubble Plume – Near-Field Interdependency in a Stratified Lake, Proceedings of 8<sup>th</sup> European Workshop on Physical Processes in Natural Waters, Lund, Sweden, August 29 to September 1, 2004, pp. 173-178. (Oral Presentation and Published Proceedings Paper)
12. \***Leung, S.M.**, Little, J. C., Holst, T., and Love, N. G. Oxygen Transfer and Consumption in a Biological Aerated Filter, Proceedings of the Water Environment Federation 76th Annual Conference and Exposition, Los Angeles, California, October 11 to 15, 2003. (Oral Presentation and Published Proceedings Paper)
13. Zhao, D.Y., **Little, J.C.** and Cox, S.S. 2003. Sorption/Desorption Behavior of Polyurethane Foam. Proceedings of ISHVAC03, Tsinghua University, Beijing, China, October 9 to 11, 2003. (Oral Presentation and Published Proceedings Paper)
14. **Little, J.C.** Cox, S.S. and Hodgson, A.T. 2003. Effect of Glass Transition Temperature on Volatile Emissions from Vinyl Flooring. Proceedings of ISHVAC03, Tsinghua

University, Beijing, China, October 9 to 11, 2003. (Oral Presentation and Published Proceedings Paper)

15. **Little, J. C.** and Wüest, A. "Meromixis: The Effect of Wind and River Inflow," Proceedings of the 7<sup>th</sup> Workshop on Physical Processes in Natural Waters, Northern Water Problems Institute, Russian Academy of Sciences, Petrozavodsk, Russia, July 2 to 5, 2003, pp. 30-36. (Oral Presentation and Published Proceedings Paper)
16. **Little, J.C.**, \*Kumar, D. Cox, S. S., and Hodgson, A. T. 2002. "Barrier Materials to Reduce Contaminant Emissions from Structural Insulated Panels," Proceedings of the International Conference on Advances in Building Technology, ABT 2002, Hong Kong, China, Dec 4 to 6 – Advances in Building Technology, Vol. I, pp. 113-120. (Oral Presentation and Published Proceedings Paper)
17. \***Leung, S.M.**, Little, J. C., Holst, T., and Love, N. G. "Oxygen Transfer in a Biological Aerated Filter," Proceedings of the Water Environment Federation 75th Annual Conference and Exposition, Chicago, Illinois, September 28 to October 2, 2002. (Oral Presentation and Published Proceedings Paper)
18. \***McGinnis, D. F.**, Little, J. C., Wüest, A. "Hypolimnetic Oxygenation: Coupling Bubble-Plume and Reservoir Models," ASIAN WATERQUAL '01, International Water Association (IWA), Fukuoka, Japan, September 13, 2001. (Poster Presentation and Published Proceedings Paper)
19. \***Cox, S.S.**, Hodgson, A.T. and Little, J.C. 2000. "A New Method to Measure the Concentration of Volatile Organic Compounds in Vinyl Flooring," Proceedings of the Symposium on Engineering Solutions to Indoor Air Quality Problems, Raleigh, North Carolina, July 17 to 19, 2000. (Oral Presentation and Published Proceedings Paper)
20. \*McGinnis, D. F. and **Little, J. C.** "Application of Hypolimnetic Oxygenation to Improve Raw Water Quality in Reservoirs," ASIAN WATERQUAL '99, International Association on Water Quality, 7th IAWQ Asia-Pacific Regional Conference, Taipei, Taiwan, October 18-20, Vol. 2, pp. 771-776, 1999. (Oral Presentation and Published Proceedings Paper)
21. **Love, N. G.**, Gilmore, K. G., \*Husovitz, K. J., Delahaye, A. P., Novak, J. T. and Little, J. C. 1999. "Performance of a Biological Aerated Filter System Treating Domestic Wastewater for BOD, Ammonia and TSS Removal: Pilot Plant Results," Proceedings of the Water Environment Federation 72nd Annual Conference and Exposition, New Orleans, Louisiana, October 9 to 13, 1999. (Oral Presentation and Published Proceedings Paper)
22. \***Husovitz, K. L.**, Gilmore, K. R., Delahaye, A. P., Love, N. G., and Little, J. C. 1999. "The Influence of Upflow Liquid Velocity on Nitrification in a Biological Aerated Filter," Proceedings of the Water Environment Federation 72nd Annual Conference and Exposition, New Orleans, Louisiana, October 9 to 13, 1999. (Oral Presentation and Published Proceedings Paper)
23. **Filz, G. M.**, Little, J. C. and \*Britton, J. P. 1998. "A Pilot-Scale Subsurface Barrier Test Facility," 4th International Symposium on Environmental Geotechnology and Global Sustainable Development, Boston, Massachusetts, August 9 to 13, 1998, Vol. 2, pp. 1511-1520. (Oral Presentation and Published Proceedings Paper)

24. **Little, J. C.** “Mass Transfer of Volatile Contaminants in Showers”, Proceedings of the Annual Env. Eng. Conference, ASCE, Baltimore, Maryland, August 1992. (Oral Presentation and Published Proceedings Paper)
25. **Little, J. C.**, Mariñas, B. J. and Selleck, R. E. “Crossflow vs Counterflow Air Stripping Costs,” Proceedings of the Annual Env. Eng. Conference, ASCE, Reno, Nevada, July 1991. (Oral Presentation and Published Proceedings Paper)

Papers presented at conferences and professional meetings

1. **Little, J. C.** “Introduction to Oxygen and Aeration Systems,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Oral Presentation and Published Abstract)
2. **Burch, M.**, Hobson, P., Chang, D., Dickson, S., Tsymbal, L., House, J., Thorne, O., Lin T-F., Brookes, J.D. and Little, J. C. “Evaluation of novel methods for control of cyanobacteria in reservoirs,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Oral Presentation and Published Abstract)
3. **Rueda, F. J.**, Singleton, V. L., Little, J. C. and Lawrence, G. “The large scale signature of bubble plume oxygenation systems,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Oral Presentation and Published Abstract)
4. Singleton, V. L., Jacob, B., Feeney, M. and **Little, J. C.** “Using a quarry reservoir for raw water storage in Atlanta, Georgia,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Oral Presentation and Published Abstract)
5. **Bryant, L. D.**, Hsu-Kim, H., Gantzer, P., Bürgmann, H. and Little, J. C. “Solving the problem at the source: controlling sediment Mn release via oxygenation,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Oral Presentation and Published Abstract)
6. **Gantzer, P.**, Little, J. C. and Bryant, L. D. “Operating a hypolimnetic oxygenation system to control iron and manganese in a water supply reservoir,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Oral Presentation and Published Abstract)
7. \***Barkdull, M.**, Singleton, V. L., Bierlein, K., Rueda, F. J. and Little, J. C. “Coupled bubble plume-reservoir model for Carvins Cove Reservoir,” 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. (Poster Presentation and Published Abstract)

8. **Little, J. C.** Results of International Inter-Laboratory Study. NIST/VT Workshop: Reference Material Development for Product Emissions Testing, Gaithersburg, MD, Apr 28 to 29, 2011. (Oral Presentation)
9. Adams, W. A., Impellitteri, C. A., Rice, G., Fristachi, A., Xu, Y., and **Little, J. C.** "Analysis of organotins in polyvinyl chloride pipe and their diffusion into water over time," Joint Conference of International Society of Exposure Science & International Society for Environmental Epidemiology, ISES-ISEE 2010, Seoul, Korea, Aug 29 to Sep 2, 2010. (Oral Presentation and Published Abstract)
10. Benning, J., \*Liu, Z., **Little, J. C.**, and Marr, L. "Chamber studies of phthalates emitted from vinyl flooring and adsorbing to ultrafine particles and the consequences for human exposure," Joint Conference of International Society of Exposure Science & International Society for Environmental Epidemiology, ISES-ISEE 2010, Seoul, Korea, Aug 29 to Sep 2, 2010. (Oral Presentation and Published Abstract)
11. Cox, S. S. and **Little, J. C.** "Developing a Prototype Reference Material for VOC Emissions," American Society for Testing and Materials (ASTM)/National Institute of Standards and Technology (NIST)/Virginia Tech (VT) Workshop: Reference Material Development for Product Emissions Testing, Annual Conference of the American Society for Testing and Materials, Saint Louis, MO, Apr 19, 2010. (Oral Presentation)
12. **Little, J. C.** "Gas-Phase Emissions of Phthalate Plasticizer from Vinyl Flooring – Prioritizing Exposure and Risk," International Society for Exposure Science, ISES 2009 Annual Conference, Minneapolis, Minnesota, Nov 1 to 5, 2009. (Oral Presentation and Published Abstract)
13. \***Bryant, L. D.** and Little, J. C. 2009. "The influence of oxygenation on sediment-water fluxes in drinking-water reservoirs," Paul E. Torgersen Graduate Student Research Excellence Symposium, Virginia Tech, Blacksburg, Virginia, Apr 4, 2009 (Poster Presentation and Best Poster Award)
14. \***Xu, Y.**, Park, J. K., Clausen, P. A., Kofoed-Sørensen, V., and Little, J. C. 2008. Characterizing emissions of phthalate plasticizer from vinyl flooring in a specially-designed chamber. Joint Conference of ISES and ISEE (International Society of Exposure Science and International Society for Environmental Epidemiology), Pasadena, California, October 12 to 16, 2008. (Poster Presentation and Published Abstract and Best Poster Award)
15. \*Xu, Y., Hubal, E. A. C., Clausen, P. A. and **Little, J. C.** 2008. Exposure to Phthalate Emitted from Vinyl Flooring and Sorbed to Interior Surfaces, Dust, Airborne Particles and Human Skin. Joint Conference of ISES and ISEE (International Society of Exposure Science and International Society for Environmental Epidemiology), Pasadena, California, October 12 to 16, 2008. (Oral Presentation and Published Abstract)
16. **Little, J. C.**, Schmid, M., and Wüest A. 2008. The Effect of Changes in Wind, River Inflow, and Air Temperature on Deep Convection in a Swiss Lake. Presented at Lakes and Reservoirs as Sentinels, Integrators, and Regulators of Climate Change, American Geophysical Union Chapman Conference, UC Davis Tahoe Environmental Research Center, Incline Village, Nevada, September 8-10, 2008 (Poster Presentation and Published Abstract).

