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Neil P. Wu, P.E., IAAI-CFI, CBO

Professional Profile

Mr. Wu is a Principal at South River Engineering, LLC and the founder of the firm. He has applied his knowledge of fire protection engineering principles to the analysis of building fire and life safety systems and the causative analysis and investigation of fire losses involving structures, vehicles, industrial equipment and consumer products. He specializes in design, construction, inspection, and testing of critical fire and life safety systems, including automatic fire sprinkler systems, clean agent and chemical fire suppression systems, commercial kitchen fire protection equipment, fire protection site water infrastructure, and automatic fire alarm and detection systems. His work has also concentrated on fire safety practices during the building construction process and failure analysis of fuel gas systems, including aboveground and underground containers, regulators, piping, valves, and appliances. He has performed several hundred investigations involving consumer products, household appliances, garments, textiles, and clothing, and combustible construction materials.

He has provided testimony regarding fire protection systems performance and component failure, fuel gas system failure, fire origin and cause, construction fire safety, hot works, fire dynamics, heat transfer, fire spread, and flammability of products, 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, fire sprinkler system pipe and fitting failure, fuel gas system venting behavior, full-scale tests of water-based and alternative fire suppression chemical systems, as well as performance testing of flash-fire protective garments and ensembles.

Prior Work Experience

Exponent, *Failure Analysis Associates*, Inc. April 2006 – April 2017
Senior Managing Engineer

Provided consulting services to solve complex technical problems for clients. Managed a team of fire investigators and fire protection engineers. Investigated a wide range consumer products and fire protection systems and components. Performed technical research and fire testing. Conducted fire and explosion investigations and forensic analysis.

City of Orlando, Florida February 2001 – March 2006
Fire Protection Engineer/Development Services Manager

Served as the authority having jurisdiction (AHJ) for all construction activity. Managed a team of fire safety inspectors, construction inspectors, and engineers and was responsible for regulating construction for compliance to model building and fire codes. Authored the city Fire Code and provided training to regional code officials.

Rolf Jensen & Associates, Inc. (RJA) June 1998 – February 2001
Consulting Engineer

Provided architectural/engineering code consulting services in the areas of building fire protection and life safety systems design. Provided fire investigation and litigation support. Developed engineered performance-based design solutions for high-rise construction, large assembly, and atria structures. Provided construction administration services for installation of fire protection systems.

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Academic Credentials & 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

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, Georgia, #PE036548
- Professional Engineer, Virginia, #0402049087
- Professional Engineer, Kentucky, #27915
- Professional Engineer, Missouri, #2011036509
- Professional Engineer, Alaska, #FP14787
- Professional Engineer, Texas, #127340
- Professional Engineer, Tennessee, #121520
- Professional Engineer, Alabama, #38867-E
- Professional Engineer, Ohio, #PE.91331
- Professional Engineer, New Jersey, #91413370
- NFPA 1031 Certified Fire Inspector I; NFPA 1033 Certified Fire Investigator
- Certified Fire Safety Inspector, Florida, #110675 (inactive)
- Certified Building Official (CBO), International Code Council #5284681-CB
- Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators, #11323-5615
- Certified Fire Investigator (IAAI-CFI), #53-032024
- 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)

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Professional Affiliations

International Association of Arson Investigators (active member)
Maryland Fire and Explosion Investigators Association (active member)
National Fire Protection Association — NFPA (active member)

- Incinerators and Waste Handling Systems Technical Committee (principal member, 2007-2017)
- Flash Fire Protective Garments Technical Committee (principal member, 2008-2017)
- Loss Prevention Procedures and Practices Technical Committee (principal member, 2012-2017)

Society of Fire Protection Engineers — SFPE (professional member)

International Code Council (active member)

- ICC Fire/Performance/Wildland-Urban Interface Code Interpretation Committee [FCIC] (principal member, 2007-2012)

National Association of Fire Investigators (active member)

Publications

Utiskul, Y, Wu N, Keller, E. Fire department connection inlet flow requirements. The Fire Protection Research Foundation, Quincy, MA, January 2016.

Blum A, Long RT, Wu N, Dillon, S. Analyzing unsatisfactory fire sprinkler performance. Proceedings, 6th Congress on Forensic Engineering, American Society of Civil Engineering, pp.547-555, San Francisco, CA, Fall 2012.

Utiskul Y, Wu N, Biteau H. Combustion air requirements for power burner appliances. The Fire Protection Research Foundation, Quincy, MA, January 2012.

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, 2010; 48.

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, September 2010; pp. 629-640.

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

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

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

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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 2000; 161: pp. 269-308.

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, Environment Canada, Ottawa, Ontario, Canada, June 10-12, 1998; pp. 633-649.

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, 1998; pp. 2783-2790.

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, 1997; pp. 769-794.

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 1996; 3(4): pp. 209-213.

Select Presentations

Wu N. Construction fire safety: Lessons learned. Capital Region Fire Sprinkler Association, Inspection Training Program, Laurel Police Center – Partnership Hall, Laurel, MD, October 2017.

Wu N. Sprinkler system water losses: A summary of piping failures. Anne Arundel Community College, Fire Sprinkler Fitter Apprenticeship Program – Anne Arundel County Fire Marshal's Office, Arnold, MD, April 2017.

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.