

Neil P. Wu, P.E., CFEI, CBO
Senior Managing Engineer

Professional Profile

Mr. Neil P. Wu is a Senior Managing Engineer in Exponent's Thermal Sciences practice. He has applied his knowledge of fire protection engineering principles to the analysis of building fire and life safety systems, the determination of fire performance of materials, and the causative analysis and investigation of fire losses. He specializes in design, construction, inspection, and testing of critical fire and life safety systems, including automatic fire sprinkler systems, commercial kitchen fire protection equipment, fire protection site water infrastructure, automatic fire alarm and detection systems, and occupant egress systems. His work has also concentrated on fire safety practices during the building construction process and analysis of fuel gas system and appliance fire safety. He has experience investigating the fire safety performance of household appliances, flame-resistant textiles and garments, and fire retardants in construction materials. He has provided testimony regarding fire protection systems, fire origin and cause, and flammability of building construction and insulating materials.

Mr. Wu's research has focused on the flammability of liquid petroleum fuels, the ignition and flame spread characteristics of plastics for construction materials and consumer products, full-scale tests of water-based and alternative fire suppression chemicals, as well as performance testing of flash-fire protective garments and ensembles.

Prior to joining Exponent, Mr. Wu served as the Fire Protection Engineer for the City of Orlando, Florida. As the authority having jurisdiction, he managed a team of fire safety inspectors, construction inspectors, and engineers and was responsible for regulating construction for compliance to the International Code Council® (ICC) and National Fire Protection Association (NFPA) model code families. In addition, Mr. Wu also served as a Project Engineer at a large fire protection engineering consulting firm providing services in the areas of building fire protection and life safety system design, fire investigation and litigation support, engineered performance-based design, construction administration, and construction management.

Academic Credentials and Professional Honors

M.S., Fire Protection Engineering, University of Maryland, 1998
B.S., Fire Protection Engineering, University of Maryland, 1996

Tau Beta Pi Engineering Honor Society, Maryland Beta Chapter; Salamander Honor Society, Maryland Beta Chapter; Golden Key Honor Society; Order of the Engineer

Licenses and Certifications

Fire Protection Engineer, California, #1550; Professional Engineer, Florida, #57756; Professional Engineer, Maryland, #33561; Professional Engineer, New York, #085840; Professional Engineer, Pennsylvania, #PE076261; Professional Engineer, District of Columbia, #PE906071; Professional Engineer, Virginia, #049087, Professional Engineer, Kentucky, #27915; Professional Engineer, Missouri, #2011036509; NFPA 1031 Certified Fire Inspector I; Certified Fire Safety Inspector, Florida # 110675; Certified Building Official (CBO), International Code Council #5284681-CB; Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators, #11323-5615; OSHA 40-hour and 8-hour HAZWOPER Certified (29 CFR 1910.120); OSHA Portable Fire Extinguisher Certified (29 CFR 1910.157); OSHA Asbestos Awareness Certified (29 CFR 1910.1001)

Publications

Long RT, Wu N. Professional practice. Fire Protection Engineering, Society of Fire Protection Engineers 2011; 51.

Wu N, Utiskul Y. Residential fire sprinklers – Water usage and water meter performance study. The Fire Protection Research Foundation, Quincy, MA, February 2011.

Long RT, Wu N, Blum A. Unsatisfactory sprinkler performance: An update on trends and root cause discussion from the investigating engineer's perspective. Fire Protection Engineering, Society of Fire Protection Engineers, Issue No. 48, 4th Quarter 2010.

Wu N, Utiskul Y, Sipe J. Consideration on the use of heat release data from the cone calorimeter. Proceedings, 4th International Symposium on Fire Investigation Science and Technology, National Association of Fire Investigators, pp. 629–640, September 2010.

Wu N. The importance of sprinkler system main drain testing: Impairment to a sprinkler system can have catastrophic consequences. Fire Protection Contractor, pp. 22-23, September 2008.