17. **\*Bryant, L. D.**, Lorrai, C., McGinnis, D. F., Brand, A., Wüest A., and Little, J. C. 2008. Dynamic oxygen uptake rates: evaluating both sides of the sediment-water interface. Presented at the 12th Workshop on Physical Processes in Natural Waters, UC Davis Tahoe Environmental Research Center, Incline Village, Nevada, September 2-5, 2008 (Oral Presentation and Published Abstract).
18. **Little, J. C.**, Schmid, M., and Wüest A. 2008. The Effect of Changes in Wind, River Inflow, and Air Temperature on Deep Convection in a Swiss Lake. Presented at the 12th Workshop on Physical Processes in Natural Waters, UC Davis Tahoe Environmental Research Center, Incline Village, Nevada, September 2-5, 2008 (Oral Presentation and Published Abstract).
19. Little, J. C., 2007. "EIGER - Exploring Interfaces through Graduate Education and Research," AEEESP Conference 2007, Blacksburg, VA, Jul 27 to Aug 1, 2007. (Oral Presentation and Published Abstract)
20. **Cox, S. S.**, Little, J. C., and Marand, E., 2007. "Developing a Standard Reference VOC Source," Presented at National Institute for Standards and Technology (NIST)/American Society for Testing and Materials (ASTM) Workshop on Indoor Material/Product Emissions Measurements, Norfolk, Virginia, Apr 16, 2007. (Oral Presentation)
21. \*Olinde, L. J., \*Bryant, L. D. and **Little, J. C.**, 2007. "Variation in Sediment Oxygen Demand as a Function of Diffuser Operation," Presented at American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, Sante Fe, New Mexico, Feb 4 to 9, 2007. (Oral Presentation and Published Abstract)
22. **\*Bryant, L. D.** and Little, J. C., 2007. "Iron and Manganese Fluxes at the Sediment-Water Interface as a Function of Diffuser Operation," Presented at American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, Sante Fe, New Mexico, Feb 4 to 9, 2007. (Oral Presentation and Published Abstract)
23. **\*Gantzer, P.** and Little, J. C., 2006. "Hypolimnetic Oxygenation: Improving Raw Water Quality in a Water-Supply Reservoir," Presented at North American Lake Management Society (NALMS) Annual International Symposium, Indianapolis, Indiana, November 8-10, 2006. (Oral Presentation and Published Abstract)
24. **Little, J. C.**, 2006. "Developing a Standard Reference VOC Source," Presented at National Institute for Standards and Technology (NIST)/American Society for Testing and Materials (ASTM) Workshop on Calibration Standards for Indoor Material/Product Emissions Assessment, Atlanta, Georgia, Oct 23, 2006. (Oral Presentation)
25. **Little, J. C.**, 2006. "Characterizing Consumer Products as Sources of Volatile Contaminants using Mechanistic Mass-Transfer Models," Presented in Symposium on Assessing Exposures to Chemicals in Consumer Products: Global Policy and Emerging Science Issues, International Conference on Environmental Epidemiology and Exposure, Paris, France, Sep 2 to 6, 2006. (Oral Presentation and Published Abstract)
26. \*Xu, Y., Cohen Hubal, E. and **Little, J. C.** 2006. "Emission of Phthalates from Vinyl Flooring and Interaction with Interior Surfaces," International Conference on Environmental Epidemiology and Exposure, Paris, France, Sep 2 to 6, 2006. (Short Oral + Poster Presentation and Published Abstract)

27. Morrison, G., **Little, J. C.**, Rao, M., and Enke, D. 2006. "Gas-Phase Exposure History Derived from Material-Phase Concentration Profiles," International Conference on Environmental Epidemiology and Exposure, Paris, France, Sep 2 to 6, 2006. (Poster Presentation)
28. \*Kim, E., **Little, J. C.** and Chiu, N., 2006. "Linking Residential Exposure and PBPK Models: Chloroform in Drinking Water," Presented at Gordon Conference on Drinking Water Disinfection By-Products, Mount Holyoke College, South Hadley, MA, Aug 13 to 18, 2006. (Poster Presentation)
29. \***Xu, Y.**, Little, J. C. and Clausen, P., 2006. "Phthalate Emissions from Vinyl Flooring Interacting with House Dust," Proceedings of Indoor Environmental Quality: Problems, Research and Solutions, Research Triangle Park, NC, Jul 16 to 19, 2006. (Poster Presentation and Published Abstract and Best Poster Award)
30. \*Yuan, H., **Little, J. C.** and Marand, E., 2006. "Nanocomposite Clay Barrier Layers to Reduce Volatile Emissions from Structural Insulated Panels," Proceedings of Indoor Environmental Quality: Problems, Research and Solutions, Research Triangle Park, NC, Jul 16 to 19, 2006. (Oral Presentation and Published Abstract)
31. Crain, N., Fardal, J., \*Xu, Y., Little, J. C. and **Corsi, R. L.**, 2006. "Sorptive Interactions between Indoor Materials and Organic Gases," Proceedings of Indoor Environmental Quality: Problems, Research and Solutions, Research Triangle Park, NC, Jul 16 to 19, 2006. (Oral Presentation and Published Abstract)
32. \*Gantzer, P., \*Bryant, L. D. and **Little, J. C.**, 2006. "The Effect of Hypolimnetic Oxygenation on Iron and Manganese Concentrations," Proceedings of Physical Processes in Natural Waters (PPNW), Granada, Spain, June 26 to 29, 2006. (Oral Presentation)
33. \***Bryant, L. D.** and Little, J. C., 2006. "Transient Biogeochemical Cycling and Sediment Oxygen Demand," Proceedings of Physical Processes in Natural Waters (PPNW), Granada, Spain, June 26 to 29, 2006. (Oral Presentation)
34. \*Gantzer, P., \*Bryant, L. D., \*Singleton, V. L., \***Olinde, L. J.** and Little, J. C., 2006. "Oxygenation at Spring Hollow and Carvin's Cove Water-Supply Reservoirs," Proceedings of Physical Processes in Natural Waters (PPNW) 2006, Granada, Spain, June 26 to 29, 2006. (Poster Presentation)
35. **Little, J. C.**, 2006. "Hypolimnetic Oxygenation – State of the Art," Presented in Special Session of American Water Works Association, Annual Conference and Exhibition, San Antonio, Texas, June 14, 2006. (Oral Presentation)
36. \***Gantzer, P.** and Little, J. C., 2006. "Improvement in Raw Water Quality Following Oxygen Addition at Spring Hollow and Carvin's Cove Reservoirs, Virginia," Presented in Special Session of American Water Works Association, Annual Conference and Exhibition, San Antonio, Texas, June 14, 2006. (Oral Presentation)

