

Andrew Blum, CFEI
Senior Associate

Professional Profile

Mr. Andrew Blum is a Senior Associate in Exponent's Thermal Sciences practice. He applies fire protection engineering principles including fire dynamics, smoke management, flame spread, and fire modeling to origin and cause investigations involving fires, explosions, and other thermal events. Mr. Blum has investigated losses in residential homes and commercial kitchens, as well as larger losses in a variety of storage, manufacturing, food processing, power generation, high-rise hotel, apartment, condominium, and commercial facilities. Those investigations included losses involving propane and natural gas appliances, mechanical and HVAC equipment, welding and hot work operations, firefighter personal protection equipment, manufacturing processes, textile garments and clothing, consumer products and appliances, utilities, electronics, residential and commercial cooking equipment, and automotive and rail vehicles.

Mr. Blum also applies fire protection engineering principles to the prevention of fires, explosions, and thermal events. He has knowledge of fire detection system, suppression system, smoke management system, and passive fire protection system design, installation, and maintenance, and provides consultation on their evaluation in a building's overall life safety analysis. In addition, Mr. Blum has investigated numerous losses related to the failure of or the inadvertent operation of fire suppression systems and their associated components in a variety of residential, commercial, and industrial occupancies.

Mr. Blum has both small and large-scale fire testing experience with nationally and internationally accepted standards (NFPA, ASTM, ISO, and CFR) and is skilled in the design, fabrication and installation of fire test instrumentation for unique or one-off fire tests. He has conducted small and large-scale fire tests for research purposes, litigation support, R&D for product manufacturers, and product testing related to recalls. Prior to joining Exponent, Mr. Blum conducted fire sprinkler research at the University of Maryland in College Park, Department of Fire Protection Engineering, focusing on the atomization and spray dispersion for impinging jets and other complicated sprinkler configurations, which was funded by the National Fire Sprinkler Association (NFSA) and Factory Mutual (FM).

Academic Credentials and Professional Honors

M.S., Fire Protection Engineering, University of Maryland, 2007

B.S., Fire Protection Engineering, University of Maryland, 2004

Principal Member: Building/Life Safety Code Technical Committee on Fundamentals, NFPA 101, *Life Safety Code*; and NFPA 5000, *Building Construction and Safety Code*, National Fire Protection Association (2010 to present)

Principal Member: Technical Committee on Dry and Wet Chemical Extinguishing Systems, NFPA 17, *Standard for Dry Chemical Extinguishing Systems*; and NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, National Fire Protection Association (2008 to present)

Principal Member: Building/Life Safety Code Technical Committee on Board and Care Facilities, NFPA 101, *Life Safety Code*; and NFPA 5000, *Building Construction and Safety Code*, National Fire Protection Association (2009 to present)

Member: Automatic Sprinkler Fire Protection Research Council, National Fire Protection Association (2009 to present)

Alternate Member: Technical Committee on Hot Work Operations, NFPA 51B: *Standard for Fire Prevention during Welding, Cutting, and Other Hot Work*, National Fire Protection Association (2011 to present)

Alternate Member: Technical Committee on Pre-Incident Planning, NFPA 1620: *Recommended Practice for Pre-Incident Planning*, National Fire Protection Association (2011 to present)

Licenses and Certifications

Passed the EIT/FE examination, 2009, Registered Engineer Intern, Maryland

Certified Fire and Explosion Investigator (CFEI) in accordance with the National Association of Fire Investigators (NAFI) National Certification Board per NFPA 921

Hazardous Waste Operations and Emergency Training, in accordance with OSHA 29 CFR 1910.120, 1926.65

Occupational Health and Safety Fire Extinguisher Training, in accordance with OSHA regulation #1910-157

Publications

Blum AF, Long RT. Investigation of inadvertent automatic fire sprinkler system discharges. Subrogator Magazine, National Association of Subrogation Professionals, Winter 2011.

Long RT, Wu NP, Blum AF. Lessons learned from unsatisfactory sprinkler performance. Fire Protection Engineering Magazine, Society of Fire Protection Engineers, 4th Quarter 2010, Issue 48.

Ren N, Blum AF, Do C, Marshall AW. Atomization and dispersion measurements in fire sprinkler sprays. Atomization and Sprays, February 2010.

Ren N, Blum AF, Zheng Y, Do C, Marshall AW. Quantifying the initial spray from fire sprinklers. International Association of Fire Safety Science (IAFSS) 9th international Symposium Proceedings, Karlsruhe, Germany, September 2008.

Blum AF. Discharge characteristics of canonical sprinkler sprays. Thesis Publication, University of Maryland at College Park, Department of Fire Protection Engineering, May 2007.

Ren N, Blum AF, Wu D, Marshall AW. Characterizing the initial spray from fire suppression devices. International Mechanical Engineering Conference and Exposition (ASME), Chicago, IL, November 2006.

Selected Invited Presentations

Blum AF, Long RT, Morrison III DR, Ogle RA, Dillon SE. Performing a high-rise life safety analysis: Lessons learned from the Cook County Administration Building fire. National Fire Protection Association's Americas Fire and Security Expo (AFSE), July 2009.

Blum AF. Discharge characteristics of canonical sprinkler sprays. Chesapeake Chapter of the Society of Fire Protection Engineers (SFPE) Meeting, College Park, MD, May 2007.

Marshall AW, Blum AF, Ren N. Development of an atomization model for fire suppression injectors. Universita di Modena e Reggio Emilia, Modena, Italy, December 2006.

Professional Affiliations

- National Fire Protection Association—NFPA (member)
- Society of Fire Protection Engineers—SFPE (affiliate)
- International Association of Arson Investigators—IAAI (member)
- National Association of Fire Investigators—NAFI (member)
- National Fire Sprinkler Association—NFSA (member)
- International Code Council—ICC (professional member)

Conferences, Seminars, and Workshops Attended

Expert Vehicle Fire Investigation, International Association of Arson Investigators seminar on Vehicle Fire Investigations, June 2, 2010.

Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, National Fire Protection Association seminar on NFPA 25-2008, October 9, 2009.

Inspection, Testing, and Maintenance of Fire Alarm and Signaling Systems, National Fire Protection Association seminar on NFPA 72-2010, October 8, 2009.

Suppression Systems Seminar, Viking Corporation hands-on system training and seminar on wet, dry, deluge, foam, pre-action systems, March 09–10, 2009.