

## **Xiaoyu Liu, Physical Scientist in EPA's National Risk Management Research Laboratory**

Air and Energy Management Division

[Mailing address](#)

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### **Area of expertise:**

- Development of new testing and analytical methods to better characterize indoor sources, fate and transport of pollutants from building materials and consumer products.
- Applications of indoor air quality (IAQ) models for exposure assessment, including chemicals from volatile and semi-volatile organic compounds (e.g., formaldehyde, flame retardants, polychlorinated biphenyl, and per- and poly-fluoroalkyl substances).
- Fate and transport mechanisms and exposure pathways of emerging contaminants between sources, air, house dust, contaminated water or commercial aqueous solutions, and interior surfaces in the indoor environment.

### **Select publications:**

**Liu, X.**, [Characterize Sources for Exposure Assessment of Chemicals in Indoor Environment](#), *Indoor and Built Environment*, 2018, 27(3) 291–295.

Liang, Y., **Liu, X.**, Allen, M. R., [Measurements of Parameters Controlling the Emissions of Organophosphate Flame Retardants in Indoor Environments](#), *Environmental Science & Technology*, 2018, 52, 5821-5829.

Liang, Y., **Liu, X.**, Allen, M. R., [Measuring and Modeling Surface Sorption Dynamics of Organophosphate Flame Retardants in Chambers](#), *Chemosphere*, 2018, 193, 754-762.

**Liu, X.**, Allen, M. R., Roache, N. F., [Characterization of Organophosphorus Flame Retardants' Sorption on Building Materials and Consumer Products](#), *Atmospheric Environment*, 2016, 140, 333-341.

**Liu, X.**, Guo, Z., Krebs, K.A., Greenwell, D.J., Roache, N.F., Stinson, R.A., Nardin, J.A., Pope, R.H., [Laboratory Study of PCB Transport from Primary Sources to Settled Dust](#), *Chemosphere*, 2016, 149, 62-69.

**Liu, X.**, Guo, Z., Roache, N.F., Mocka, C. A., Allen, M. R., Mason, M. A., [Henry's Law Constant and Overall Mass Transfer Coefficient for Formaldehyde Emission from Small Water Pools under Simulated Indoor Environmental Conditions](#), *Environmental Science & Technology*, 2015, 49, 1603-1610.

View more research publications by [Liu, Xiaoyu](#).

### **Education:**

- Ph.D. University of North Carolina at Chapel Hill, NC; Environmental Science, 1999
- M.S. Beijing Normal University, Beijing, China; Analytical Chemistry, 1993

- B.S. Hunan Normal University, Changsha, Hunan, China; Chemistry, 1990

**Professional Experience:**

Workgroup and Project Leads

- TSCA Title VI Technical Issues Workgroup for Formaldehyde Emission Standards for Composite Wood Products (with OPPT), 2018 – present
- ASTM Low-Cost Indoor Air Quality Test Method Development Advisory Work Group, 2017 – present
- Collaborative Federal Research on Recycled Tires Used in Synthetic Turf Fields Workgroup (EPA, CDC-NCEH/ATSDR, CPSC, NIEHS, and NIOSH), 2016 – present
- EPA/CPSC Coordination on Flame Retardant Chemical Testing Workgroup, 2016 – present
- Collaborative Federal Research on SPFI Emission Workgroup (EPA, NIOSH, CPSC, NIST, PSHA, ASTDR, NLM), 2013 – present
- Commission for Environmental Cooperation Operation (CEC) project Greening of Chemicals Management in North America Workgroup (Canada, Mexico, and the US) 2014 – 2017

Committees and Memberships

- Chair of ASTM international D22.05 Indoor Air Subcommittee, 2016-present
- Secretary of International Society of Indoor Air Quality and Climate (ISIAQ), Scientific and Technical Committee (STC) 11, 2014-present
- Editorial board of Journal, Indoor and Built Environment, 2014-present
- Secretary of ASTM international D22.05 Indoor Air Subcommittee, 2013-2016
- Air & Waste Management Associations (AWMA), 1999 -2015

Awards and Honors

- Award of Appreciation from ASTM Committee D22 on Air Quality, 2018
- EPA National Honor Award– Silver Medal for Superior Service, 2017
- EPA ORD Award – Bronze Medal – PFAS Team, 2016
- EPA OPPT Collaboration Award on Collaborative Federal Partnership SPFI Research, 2015
- EPA ORD Award – Bronze Medal – PCBs in Schools Research, 2012
- Keynote Speaker – 6th International Symposium on Sustainable Healthy Buildings Seoul, South Korean, 2012
- EPA ORD Award – Bronze Medal– PCB Mitigation Research Team, 2011
- NRMRL Award – Perfluorooctanoic Acid in Articles of Commence Research, 2011
- SAGE Best Paper Award – the International Society of the Built Environment, 2011
- Scientific and Technological Achievement Awards (STAA) Honorable Mention, 2010, 2008