37. \*Yuan, H. and **Little, J. C.**, 2006. "Sorptions/Desorption of Polar and Non-Polar VOCs in Polystyrene Foam," Proceedings of Healthy Buildings 2006, Lisbon, Portugal, June 4 to 8, 2006. (Oral Presentation and Published Abstract)
38. \***Xu, Y.**, Little, J. C. and Clausen, P., 2006. "Phthalate Emissions from Vinyl Flooring Interacting with House Dust," Proceedings of Healthy Buildings 2006, Lisbon, Portugal, June 4 to 8, 2006. (Poster Presentation and Published Abstract)
39. \*McGinnis, D. F., Lorke, A., Wüest, A., Stöckli, A. and **Little, J. C.**, 2004. "Interaction between a Bubble-Plume and the Near-Field in a Stratified Lake," Proceedings of 24<sup>th</sup> International Symposium, North American Lake Management Society (NALMS), Victoria, British Columbia, Canada, November 3 to 5, 2004. (Oral Presentation and Published Abstract)
40. \***Gantzer, P.** and Little, J. C., 2004. "Comparing Hypolimnetic Oxygenation and Hypolimnetic Aeration in a Small Side-Stream Water Supply Reservoir," Proceedings of 24<sup>th</sup> International Symposium, North American Lake Management Society (NALMS), Victoria, British Columbia, Canada, November 3 to 5, 2004. (Oral Presentation and Published Abstract)
41. **Little, J. C.** and Hodgson, A. T. 2004. "Structural Insulated Panels – Sustainable Design Incorporating Impact on Indoor Air Quality," Proceedings of NSF/PATH Housing Research Agenda Workshop, University of Central Florida, Orlando, Florida, February 12 to 14, 2004. (Oral Presentation and Published Proceedings Paper)
42. \***Kim, E.**, and Little, J. C. "Linking Residential Exposure and PBPK Models for THMs in Drinking Water," International Society of Exposure Analysis, Stresa, Italy, September 21 to 25, 2003. (Oral Presentation and Published Abstract)
43. **Little, J. C.**, and \*McGinnis, D. F. 2003. "Predicting Diffused-Bubble Oxygen Transfer Rate using the Discrete-Bubble Model," Proceedings of 226<sup>th</sup> American Chemical Society National Meeting, New York, New York, September 7 to 11, 2003. (Oral Presentation and Published Extended Abstract)
44. \***Cox, S. S.**, Little, J. C., and Hodgson, A. T. 2003. "Effect of Glass Transition Temperature on Volatile Emissions from Vinyl Flooring," Proceedings of the Symposium on Engineering Solutions to Indoor Air Quality Problems, Raleigh, North Carolina, July 21 to 23, 2003. (Oral Presentation and Published Abstract)
45. **Little, J. C.** and Wüest, A. "Meromixis – The Effect of Wind, River Inflow, and Primary Productivity," Proceedings of the American Society of Limnology and Oceanography (ASLO) 2003 Aquatic Sciences Meeting, Salt Lake City, Utah, February 9 to 14, 2003. (Oral Presentation and Published Abstract)
46. \***Leung, S.M.**, Little, J. C., Holst, T., and Love, N. G. "Oxygen Transfer in a Biological Aerated Filter," AWWAWEA Joint Annual Meeting, Virginia Section, Virginia Beach, Virginia, September 11, 2002. (Oral Presentation and Published Abstract)
47. \***Gantzer, P. A.** and Little, J. C. "Converting Spring Hollow Reservoir's Hypolimnetic Oxygenation System to Pure Oxygen," AWWAWEA Joint Annual Meeting, Virginia

Section, Virginia Beach, Virginia, September 11, 2002. (Oral Presentation and Published Abstract)

48. \***Gantzer, P. A.** and Little, J. C. "Diffuser Operations in Spring Hollow Reservoir," Annual Conference of the American Water Works Association, Virginia Section, Richmond, Virginia, November 1, 2001. (Oral Presentation)
49. \***McGinnis, D. F.**, Little, J. C., Wüest, A. "Hypolimnetic Oxygenation: Coupling Bubble-Plume and Reservoir Models," 6<sup>th</sup> Workshop on Physical Processes in Natural Waters, University of Girona, Spain, June 27 to 29, 2001 (Oral Presentation and Published Abstract)
50. Filz, G. M., Widdowson, M. A. and **Little, J. C.** "Barrier-Controlled Monitored Natural Attenuation," Proceedings of the 2001 International Containment & Remediation Technology Conference, Orlando, Florida, June 10 to 13, 2001. (Oral Presentation and Published Abstract)
51. \***Kim, E.**, Little, J. C. and Chiu, N. "Exposure to Chemical Contaminants in Drinking Water: An Integrated Exposure Analysis," International Society of Exposure Analysis, Monterey, California, October 2000. (Poster Presentation and Published Abstract)
52. \*Cox, S. S., **Little, J. C.** and Hodgson, A. T. 2000. "A New Method to Predict Emission Rates of Volatile Compounds from Vinyl Flooring," Proceedings of Healthy Buildings 2000, Helsinki, Finland, August 6 to 10, 2000. (Oral Presentation and Published Abstract)
53. \***McGinnis, D. F.**, Little, J. C., and Mobley, M. H. "Modeling a Bubble-Plume Diffuser using CE-QUAL-W2," North American Lake Management Society, 19th International Symposium, Reno, Nevada, November 10-13, 1999. (Oral Presentation and Published Abstract)
54. \***Kim, E.** and Little, J. C. "Chemical Contaminants in Drinking Water: Estimating Exposure and Uncertainty," Annual Conference of the American Water Works Association, Virginia Section, Norfolk, Virginia, October, 1999. (Oral Presentation)
55. **Little, J. C.**, \*McGinnis, D. F. and Mobley, M. H. "Hypolimnetic Oxygenation: Performance of a Bubble-Plume Diffuser in a Water-Supply Reservoir," North American Lake Management Society, 18th International Symposium, Banff, Alberta, Canada, November 10-13, 1998. (Oral Presentation and Published Abstract)
56. **Little, J. C.** "Improving Raw Water Quality through Lake Oxygenation: Operational Characteristics and Predicting Performance," AWWA Water Quality Technology Conference, San Diego, California, November 1-4, 1998. (Oral Presentation)
57. \***McGinnis, D. F.** and Little, J. C. "Hypolimnetic Oxygenation: Performance of a Bubble-Plume Diffuser in a Water-Supply Reservoir," Annual Conference of the American Water Works Association, Virginia Section, Roanoke, Virginia, October 14, 1998. (Oral Presentation)
58. \***McGinnis, D. F.**, Little, J. C. and Mobley, M. H. "Performance of a Linear-Bubble Plume Diffuser in a Water Supply Reservoir," North American Lake Management Society,

- Annual Conference, Houston, Texas, December 1997. (Oral Presentation and Published Abstract)
59. \***Burriss, V. L.**, Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Hypolimnetic Aerator," North American Lake Management Society, Annual Conference, Houston, Texas, December 1997. (Oral Presentation and Published Abstract)
  60. \***Sankaran, K.** and Little, J. C. "Chemical Contaminants in Drinking Water: Estimating Exposure and Uncertainty," Annual Conference of the American Water Works Association, Virginia Section, Richmond, Virginia, October 8, 1997. (Oral Presentation)
  61. \***Burriss, V. L.** and Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Hypolimnetic Aerator," 10th Annual Virginia Water Conference, Fredericksburg, Virginia, March 1997. (Oral Presentation)
  62. \***McGinnis, D. F.** and Little, J. C. "Bubble Dynamics and Oxygen Transfer in a Speece Cone," 10th Annual Virginia Water Conference, Fredericksburg, Virginia, March 1997. (Oral Presentation)
  63. **Little, J. C.**, \***Burriss, V. L.**, Hare, T. and Schafran, G. C. "Oxygenation of Norfolk's Western Lakes: Characterizing Aerator Performance," Annual Conference of the North American Lake Management Society, Minneapolis, Minnesota, November, 1996. (Oral Presentation and Published Abstract)
  64. \***Burriss, V. L.** and Little, J. C. "Aeration of Norfolk's Western Lakes: Characterizing Aerator Performance," Annual Conference of the American Water Works Association, Virginia Section, Norfolk, Virginia, October 16, 1996. (Oral Presentation)
  65. Mihelcic, J. R., Davis, A. P. and Little, J. C. "Assessment of the Formation of a National Student Environmental Engineering Organization," AAEE/AEEP Environmental Engineering Education and Practice Conference, Orono, Maine, August, 1996. (Poster Presentation)
  66. \***Del Vecchio, D. C.** and Little, J. C. "Predicting Water Flow Rate in Hypolimnetic Aerators," International Association on Water Quality, Biennial Conference, Singapore, July 1996. (Poster Presentation)
  67. **Little, J. C.** "Water Flow Rate and Oxygen Transfer in Hypolimnetic Aerators," 9th Annual Virginia Water Conference, Staunton, Virginia, March 1996. (Oral Presentation)
  68. **Little, J. C.** and \***Del Vecchio, D. C.** "Water Flow Rate and Oxygen Transfer in Hypolimnetic Aerators," North American Lake Management Society, Annual Conference, Toronto, Canada, November 1995. (Oral Presentation and Published Abstract)
  69. **Little, J. C.** "Modeling Oxygen Transfer in Hypolimnetic Aerators," North American Lake Management Society, Annual Conference, Orlando, Florida, November 1994. (Oral Presentation and Published Abstract)
  70. Little, J. C. "Hypolimnetic Aerators: Predicting Oxygen Transfer," International Association on Water Quality, Biennial Conference, Budapest, Hungary, July 1994. (Poster Presentation)

71. **Little, J. C.**, Daisey, J. M. and Nazaroff, W. W. "Indoor Exposure to Volatile Organic Compounds from Subsurface Contamination," International Society of Exposure Analysis, Atlanta, Georgia, November 1991. (Oral Presentation)