Wu N. Ready for action: Five steps can help ensure that sprinkler water supply always meets design criteria. Building Operating Management, pp. 94-96, September 2008.

Wu N. Managing change of fire sprinkler system water supplies. International Fire Protection, pp. 69-74, August 2008.

Torero JL, Wu N, Kolb G. The effect of weathering on the flammability of a slick of crude oil on a water bed. Combustion Science and Technology, pp. 269-308, Vol. 161, 2000.

Quintiere JG, Torero JL, Long RT, Wu N, Dillon SE, Heater D. Material fire properties. FAA Fire Conference, Atlantic City, NJ, November 1998.

Wu N, Torero JL, Mosman T, Olenick S. Effect of weathering on piloted ignition and flash point of a slick of oil. Proceedings, 21st Arctic and Marine Oilspill Program (AMOP) Technical Seminar, 21st. Environment Canada. Volume 2. Proceedings, June 10-12, 1998, Alberta, Canada, Environment Canada, Ottawa, Ontario, pp. 633–649, 1998.

Wu N. Determination of fire properties of liquid fuels characteristic of oil spills using ASTM E-1321. M.S. Thesis, University of Maryland, College Park, MD, Spring 1998.

Wu N, Torero JL, Kolb G. Piloted ignition of a slick of oil on water: The effect of weathering. 27th International Symposium on Combustion, The Combustion Institute, pp. 2783–2790, 1998.

Wu N, Torero JL. Piloted ignition of a slick of oil on water. Chemical and Physical Processes in Combustion, Combustion Institute Eastern States Section Proceedings. Fall Technical Meeting, Hartford, CT, 1997.

Wu N, Torero JL, Baker M, Kolb G. Ignition, flame spread and mass burning characteristics of liquid fuels on a water bed. Proceedings, 20th Arctic and Marine Oil Spill Program Technical Seminar, Environment Canada, Vancouver, British Columbia, pp. 769–794, 1997.

Wu N, Torero JL, Baker M, Kolb G. Ignition, flame spread and mass burning characteristics of liquid fuels on a water bed. Spill Science and Technology Bulletin, 3(4): 209–213, 1996.

Presentations

Wu N, Utiskul Y, Sipe, J. Consideration on the use of heat release data from the cone calorimeter. International Symposium on Fire Investigation Science and Technology, College Park, MD, September 2010.

Wu N, Carroll P. The revolution in building materials: plastics – innovation or ignition? National Association of Subrogation Professionals, Annual Conference, Hollywood, FL, November 2008.

Wu N. Material flammability and its contribution to fire growth. National Association of Subrogation Professionals, Maryland and D.C. Chapter, Fall/Winter Meeting, Annapolis, MD, November 2007.

Wu N. Fire protection system maintenance training. Federal Aviation Authority (FAA), Atlanta, GA, May 2000.

Wu N. Piloted ignition of a slick of oil on water. Chemical and Physical Processes in Combustion, Combustion Institute Eastern States Section, Fall Technical Meeting, Hartford, CT, October 1997.

Wu N. Ignition, flame spread and mass burning characteristics of liquid fuels on a water bed. 20th Arctic and Marine Oil Spill Program Technical Seminar, Environment Canada, Vancouver, British Columbia, Canada, June 1997.

Professional Affiliations

- International Association of Arson Investigators (active member)
- National Fire Protection Association—NFPA (active member); Incinerators and Waste Handling Systems Technical Committee (principal member, 2007–present); Flash Fire Protective Garments Technical Committee (principal member, 2008–present)
- Society of Fire Protection Engineers—SFPE (professional member);
- International Code Council (active member); International Fire Code Council – ICC Fire/Performance/Wildland-Urban Interface Code Interpretation Committee, FCIC (principal member, 2007–present)
- National Association of Fire Investigators (active member)
- National Association of Subrogation Professionals (professional member)
- Council on Tall Buildings and Urban Habitat – Fire & Safety Working Group (member)