

Paul W. Francisco
*Research Engineer, Illinois Sustainable Technology Institute
University of Illinois at Urbana-Champaign*

EDUCATION

University of Delaware	Mechanical Engineering	B.S.	1991
University of Washington	Mechanical Engineering	M.S.	1993

ACADEMIC EXPERIENCE

- 1/12-present *Research Engineer/Program Coordinator*, Indoor Climate Research & Training, Illinois Sustainable Technology Center, University of Illinois, Champaign, IL
- Researching energy efficiency and indoor air quality in buildings.
 - Director of the University of Illinois Weatherization Training Center.
 - Evaluation of building leakage to outside and between zones in single-family and multi-family buildings.
 - Currently PI on two studies (funded by U.S. HUD and U.S. DOE) evaluating low-cost passive measures to inhibit radon migration.
- 7/03-12/11 *Research Specialist*, School of Architecture - Building Research Council, University of Illinois, Champaign, IL.

PROFESSIONAL EXPERIENCE

- 9/93-6/03 *Research Scientist*, Ecotope, Inc., Seattle, WA. Researched aspects of energy use in residential and light commercial buildings. Projects included assessments of thermal duct efficiency, airflow and leakage in conditioning systems, building and zone ventilation rates, and heating system energy consumption.

PROFESSIONAL SERVICE

- Chair of ASHRAE Standard 62.2: Ventilation and Acceptable Indoor Air Quality for Low-Rise Residential Buildings (ASHRAE = American Society of Heating, Refrigeration, and Air-Conditioning Engineers)
- Former Chair of ASHRAE Standard 152: Method of Test for Determining the Design and Seasonal Efficiencies of Residential Thermal Distribution Systems
- Vice-Chair of ASHRAE's Environmental Health Committee
- Member of the Building Performance Institute (BPI) Board of Directors
- Chair of ASHRAE's committee for development of a Position Document on the Use of Unvented Combustion Appliances
- Invited member of ASHRAE's Standard Advisory Panel to provide recommendations to the ASHRAE Board of Directors on the direction of Standard 90.2: Energy-Efficient Design of New Low-Rise Residential Buildings
- Former Technical Committee chair and current voting member of ASHRAE TC 6.3: Forced-Air Heating and Cooling Systems in Residential and Small Commercial Buildings
- Member of the International Society of Indoor Air Quality and Climate (ISIAQ)

- Member of the ad hoc Health & Safety Committee for the U.S. Department of Energy's Weatherization Assistance Program
- Member of the Ventilation Committee for the original drafting of the U.S. Department of Energy's Workforce Guidelines for Home Energy Upgrades

SELECTED PUBLICATIONS

- Pigg, S., D. Cautley, and P. Francisco. 2011. *Weatherization and Indoor Environmental Quality: Measured Impacts in Single-Family Homes Under the Weatherization Assistance Program*. Draft final report, submitted Dec. 2011.
- Francisco, P.W., D. Cautley, K. Tohinaka, S. Pigg, B. Tonn, and D. Carroll. 2011. "Indoor Air Quality in Weatherization Homes: Study Design and Pilot Results." Proceedings of Indoor Air 2011: The 12th International Conference on Indoor Air Quality and Climate, Austin, Texas, June 2011.
- Tonn, B.E., S. Pigg, D. Cautley, D. Carroll, P.W. Francisco, K. Tohinaka, and M. Blasnik. "Indoor Air Quality in Low-Income Homes." Proceedings of Indoor Air 2011: The 12th International Conference on Indoor Air Quality and Climate, Austin, Texas, June 2011.
- Rose, W.B. and P.W. Francisco. "Indoor Air Performance Calculations and Values with Obscure Origins." Proceedings of Indoor Air 2011: The 12th International Conference on Indoor Air Quality and Climate, Austin, Texas, June 2011.
- Rose, W.B. and P.W. Francisco. 2010. "Temperature and Humidity Measurements in 71 Homes Participating in an IAQ Improvement Program." Proceedings of the Performance of Exterior Envelopes of Whole Buildings XI Conference in Clearwater, FL.
- Francisco, P.W., J.R. Gordon, and W.B. Rose. 2010. "Distribution of CO in 30 Homes with Unvented Gas Fireplaces." Proceedings of the 31st AIVC conference in Seoul, South Korea.
- Francisco, P.W., S. Pigg, C. Olson, and B. Davis. 2010. "Measured Duct Leakage and Resulting Envelope Pressure Differences." Proceedings of the 31st AIVC conference in Seoul, South Korea.
- Francisco, P.W., J.R. Gordon, and W.B. Rose. 2010. "Measured Concentrations of Combustion Gases from the Use of Unvented Gas Fireplaces." *Indoor Air* **20**: 370-379.
- Francisco, P.W., J.R. Gordon, and W.B. Rose. 2009. "Indoor Moisture in 30 Homes Using Unvented Gas Fireplaces." *ASHRAE Transactions*. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Atlanta, GA.
- Francisco, P.W., J.R. Gordon, and W.B. Rose. 2008. "An Analysis of the Dilution of Combustion Gases in U.S. Homes Using Unvented Gas Fireplaces." Proceedings of the First International Conference on Building Energy and Environment (COBEE), Dalian, China, July 2008.