#### Invited presentations

1. **Little, J. C.** "Introduction to Oxygen and Aeration Systems for Lakes and Reservoirs," Australian Water Quality Centre, Adelaide, Australia, Aug 5, 2011.
2. **Little, J. C.**, Schmid, M., and Wüest, A. "The Effect of Changes in Wind, River Inflow, and Air Temperature on Deep Mixing in a Medium-Sized Lake," Symposium on "Climate Change and Water Quality: What Does it Mean for Water Utilities?" Australian Water Quality Centre, Adelaide, Australia, Aug 2, 2011.
3. **Little, J. C.** "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 27, 2011.
4. **Little, J. C.** "Developing a Reference Material for Formaldehyde Emissions Testing," Wood-Based Composites Center, Virginia Tech, Blacksburg, May 25, 2011.
5. **Little, J. C.** "Comparing Systems that Replenish Oxygen in Lakes and Reservoirs – Speece Cone, Airlift Aerator and Bubble Plume Diffuser," Invited presentation at IWA World Water Congress, Montreal, Canada, September 19 to 24, 2010, Workshop on Managing Water Quality in Lakes and Reservoirs Using In-Situ Technologies – Comparative Case Studies.
6. **Little, J. C.** "Sources, Emissions, Transport, Exposure and Rapid Screening for Exposure," Invited presentation at Indoor Air Institute Workshop on Semi-Volatile Organic Compounds (SVOCs) in the Indoor Environment, EPA, Research Triangle Park, NC, Jan 5 to 7, 2011.
7. **Little, J. C.** "Gas-Phase Emissions of DEHP and Interaction with Airborne Particles," Invited presentation at Joint Conference of International Society of Exposure Science & International Society for Environmental Epidemiology, ISES-ISEE 2010, Seoul, Korea, Aug 29 to Sep 2, 2010.
8. **Little, J. C.** "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 28, 2010.
9. **Little, J. C.** "Characterizing Sources of VOCs and SVOCs," Invited Lecture at Eawag Summer School, Kastanienbaum, Switzerland, Jul 10, 2010.
10. **Little, J. C.** "Gas-Phase Emission of DEHP and the Resulting Distribution and Exposure in the Indoor Environment," Invited Lecture at 1<sup>st</sup> International Workshop on SVOCs in the Indoor Environment, Tsinghua University, Beijing, China, Jun 1 to 2, 2010.
11. **Little, J. C.** "Predicting Gas-Phase Emissions of DEHP and the Resulting Distribution and Exposure in a Residential Environment," Workshop on Human Exposure to Phthalates: Relevant Sources, Exposure Paths, and Toxicokinetics – Examples DEHP and DINP, Berlin, Germany, Feb 22 to 23, 2010.

12. **Little, J. C.** "Report on Indoor Air Institute Workshop on SVOCs in the Indoor Environment," International Society for Exposure Science, ISES 2009 Annual Conference, Minneapolis, Minnesota, Nov 1 to 5, 2009.
13. **Little, J. C.**, Weschler, C. J., Nazaroff, W. W., and Levin, H. "How the Indoor Environment Traps and Delivers Semi-Volatile Compounds to its Occupants," Invited Speaker in Symposium on "Semivolatile Contaminants Indoors: Advances in Environmental Chemistry and Human Exposure Assessment," International Society for Exposure Science, ISES 2009 Annual Conference, Minneapolis, Minnesota, Nov 1 to 5, 2009.
14. **Little, J. C.** "Sources, Emissions, Transport, Exposure and Rapid Screening for Exposure," Indoor Air Institute Workshop on Semi-Volatile Organic Compounds (SVOCs) in the Residential Environment, EPA, Research Triangle Park, NC, Aug 18 to 19, 2009.
15. **Little, J. C.** "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 21, 2009.
16. **Little, J. C.** "Hypolimnetic Oxygenation: A Review," IWA Workshop on Lake and Reservoir Management: Drinking Water Security and Emergency Response, Tongji University, Shanghai, China, Jul 8 to 11, 2009.
17. **Little, J. C.** "Hypolimnetic Oxygenation: A Review," The First IWA Symposium on Lake and Reservoir Management - New Approaches for Managing Source Water to Meet Water Treatment Targets, National Cheng Kung University, Tainan, Taiwan, Jun 28 to Jul 2, 2009.
18. **Little, J. C.** "Emissions of VOCs and SVOCs from Building Materials and Consumer Products," Third International Conference on Built Environment and Public Health, Guilin, Guangxi, China, May 29 to 31, 2009.
19. **Little, J. C.** "Publishing Your Research," ETD Faculty Panel, Virginia Tech, Blacksburg, Apr 22, 2009.
20. **Little, J. C.** "Exposure to Phthalate Plasticizer Emitted from Vinyl Flooring," Society of Environmental Journalists, Virginia Tech, Blacksburg, Oct 18, 2008.
21. **Little, J. C.** "Characterizing Exposure to Volatile and Semi-Volatile Contaminants in Indoor Sources using Simple Mass-Transfer Models," EPA Community of Practice, Exposure Science for Toxicity Testing, Screening, and Prioritization, Oct 7, 2008.
22. **Little, J. C.** "Model-based scaling approach for rapid screening & exposure assessment," Invited Speaker in Forum 19: Scaling of Material Emission Test Results, Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008.
23. **Little, J. C.** "Progress on reference materials," Invited Speaker in Forum 14: Measurement of VOC Emissions from Building Materials: Uncertainty and Standardization, Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008.
24. **Little, J. C.** "Rapid screening to estimate health risks of materials and products," Invited Speaker in Forum 13: Source Characterization and Labeling, Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008.

25. **Little, J. C.** "Modeling emissions and indoor fate of SVOCs," Invited Speaker in Forum 8: Indoor Semi-Volatile Organic Compounds, Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008.
26. **Little, J. C.**, Filz, G. M., Foti, R. J., Hochella, M. F. and Winkel, B. S., "EIGER – Exploring Interfaces through Graduate Education and Research," Virginia Tech Summit on Interdisciplinary Research, Blacksburg, Aug 11, 2008.
27. **Little, J. C.** "Interdisciplinary Research," FDI Faculty Track on Interdisciplinary Research, Virginia Tech, Blacksburg, Jul 16, 2008.
28. **Little, J. C.** "Modelling and Measuring VOC and SVOC Emissions and Transport," Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, La Rochelle, France, Jul 8, 2008.
29. **Bryant, L. D.** and Little, J. C. "The Impact of Hypolimnetic Oxygenation on Oxygen, Iron and Manganese Cycling at the Sediment/Water Interface," Water Resources and Drinking Water Seminar, Eawag, Dübendorf, Switzerland, November 19, 2007
30. **Little, J. C.** and Wüest, A. "Effect of a Changing Climate on the Stability of Lakes and Reservoirs," 5<sup>th</sup> Swiss Geoscience Meeting, Geneva, Switzerland, Nov 17, 2007.
31. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," Fraunhofer Wilhelm-Klauditz Institute, Braunschweig, Germany, November 9, 2007.
32. **Bryant, L. D.** and Little, J. C. "Hypolimnetic Oxygenation: Sediment/Water Fluxes of Oxygen, Iron, and Manganese," Monday Seminar, Eawag, Kastanienbaum, Switzerland, October 29, 2007.
33. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Monday Seminar, Eawag, Kastanienbaum, Switzerland, October 22, 2007.
34. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, September 21, 2007.
35. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs, Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, September 20, 2007.
36. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs – Part 2, CAST 2007 Conference, Wuhan, China, September 10, 2007.
37. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs – Part 1, CAST 2007 Conference, Wuhan, China, September 9, 2007.
38. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," Chinese Indoor Environment and Health Association, Beijing, China, May 31, 2007.
39. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," Workshop on Indoor Air Pollution Control, Department of Building Science, Tsinghua University, Beijing, China, May 28, 2007.

40. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Special Seminar, Instituto del Agua, Universidad de Granada, Spain, May 11, 2007
41. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Friday Seminar, Eawag, Dübendorf, Switzerland, March 23, 2007.
42. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," Department of Aerospace and Mechanical Engineering, Syracuse University, Syracuse, New York, October 6, 2006.
43. **Little, J. C.** "Characterizing Consumer Products as Sources of Volatile Contaminants using Mechanistic Mass-Transfer Models," Symposium on Assessing Exposures to Chemicals in Consumer Products: Global Policy and Emerging Science Issues, International Conference on Environmental Epidemiology and Exposure, Paris, France, Sep 2 to 6, 2006.
44. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," National Center for Environmental Assessment, US EPA, Cincinnati, Ohio, July 10, 2006.
45. **Little, J. C.** "Characterizing Indoor Sources of VOCs and SVOCs," Department of Civil and Environmental Engineering, University of California, Berkeley, California, April 7, 2006.
46. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Reservoirs," Limnological Research Center, EAWAG, Kastanienbaum, Switzerland, June 27, 2005.
47. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," Institute for Health & Consumer Protection, European Commission Joint Research Centre, Ispra, Italy, June 20, 2005.
48. **Little, J. C.** "Integrated Disinfection By-Product Exposure Model," EPA Disinfection By-Product Workshop, Raleigh, NC "Optimizing the Design and Interpretation of Epidemiologic Studies to Consider Alternative Disinfectants of Drinking Water", Raleigh, NC, June 13, 2005.
49. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," Department of Civil and Environmental Engineering, Washington State University, Pullman, Washington, April 18, 2005.
50. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," Department of Mechanical Engineering, University of Hong Kong, China, December 17, 2004.
51. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," Institute for Health & Consumer Protection, European Commission Joint Research Centre, Ispra, Italy, October 26, 2004.
52. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," International Centre for Indoor Environment and Energy, Technical University of Denmark, Lyngby, Denmark, September 3, 2004.
53. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," National Institute of Occupational Health, Copenhagen, Denmark, September 2, 2004.

54. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Lakes and Reservoirs," University of Illinois, Urbana-Champaign, Illinois, April 9, 2004.
55. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Sweet Briar College, Sweet Briar, Virginia, November 17, 2003.
56. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," Department of Building Science, Tsinghua University, Beijing, China, October 8, 2003.
57. **Little, J. C.** "Source/Sink Behavior of Diffusion-Controlled Building Materials," Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, La Rochelle, France, June 26, 2003.
58. **Little, J. C.** "Barrier Materials to Reduce Contaminant Emissions from Structural Insulated Panels," International Conference on Advances in Building Technology, ABT Hong Kong, China, December 6, 2002.
59. **Little, J. C.** "Chemical Contaminants in Drinking Water – Exposure, Risk, and Uncertainty," Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, December 3, 2002.
60. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Korea Institute of Science and Technology, Seoul, Korea, November 29, 2002.
61. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Environmental Engineering, Chungnam National University, Daejeon, Korea, November 28, 2002.
62. **Little, J. C.** "Meromixis – The Impact of Salt Fluxes on Mixing in Lakes," Department of Environmental Science and Engineering, Ewha Woman's University, Seoul, Korea, November 27, 2002.
63. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Civil and Environmental Engineering, Korea University, Seoul, Korea, November 26, 2002.
64. **\*Kim, E.** and Little, J. C. "Integrated Exposure Assessment and Uncertainty Analysis for Chemical Contaminants in Drinking Water," Battelle, Columbus, Ohio, June 3, 2002.
65. **Little, J. C.** "Emissions of VOCs from Diffusion-Controlled Building Materials," Battelle, Columbus, Ohio, June 3, 2002.
66. **\*Kim, E.** and Little, J. C. "Integrated Exposure Assessment and Uncertainty Analysis for Chemical Contaminants in Drinking Water," National Institute for Standards and Technology, Gaithersburg, Maryland, February 27, 2002.
67. **Little, J. C.** "Emissions of VOCs from Diffusion-Controlled Building Materials," National Institute for Standards and Technology, Gaithersburg, Maryland, February 27, 2002.
68. **Little, J. C.** "Aeration and Oxygenation of Stratified Reservoirs," Santa Ana Watershed Project Authority, Riverside, California, December 7, 2001.

69. \***McGinnis, D. F.**, Little, J. C., and Wüest, A. "Hypolimnetic Oxygenation: Coupling Bubble-Plume and Reservoir Models," University of Tokyo, Tokyo, Japan, September 17, 2001.
70. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Reservoirs," Limnological Research Center, Eawag, Kastanienbaum, Switzerland, February, 2000.
71. **Little, J. C.** "Environmental Mass-Transfer Processes: From Fundamental Theory to Practical Application," An invited series of six research lectures given in the Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, July 1 to July 31, 1999:
  - a. Theoretical Review – Environmental Mass Transfer Fundamentals
  - b. Water Quality Management – Hypolimnetic Oxygenation of Reservoirs
  - c. Water Treatment – Crossflow vs Counterflow Air Stripping Towers
  - d. Indoor Air Quality – Source/Sink Behavior of Building Materials
  - e. Exposure and Risk – Chemical Contaminants in Drinking Water
  - f. Hazardous Waste Management – Subsurface Barriers
72. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Reservoirs," Department of Environmental Engineering, National Chung-Hsing University, Taichung, Taiwan, July, 1999.
73. **Little, J. C.** "Exposure to Chemical Contaminants in Drinking Water," Environmental Protection Agency, Taipei, Taiwan, July, 1999.
74. **Little, J. C.** "Characterization of Diffusion Controlled Indoor Sources," Indoor Environment Research Program, Institute for Research in Construction, National Research Council, Canada, April 26, 1999.
75. **Little, J. C.** "Hypolimnetic Oxygenation of Stratified Reservoirs," Environmental & Water Resources Engineering Program, Department of Civil Engineering, University of Texas, Austin, Texas, April 2, 1999.
76. **Little, J. C.** "Impact of Building Materials on Indoor Air Quality," Environmental & Water Resources Engineering Program, Department of Civil Engineering, University of Texas, Austin, Texas, April 1, 1999.
77. **Little, J. C.** "SBIR: The University Perspective," 4th Annual Small Business Innovation Research (SBIR) and Development Workshop, Virginia Tech, Blacksburg, Virginia, September 23-24, 1998.
78. **Little, J. C.** "Source/Sink Behavior of Building Materials," Joint DoD/DOE Urban Hazard Modeling Workshop, Institute for Defense Analyses, Alexandria, Virginia, August 25-26, 1998.
79. **Little, J. C.** "Mass Transfer: From Treatment Process to Human Exposure," Fundamentals and Recent Developments in Water Treatment – The Views of Several Experts, Symposium on Water Quality Management, Virginia Tech, Roanoke, Virginia, March 23, 1998.

80. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Environmental Physics, Swiss Federal Institute for Environmental Science and Technology (Eawag), Dübendorf, Switzerland, May 26, 1997.
81. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Environmental Engineering, University of California, Berkeley, California, March 7, 1997.
82. **Little, J. C.** "Inhalation Exposure to Volatile Contaminants in Drinking Water," Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, June 19, 1996.
83. **Little, J. C.** "Hypolimnetic Oxygenation of Lakes and Reservoirs," Department of Environmental Engineering, National Cheng-Kung University, Tainan, Taiwan, June 19, 1996.
84. **Little, J. C.** "Inhalation Exposure to Volatile Contaminants in Drinking Water," School of Public Health, National Taiwan University, Taipei, Taiwan, June 18, 1996.

## Research Funding

Summary of funding secured for research and education

Category	Total
Total Funding	\$9,176,918
Personal Share	\$4,005,547

Sponsored research projects (externally funded)

Project Title:	Developing a Reference Material for VOC Emissions Testing
Principal Investigator:	Little, J. C.
Source of Support:	National Institute of Standards and Technology (NIST)
Funded Amount:	\$50,000
Period Covered:	09/01/11 – 05/31/12
Project Title:	Developing a Reference Material for Formaldehyde Emissions Testing
Principal Investigator:	Little, J. C.
Source of Support:	Environmental Protection Agency (EPA)
Funded Amount:	\$150,000
Period Covered:	06/01/11 – 02/15/12

Project Title:	Collaborative Research: Phthalate Plasticizers: Temperature Dependence of Material/Air Equilibria and Consequences for Emissions, Exposure and Risk
Principal Investigators:	Little, J. C. and Xu, Y.
Source of Support:	National Science Foundation (NSF)
Funded Amount:	\$422,364
Personal Share:	\$272,364 (64%)
Period Covered:	05/01/11 – 04/30/14
Project Title:	Collaborative Research: Managing Oxygen Demand in Lakes and Reservoirs - A Competition between Natural and Artificial Forcing
Principal Investigators:	Socolofsky, S. A. and Little, J. C.
Source of Support:	National Science Foundation (NSF)
Funded Amount:	\$492,224
Personal Share:	\$229,707 (47%)
Period Covered:	09/01/10 – 08/31/13
Project Title:	A Standard Source for VOC Emissions Testing
Principal Investigators:	J. C. Little
Source of Support:	National Institute of Standards and Technology (NIST)
Total Funding:	\$100,000
Period Covered:	09/01/09 – 08/31/10
Project Title:	Alternative and Innovative Methods for Source Water Management of Algae and Cyanobacteria
Principal Investigators:	M. D. Burch, P. Hobson, and J. C. Little
Source of Support:	Water Research Foundation (WRF)
Requested Funding:	\$125,000
Personal Share:	\$19,500 (16%)
Period Covered:	07/01/08 – 06/30/10
Project Title:	Developing a Standard Reference VOC Source
Principal Investigators:	J. C. Little and E. Marand
Source of Support:	National Institute of Standards and Technology (NIST)
Total Funding:	\$199,928
Personal Share:	\$103,581 (52%)
Period Covered:	09/01/06 – 02/28/08
Project Title:	Developing Barrier Layers to Minimize Volatile Emissions from Structural Insulated Panels (SIPs)
Principal Investigators:	J. C. Little and E. Marand
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$375,000
Personal Share:	\$198,432 (53%)
Period Covered:	04/01/06 – 03/31/09

Project Title:	EPA STAR Fellowship
Principal Investigators:	J. C. Little (on behalf of Lee Bryant)
Source of Support:	Environmental Protection Agency (EPA)
Total Funding:	\$111,000
Period Covered:	8/15/05 – 8/14/08
Project Title:	Emission of Phthalates from Vinyl Flooring and Interaction with Fine Particles
Principal Investigators:	J. C. Little and L. C. Marr
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$396,392
Personal Share:	\$198,196 (50%)
Period Covered:	9/01/05 – 8/31/08
Project Title:	IGERT: EIGER – Exploring Interfaces through Graduate Education and Research
Principal Investigators:	M. F. Hochella, G. M. Filz, R. J. Foti, J. C. Little, and B. S. Winkel
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$3,101,844
Personal Share:	\$620,368 (20%)
Period Covered:	7/1/05 – 6/30/10
Project Title:	Determining Sorption Parameters for 36 VOC/Material Combinations
Principal Investigators:	R. L. Corsi and J. C. Little
Source of Support:	Environmental Protection Agency (EPA)
Total Funding:	\$99,850
Personal Share:	\$31,563 (32%)
Period Covered:	3/1/05 – 12/1/05
Project Title:	GAANN – An Interdisciplinary Program in Environmental Biogeochemistry
Principal Investigators:	J. C. Little and G. M. Filz
Source of Support:	Department of Education (ED)
Total Funding:	\$373,599 (ED) + \$146,533 (VT) = \$520,132
Personal Share:	\$130,033 (25%)
Period Covered:	8/15/04 – 8/14/07
Project Title:	Development of Soluble Manganese Sorptive Contactors for Enhancing Potable Water Treatment Practices
Principal Investigators:	W. R. Knocke and J. C. Little
Source of Support:	Virginia Water Resources Research Center (VWRRRC)
Total Funding:	\$18,478
Personal Share:	\$9,239 (50%)
Period Covered:	7/1/04 – 5/31/05

Project Title:	Sensitivity Analysis of CONTAM
Principal Investigator:	J. C. Little
Source of Support:	National Institute of Standards and Technology (NIST)
Total Funding:	\$51,375
Period Covered:	8/4/03 – 6/30/05
Project Title:	Hypolimnetic Oxygenation: Coupling Bubble-Plume and Reservoir Models
Principal Investigator:	J. C. Little
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$215,325
Period Covered:	8/1/02 – 7/31/06
Project Title:	Optimizing a Biological Aerated Filter
Principal Investigators:	J. C. Little and N. G. Love
Source of Support:	Virginia's CIT
Total Funding:	\$30,000
Personal Share:	\$15,000 (50%)
Period Covered:	3/1/02 – 10/31/02
Project Title:	Designing Panelized Systems to Minimize Impact on Indoor Air Quality in Tightly-Sealed Buildings
Principal Investigator:	J. C. Little
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$150,000
Period Covered:	9/1/01 – 8/31/05
Project Title:	Development of a Fundamental Model of a Biological Aerated Filter
Principal Investigators:	N. G. Love and J. C. Little
Source of Support:	Denard Inc.
Total Funding:	\$55,420
Personal Share:	\$27,710 (50%)
Period Covered:	06/11/01 – 08/10/02
Project Title:	GAANN – An Interdisciplinary Program in Environmental Biogeochemistry
Principal Investigators:	J. C. Little and G. M. Filz
Source of Support:	Department of Education (ED)
Total Funding:	\$452,366 (ED) + \$157,190 (VT) = \$609,556
Personal Share:	\$103,624 (17%)
Period Covered:	8/16/01 – 8/15/04
Project Title:	U.S. – Switzerland Collaborative Research: Hypolimnetic Oxygenation of Stratified Reservoirs
Principal Investigator:	J. C. Little
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$20,500
Period Covered:	1/1/00 – 12/31/01

Project Title:	Subsurface Barrier Performance: Impact of Variability in Hydraulic Conductivity
Principal Investigators:	G. M. Filz and J. C. Little
Source of Support:	Strategic Environmental Research and Development Program (SERDP)
Total Funding:	\$50,000
Personal Share:	\$25,000 (50%)
Period Covered:	9/1/99 – 8/31/00
Project Title:	Microbial Community Acquisition of Nutrients from Mineral Surfaces
Principal Investigators:	M. F. Hochella, D. F. Berry, M. J. Eick, J. C. Little and M. Potts
Source of Support:	Department of Energy (DOE)
Total Funding:	\$386,202
Personal Share:	\$77,240 (20%)
Period Covered:	10/1/99 – 9/30/02
Project Title:	Development of a Bubble-Plume Diffuser Model
Principal Investigator:	J. C. Little
Source of Support:	Tennessee Valley Authority (TVA)
Total Funding:	\$48,000
Period Covered:	4/1/99 – 9/30/01
Project Title:	Modeling Emissions from Building Materials
Principal Investigator:	J. C. Little
Source of Support:	Center for Indoor Air Research
Total Funding:	\$60,000
Period Covered:	1/1/98 – 12/31/99
Project Title:	Operational Potential of the Biofor Biological Aerated Filter
Principal Investigators:	N. G. Love, J. C. Little and J. T. Novak
Source of Support:	Infilco Degremont Inc. and Virginia's CIT
Total Funding:	\$85,592
Personal Share:	\$28,530 (33%)
Period Covered:	10/1/97 – 12/31/98
Project Title:	Chemical Contaminants in Drinking Water: Estimating Exposure and Uncertainty
Principal Investigator:	J. C. Little
Source of Support:	Environmental Protection Agency (EPA)
Total Funding:	\$180,000
Period Covered:	10/1/97 – 9/30/03
Project Title:	Performance of a Linear Bubble-Plume Aerator in a Water Supply Reservoir
Principal Investigator:	J. C. Little
Source of Support:	Tennessee Valley Authority (TVA)
Total Funding:	\$60,000
Period Covered:	9/1/97 – 9/30/98

Project Title:	Fine Bubble Line Diffuser Aeration System
Principal Investigator:	J. C. Little
Source of Support:	Roanoke County, Virginia
Total Funding:	\$92,541
Period Covered:	7/1/97 – 5/31/98
Project Title:	Uncertainty Analysis of Risks Associated with Exposure to Volatile Compounds in Drinking Water
Principal Investigator:	J. C. Little
Source of Support:	Environmental Protection Agency (EPA)
Total Funding:	\$34,793
Period Covered:	10/1/96 – 12/31/97
Project Title:	A Novel Self-Cleaning Filter
Principal Investigator:	J. C. Little
Source of Support:	Virginia's Center for Innovative Technology
Total Funding:	\$15,000
Period Covered:	7/1/96 – 12/31/97
Project Title:	Mass Transfer Modeling of Volatile Organic Emissions from Building Materials
Principal Investigator:	J. C. Little
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$310,000
Period Covered:	7/1/96 – 6/30/00
Project Title:	Hypolimnetic Aerators: Characterizing and Optimizing Performance
Principal Investigator:	J. C. Little
Source of Support:	The City of Norfolk, Virginia
Total Funding:	\$77,127
Period Covered:	3/1/96 – 2/28/98
Project Title:	A Novel Self-Cleaning Filter
Principal Investigators:	J. M. Girone and J. C. Little
Source of Support:	National Science Foundation (NSF)
Total Funding:	\$74,997
Personal Share:	\$24,997 (33%)
Period Covered:	2/1/96 – 7/31/96
Project Title:	Spring Hollow Reservoir: Monitoring Water Quality and Evaluating Fisheries Potential
Principal Investigators:	J. C. Little and T. J. Grizzard
Source of Support:	Roanoke County, Virginia
Total Funding:	\$37,463
Personal Share:	\$18,731 (50%)
Period Covered:	1/1/96 – 6/30/97

Project Title:	Spring Hollow Reservoir: Monitoring Water Quality
Principal Investigators:	J. C. Little and R. C. Hoehn
Source of Support:	Roanoke County, Virginia
Total Funding:	\$40,620
Personal Share:	\$20,310 (50%)
Period Covered:	1/1/96 – 6/30/97
Project Title:	Oxygenation of Lakes and Reservoirs: Gas Transfer in Buoyant, Non-Coalescing, Bubble-Driven Flow
Principal Investigator:	J. C. Little
Source of Support:	Virginia Water Resources Research Center
Total Funding:	\$10,000
Period Covered:	4/1/95 – 4/30/96
Project Title:	Perform Laboratory Studies using Sodium-Bearing Waste Simulant
Principal Investigators:	J. T. Novak, W. R. Knocke and J. C. Little
Source of Support:	EG&G Idaho, Inc.
Total Funding:	\$42,889
Personal Share:	\$14,294 (33%)
Period Covered:	5/1/94 – 11/31/94

Sponsored research projects (internally funded)

Project Title:	Development of a Major Interdisciplinary Research Program Based on Pressure-Jump Relaxation Techniques
Principal Investigators:	M. J. Eick, J. C. Little and D. F. Berry
Source of Support:	Virginia Tech, ASPIRES Program
Total Funding:	\$79,000
Personal Share:	\$26,333 (33%)
Period Covered:	1/1/99 – 12/31/99
Project Title:	A Pilot-Scale Subsurface Barrier Test Facility
Principal Investigators:	G. M. Filz, and J. C. Little
Source of Support:	Virginia Tech, ASPIRES Program
Total Funding:	\$53,780
Personal Share:	\$26,890 (50%)
Period Covered:	1/1/98 – 12/31/98
Project Title:	Exploratory Research in Mineral/Microbe Biogeochemistry
Principal Investigators:	M. F. Hochella, D. F. Berry, and J. C. Little
Source of Support:	Virginia Tech, ASPIRES Program
Total Funding:	\$54,110
Personal Share:	\$18,036 (33%)
Period Covered:	1/1/97 – 12/31/98

Sponsored educational activities (externally funded)

Project Title:	Mathematics in the Context of Science and Engineering: Building the Links
Principal Investigators:	R. L. Wheeler, K. B. Hannsgen and J. C. Little
Source of Support:	Rensselaer Polytechnic Institute/National Science Foundation
Total Funding:	\$60,000
Personal Share:	\$15,000 (25%)
Period Covered:	7/1/96 – 6/30/97

Sponsored educational activities (internally funded)

Project Title:	Green Engineering: Continued Development of Multimedia Modules
Principal Investigators:	J. C. Little and N. G. Love
Source of Support:	Virginia Tech College of Engineering
Total Funding:	\$9,540
Personal Share:	\$4,770 (50%)
Period Covered:	5/16/96 – 5/15/97
Project Title:	Green Engineering: Development of Multimedia Modules
Principal Investigators:	J. C. Little and N. G. Love
Source of Support:	Virginia Tech College of Engineering
Total Funding:	\$15,000
Personal Share:	\$7,500 (50%)
Period Covered:	6/1/95 – 5/31/96
Project Title:	Environmental Engineering: Creation of an Electronic Textbook
Principal Investigators:	J. C. Little and N. G. Love
Source of Support:	Virginia Tech Center for Excellence in Undergraduate Teaching
Total Funding:	\$5,876
Personal Share:	\$2,938 (50%)
Period Covered:	6/1/94 – 12/31/94

## Professional Service and Recognition

### Session Chair or Co-Chair

- 2<sup>nd</sup> IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. Organizer of half-day workshop on oxygenation and aeration of lakes and reservoirs.
- Indoor Air 2011, Austin, TX, Jun 5 to 10, 2011, Co-Chair of Workshop on Semi-Volatile Organic Compounds (SVOCs): Mechanisms, Measurements, Exposure Assessment and Research Priorities.
- IWA World Water Congress, Montreal, Canada, September 19 to 24, 2010, Chair of Session: Management of the Quality of Water Resources – Regulatory and Economic Aspects.
- IWA World Water Congress, Montreal, Canada, September 19 to 24, 2010, Organizer of Workshop: Managing Water Quality in Lakes and Reservoirs Using In-Situ Technologies – Comparative Case Studies.
- Joint Conference of International Society of Exposure Science & International Society for Environmental Epidemiology, ISES-ISEE 2010, Seoul, Korea, Aug 29 to Sep 2, 2010, Organizer of Two Symposiums: 1) Formaldehyde and Volatile Organic Compounds (VOCs) in Indoor Environments: Linking Sources and Human Exposures; and 2) Nano-Particles and Semi-Volatile Organic Compounds (SVOCs) in Indoor Environments: The Effect of Interacting Sources on Human Exposure.
- 1<sup>st</sup> International Workshop on SVOCs in the Indoor Environment, Tsinghua University, Beijing, China, Jun 1 to 2, 2010, Co-Chair of Forum on SVOCs and Exposure.
- Co-Sponsor of American Society for Testing and Materials (ASTM)/National Institute of Standards and Technology (NIST)/Virginia Tech (VT) Workshop on Reference Material Development for Product Emissions Testing, Annual Conference of the American Society for Testing and Materials, Saint Louis, MO, Apr 19, 2010
- International Society for Exposure Science Annual Conference, ISES 2009, Minneapolis, MN, November 1 to 5, 2009, Co-Chair of Session on Phthalates and Flame Retardants.
- Healthy Buildings 2009, Syracuse, NY, September 13 to 27, 2009, Co-Chair of Session on VOCs from Building Materials.
- Healthy Buildings 2009, Syracuse, NY, September 13 to 27, 2009, Co-Chair of Forum on Semi-Volatile Organic Compounds Indoors – Sources to Exposures.
- Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008, Co-Chair of Session: on Sources and Emissions – SVOCs.
- Indoor Air 2008, Copenhagen, Denmark, August 16 to 23, 2008, Co-Chair of Forum 13: on Source Characterization and Labeling.

- CHAMPS Workshop, Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, La Rochelle, France, Jul 8 to 9, 2008, Chair of Session.
- 5<sup>th</sup> International Symposium on Environmental Hydraulics, Arizona State University, Tempe, Arizona, Dec 4 to 7, 2007, Co-Convener of Contributed Session on Lake and Reservoir Hydrodynamics and Chair of Session "Lake and Reservoir Hydrodynamics II."
- CAST Annual Conference 2007 – International Environmental Security and Human Health Workshop, Chinese Society of Environmental Sciences, Wuhan, China, Sep 9 – 10, 2007, Chair of Session on Water Environment and Health
- ISHVAC 2007, Beijing, China, Sep 7 – 8, 2007, Chair of Forum on Indoor Air Quality (ISIAQ Forum on Source Characterization: Standard Emissions Testing)
- AEESP Conference 2007, Blacksburg, VA, Jul 27 to Aug 1, 2007, Moderator of Session on Environmental Engineering and Science Education
- Chinese Workshop on Indoor Air Pollution Control, Department of Building Science, Tsinghua University, Beijing, China, May 28 to 29, 2007, Chair of Session on Cleaning Indoor Air
- American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, Sante Fe, New Mexico, Feb 4 to 9, 2007, Co-Chair of Special Session on Oxygen Uptake Dynamics at the Sediment-Water Interface
- Physical Processes in Natural Waters (PPNW), Granada, Spain, June 26 to 29, 2006, Chair of Session
- American Water Works Association (AWWA), Annual Conference and Exhibition (ACE), San Antonio, Texas, June 14, 2006, Co-Chair of Special Session on Improving Raw Water Quality with Hypolimnetic Oxygenation
- Healthy Buildings 2006, Lisbon, Portugal, June 4 to 8, 2006 – Chair/Co-Chair of three sessions:
  - ISIAQ Forum on Source Characterization: Models, Standards, Green Materials, and Healthy Buildings
  - Materials 2/3
  - Materials 3/3
- Indoor Air 2005 – 10<sup>th</sup> International Conference on Indoor Air Quality and Climate, Beijing, China, September 4 to 9, 2005 – Co-Chair of three sessions:
  - VOC and Other Pollutant Measurements and Modeling
  - Organic Compounds VI
  - ISIAQ Forum on Source Characterization: Should We Move to Model-Based Standards?
- ISHVAC 2003, Beijing, China, Oct 9 – 11, 2003, Co-Chair of Session on Indoor Air Quality

- Indoor Air 2002, Monterey, California, June 30 – July 5, 2002, Co-Chair of Session on Emissions III – Methods and Small Chamber Measurements
- AWWA Water Quality Technology Conference, San Diego, California, November 1-4, 1998, Co-Chair of Special Session on Improving Raw Water Quality through Lake Oxygenation
- 9th Annual Virginia Water Conference, March 1996, Moderator of Session on Experimentation, Modeling and Measurement

#### Other professional service and recognitions

- Member of International Scientific Committee, The 2nd International Conference on Building Energy and Environment (COBEE 2012), Boulder, Colorado, Aug 1 to 4, 2012.
- Chair of International Program Committee, The Second IWA Symposium on Lake and Reservoir Management – Sustainable Approaches for Improved Water Quality, University of Granada, Granada, Spain, Jun 13 to 17, 2011. Attendees included ~100 international experts and 6 world-class keynote speakers.
- Co-Chair of Workshop on Semi-Volatile Organic Compounds in the Indoor Environment, EPA, Research Triangle Park, NC, Jan 5 to 7, 2011. Financial support totaling \$55K was provided by EPA and the American Chemistry Council. The international workshop included 22 invited speakers and an additional 40 participants.
- Co-Host of National Institute of Standards and Technology (NIST)/Virginia Tech (VT) Workshop on Reference Material Development for Product Emissions Testing, Gaithersburg, MD, Apr 28 to 29, 2011. The international workshop included 8 invited speakers and an additional 20 participants.
- Co-Host of German Federal Institute for Materials Research and Testing (BAM)/U.S. National Institute of Standards and Technology (NIST)/Virginia Tech (VT) Workshop on Reference Material Development for Product Emissions Testing, Berlin, Germany, Jul 5 to 6, 2010.
- Member of International Scientific Committee, The 7<sup>th</sup> International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings (IAQVEC 2010), Syracuse, New York, Aug 15 to 18, 2010.
- Invited by NSF International and the GREENGUARD Environment Institute to participate in the development of a new ANSI standard on Health-Based Product Emissions as part of the ANSI standard Joint Committee. This standard will establish procedures for sample collection and preparation, emission testing, concentration modeling, performance criteria, and compliance verification.
- Editorial Board Member of Indoor Air – International Journal of Indoor Environment and Health
- Elected to the International Society of Indoor Air Quality and Climate (ISIAQ) Academy of Fellows.

- Invited by the Indoor Air Institute (IAI) to co-chair a series of highly interdisciplinary workshops on semi-volatile organic compounds (SVOCs) in the residential environment. The workshops will include leading SVOC scientists working on specific sources, transport pathways, exposure mechanisms, and physiologically-based pharmacokinetic measurements and modeling.
- Invited **keynote speaker** for the 1<sup>st</sup> International Workshop on SVOCs in the Indoor Environment, Tsinghua University, Beijing, China, Jun 1 to 2, 2010.
- Chair of International Program Committee, IWA Workshop on Lake and Reservoir Management: Drinking Water Security and Emergency Response, Tongji University, Shanghai, China, Jul 8 to 11, 2009.
- Chair of International Program Committee, The First IWA Symposium on Lake and Reservoir Management - New Approaches for Managing Source Water to Meet Water Treatment Targets, National Cheng Kung University, Tainan, Taiwan, Jun 28 to Jul 2, 2009.
- Invited Member of EPA's Exposure Prioritization Community of Practice (ExpoCoP).
- Member of International Organizing Committee, International Society for Exposure Science, ISES 2009 Annual Conference, Minneapolis, Minnesota, Nov 1 to 5, 2009.
- Member of Technical Organizing Committee, Healthy Buildings 2009 International Conference and Exhibition, Syracuse, New York, Sep 13 to 17, 2009.
- Invited **keynote speaker** for the 5<sup>th</sup> International Workshop on Energy and Environment of Residential Buildings and the 3<sup>rd</sup> International Conference on Built Environment and Public Health (EERB-BEPH 2009), Guilin, Guangxi, China, May 29 to 31, 2009.
- Member of International Scientific Committee, 5<sup>th</sup> International Workshop on Energy and Environment of Residential Buildings and the 3<sup>rd</sup> International Conference on Built Environment and Public Health (EERB-BEPH 2009), Guilin, Guangxi, China, May 29 to 31, 2009.
- Inaugural Editorial Board Member of Building Simulation – An International Journal.
- Member of International Scientific Committee, The First International Conference on Building Energy and Environment, COBEE 2008, Dalian, China, July 13-16, 2008.
- Invited **keynote speaker** for the 5<sup>th</sup> Swiss Geoscience Meeting, Geneva, Switzerland, Nov 17, 2007.
- Member of Program Committee, AEESP Conference 2007, Blacksburg, VA, Jul 27 to Aug 1, 2007.
- Invited **keynote speaker** for the CAST 2007 Conference, Wuhan, China, September 9, 2007.

- Guest-Editor of a Special Issue of Atmospheric Environment featuring some of the best papers from Indoor Air 2005, the premier International Conference of the International Society of Indoor Air Quality and Climate (ISIAQ) that meets once every three years.
- Member of International Scientific Committee, ISHVAC 2007.
- Chair of ISIAQ Task Force on Source Characterization. The Task Force held it's first meeting during Indoor Air 2005 in Beijing, China; it's second meeting during Healthy Buildings 2006 in Lisbon, Portugal; and it's third meeting during ISHVAC 2007 in Beijing, China.
- Member of International Scientific Committee, Indoor Air 2005.
- Invited **keynote speaker** for the 2004 Environmental Engineering and Science (EE&S) Program Symposium at the University of Illinois at Urbana-Champaign, Apr 9, 2004.
- Invited by the National Science Foundation (NSF) and the Partnership for Advancing Technology in Housing (PATH) to participate in the NSF/PATH Housing Research Agenda Workshop held February 12 to 14, 2004 at the University of Central Florida.
- Invited to submit paper to a special issue of Atmospheric Environment that featured some of the best papers presented at Indoor Air 2002.
- Invited to attend the EPA-sponsored Reactivity Research Working Group Workshop on Combining Environmental Fate and Air Quality Modeling, EPA, Research Triangle Park, NC, June 27-29, 2000.
- Invited to attend Chemical Manufacturers Association (CMA) Workshop of Research Planning: Human Exposure Assessment, Chemical Industry Institute of Toxicology, May 18-19, 1999.
- Member of Technical Advisory Committee for the Consortium for Material Emissions and Indoor Air Quality Modeling, a research project managed by the Canadian National Research Council (1996 to 2003).
- Invited to participate in EPA-sponsored working group on Estimation of Dermal and Inhalation Exposures to Contaminants in Drinking Water (1996 to 1999).

### **Student Achievement and Awards**

- Lee Bryant received the 2011 CH2M Hill/AEESP Outstanding Doctoral Dissertation Award. The award recognizes Lee for completing the top PhD thesis in the environmental science and engineering field during 2010. The award was presented to Lee at the 2011 AEESP Research and Education Conference in Tampa, Florida.
- Ying Xu received the 2011 Yaglou Award from the Academy of Indoor Air Sciences. The Yaglou Award recognizes the most promising young researcher (under the age of 37) in the indoor air sciences. The award was presented to Ying at the Indoor Air 2011 Conference in Austin, Texas.

- Graduate student Zhe Liu received an Air and Waste Management Association Scholarship for Academic Excellence and Professionalism in 2011. Zhe received a check for \$2,500.
- Undergraduate student Mallory Barkdull received first place award for the poster that she presented during the first annual CEE Research Day in 2011.
- Postdoc Jennifer Benning accepted a faculty position in the Department of Civil and Environmental Engineering at the South Dakota School of Mines and Technology, Rapid City, SD, starting in Fall 2010.
- Ying Xu received a scholarship of \$2,500 from the Institute for Airflow Diagnostic Education Foundation to support her research on emissions of semi-volatile organic compounds from building materials and consumer products.
- Ying Xu won a Chinese Government Award for Outstanding Students Abroad, one of ~50 students in all majors, a very large pool of competitors. Ying attended a special reception at the Chinese Embassy in Washington DC and received \$5,000.
- Graduate Student Ying Xu accepted a faculty position in the Department of Civil, Architectural and Environmental Engineering at the University of Texas, Austin in Fall 2009. She was also offered a 2-year Yerby Postdoctoral Fellowship to work at the Harvard School of Public Health, but had to turn that down in favor of UT Austin.
- Ying Xu received a “Best Poster Award” for a poster presented at the Joint Conference of ISES and ISEE (International Society of Exposure Science and International Society for Environmental Epidemiology), Pasadena, California, October 12 to 16, 2008. Ying received a check for \$250.
- Lee Bryant received a 2-year NSF Earth Sciences Postdoctoral Fellowship to continue her research on the biogeochemical cycling of manganese, and its effect on drinking water. The award is based on an NSF proposal that Lee wrote and submitted and will enable her to work at Duke University as well as at Eawag in Switzerland.
- Lee Bryant won first place in the Paul E. Torgersen Graduate Student Research Excellence PhD Poster Competition on Apr 4, 2009. Lee received a check for \$250.
- Ying Xu received a \$3,500 Fellowship (one of two fellowships awarded) from the GreenGuard Environmental Institute in 2008.
- Ying Xu received an Air and Waste Management Association Scholarship for Academic Excellence and Professionalism in 2006. Ying received a check for \$2,500.
- Ying Xu received a “Best Poster Award” for a poster presented at Healthy Buildings 2006, in Lisbon, Portugal. “Healthy Buildings” and “Indoor Air” are the two premier international indoor environment conferences.
- Lee Bryant received a 3-year EPA STAR Doctoral Fellowship in 2005

- Postdoc Dongye Zhao accepted a faculty position in the Department of Civil Engineering at Auburn University, starting in Fall 2001.
- Paul Gantzer received “Best Student Paper Award” for a paper presented at the Annual Conference of the American Water Works Association, Virginia Section, Virginia Beach, Virginia, 2001
- Dr. Dongye Zhao received a 2-year Center for Indoor Air Research Postdoctoral Fellowship in 1998.
- Dan McGinnis received “Best Student Paper Award” for a paper presented at the Annual Conference of the American Water Works Association, Virginia Section, Roanoke, Virginia, 1998
- Vickie Burris received “Best Student Paper Award” for paper presented at the Annual Conference of the American Water Works Association, Virginia Section, Norfolk, Virginia, 1996.

### Consulting Projects

Project:	Optimizing Water Quality at the Conceptual Design Stage: Bellwood Quarry Reservoir – Lead Technical Expert
Client:	City of Atlanta, GA
Amount:	~\$90,000
Project:	Analysis of Water Quality Data for Hemphill Reservoir
Client:	City of Atlanta, GA
Amount:	~\$10,000
Project:	Design of Hypolimnetic Oxygenation System for Lake Bermejales, Spain
Client:	Regional Government of Andalucia, Granada, Spain
Amount:	~\$4,000
Project:	Review of Oxygenation Technologies for the Upper Swan Estuary in Perth, Western Australia
Client:	CSIRO Land and Water, Canberra, Australia
Amount:	~\$2,000
Project:	Developing Model to Predict Leaching of Alkyltin Stabilizers from PVC Pipe into Drinking Water
Client:	US EPA, National Center for Environmental Assessment
Amount:	\$5,000
Project:	Design of Hypolimnetic Oxygenation System for Lake Onondaga, Syracuse, NY – Lead Technical Expert
Client:	Parsons Corporation/Honeywell
Amount:	~\$10,000

Project:	Estimate Benzene Removal in Cascade Aeration System
Client:	Infilco Degremont, Inc.
Amount:	\$1,000
Project:	Technical Review: Aeration White Paper for Lake Onondaga
Client:	Parsons Corporation, NY, USA
Amount:	\$1,000
Project:	Review of EPA Report "Feasibility of Performing Cumulative Risk Assessments for Mixtures of Disinfection By-Products in Drinking Water"
Client:	Eastern Research Group, Lexington, Massachusetts
Amount:	\$1,200
Project:	On-Site Review of the University of Puerto Rico's NSF EPSCoR Program
Client:	American Association for the Advancement of Science, Washington, DC
Amount:	\$2,400
Project:	Literature Review of Indoor Air Quality Emissions Models
Client:	Geomet/Chemical Manufacturer's Association, Washington, DC
Amount:	\$4,800
Project:	Provide Technical Advice and Prepare Written Report and Affidavit
Client:	PGF&M Attorneys, Atlanta, Georgia
Amount:	\$2,400
Project:	Review Design of Side-Stream Oxygen Injection System
Client:	Mobley Engineering, Norris, Tennessee
Amount:	\$500
Project:	Upper San Leandro Reservoir Hypolimnetic Oxygenation System Pre-Design
Client:	East Bay Municipal Utility District, California
Amount:	\$20,000
Project:	Provide Technical Advice and Prepare Written Report and Affidavit
Client:	PGF&M Attorneys, Atlanta, Georgia
Amount:	\$4,500
Project:	Review of Technical Report on Exposure to VOCs from Carpets
Client:	PGF&M Attorneys, Atlanta, Georgia
Amount:	\$1,500
Project:	Spring Hollow Reservoir: Aeration System Design
Client:	Roanoke County, Virginia
Amount:	\$5,000
Project:	Standley Lake: Technical Evaluation of Three Oxygenation Systems
Client:	CH2M Hill, Inc., Denver, Colorado
Amount:	\$2,400

Project:	Review of Final Report for Study on Volatilization of VOCs from Showers
Client:	Concord Environmental, Toronto, Canada
Amount:	\$3,000