

ANDREW J WILLIAMS, P.E.

CURRICULUM VITAE

EDUCATION

Bachelor of Science in Mechanical Engineering, Worcester Polytechnic Institute, Worcester, Massachusetts, 1993

Further Coursework in Biology, Organic Chemistry & Macro-Economics

Further Professional Studies in Design Development, Experimentation, Photography, Fire & Explosion Investigation, Fire Dynamics, Premise Wiring, Appliance Failures, HVAC/R Equipment, and Electrical Fires

EXPERIENCE

1999-present NEPONSET VALLEY ENGINEERING COMPANY, Inc., d/b/a GAI Engineers, a forensic engineering firm.

Investigate the technical aspects of property damage and personal injury matters, utilizing expertise in electrical and mechanical engineering.

Complete scene examinations, witness interviews, evidence examinations, research, document review, testing, engineering calculations, and report writing, as well as provide expert testimony, on electrical & mechanical equipment and systems.

Electrical projects include household appliances, consumer electronics, power tools, restaurant equipment, laundering equipment, heaters, motors, premises wiring, electrical service equipment, etc.

Mechanical projects include HVAC equipment, plumbing fixtures, boilers, furnaces, water heaters, steam generators, water supply piping & components, gas supply piping & components, door opening/closing systems, construction equipment, janitorial equipment, etc.

1997-1999 ALLERGAN, Inc., Irvine, CA, a medical device manufacturer of equipment and disposables for the eye care industry.

Validated electro-mechanical designs, both existing and new, for reliability and robustness. Ensured final test of new equipment met all critical design specifications with high confidence (6 Sigma). Completed electronics troubleshooting, wiring harness design, sheet-metal chassis & plastic panel optimization, fastener selection, packaging development and material finishing selection.

1993-1997 HAEMONETICS, Corp., Braintree, MA, a medical device manufacturer of equipment and disposables for the blood processing industry.

Completed Design of Experiments (DOE) and validation for disposables and equipment performance as well as thermoplastic forming processes. Assisted in capital upgrade projects, such as a 5000 square foot Class 1000 cleanroom. Procured automated process equipment as well as electrical and mechanical equipment. Responsible for department safety, including repetitive motion injuries, machine guarding and electromagnetic radiation.

1988-1993 GEM GRAVURE COMPANY, Inc., Hanover, MA, a manufacturer of equipment and disposables for the wire & cable industry.

Completed refurbishment of customer-returned equipment from field, including trouble-shooting, teardown, installation of electrical & mechanical components, and acceptance testing. Completed fabrication of new equipment, including installation of electrical & mechanical components, and acceptance testing. Assisted in the research and development of new designs.

TRAINING

<u>Date</u>	<u>Course Title</u>	<u>Hours</u>	<u>Sponsor(s)</u>
Aug 2023	Heat Pump Systems	4	Decatur Professional Development
Aug 2023	Energy Saving Systems in Building Electrical, Mechanical and Plumbing Systems	3	Decatur Professional Development
Aug 2022	The Potential Value of Electronic Evidence in Fire Investigations	4	International Association of Arson Investigators
Aug 2022	Emerging Technologies in Fire Investigation	3	International Association of Arson Investigators
Aug 2022	Charleston Super Sofa Store Fire	4	International Association of Arson Investigators
Aug 2022	NFPA 1033 & 921 Important Updates	3	International Association of Arson Investigators
Aug 2022	Discovery in Criminal Cases	3	International Association of Arson Investigators
Aug 2022	Discovery in Civil Cases	3	International Association of Arson Investigators
Jul 2022	Digital Photography and the Fire Investigator	4	International Association of Arson Investigators
Aug 2021	Metallurgical Failure Analysis	3	Decatur Professional Development
Aug 2021	Variable Frequency Drives	3	Decatur Professional Development
Dec 2020	LEED Rating Systems for Green Buildings	7	Decatur Professional Development
Dec 2020	Power System Neutral Grounding	3	Decatur Professional Development
Jul 2019	MagneTek: A Case Study in The Daubert Challenge	2	International Association of Arson Investigators
Jul 2019	Evidence Examination: What Happens at the Lab	4	International Association of Arson Investigators

<u>Date</u>	<u>Course Title</u>	<u>Hours</u>	<u>Sponsor(s)</u>
Jul 2019	The Scientific Method for Fire and Explosion Investigations	3	International Association of Arson Investigators
Jul 2019	Ethics and the Fire Investigator	3	International Association Of Arson Investigators
Jul 2018	Commercial HVAC	6	Decatur Professional Development
Jan 2018	The Practical Application of the Relationship between NFPA 1033 And NFPA 921	2	International Association of Arson Investigators
Jan 2018	DNA	3	International Association Of Arson Investigators
Sep 2017	HVAC Instrumentation and Control	6	Decatur Professional Development
Jun 2017	NFPA 1033 and Your Career	2	International Association Of Arson Investigators
Jun 2017	Physical Evidence at the Fire Scene	4	International Association Of Arson Investigators
Jun 2017	Introduction to Evidence	4	International Association Of Arson Investigators
Jun 2017	Documenting the Event	4	International Association Of Arson Investigators
Mar 2017	Hot Work Safety	3	National Fire Protection Association
Oct 2016	Ionizing Radiation Hazards	1	Compliance Training Online
Feb 2016	Service, Safety and Operational Training for Golden Engineering X-Ray Systems	4	Golden Engineering
Jun 2015	Investigation of Fires Involving Lighting Fixtures	8	Maine Chapter of International Association of Arson Investigators
May 2015	Asbestos Awareness	2	Association of Bay Area Governments
Oct 2014	Investigating Solid Fuel-Burning Appliance Fires	16	Fire Findings Laboratories
Jul 2012	Arc Mapping Basics	4	International Association Of Arson Investigators
Jul 2012	Analysis of Station Nightclub Fire	4	International Association Of Arson Investigators

<u>Date</u>	<u>Course Title</u>	<u>Hours</u>	<u>Sponsor(s)</u>
Nov 2011	Air-Conditioning and Refrigeration	16	American Trainco
Dec 2010	Arc Flash Mitigation	6	Three-C Electrical & ABB
Nov 2009	Introduction to Arc Mapping	6	Massachusetts Chapter of International Association Of Arson Investigators
Jun 2009	Asbestos and Respirator Training	4	Chem Scope
Jun 2007	Fire and Arson Investigation Seminar On Appliance Fires	20	Massachusetts Chapter of International Association Of Arson Investigators
April 2007	Investigating Residential Dryer Fires	16	Fire Findings Laboratories
Sep 2006	Commercial Kitchen Systems	6	Massachusetts Chapter Of International Association Of Arson Investigators & FIREPRO
Jun 2006	Forensic Fire Investigation	16	Massachusetts Chapter Of International Association Of Arson Investigators
Sep 2005	Electric Motors & Controls	14	American Trainco
Nov 2004	Investigations of Electrical and Appliance Related Fires	20	International Association of Arson Investigators & Association of Home Appliance Manufacturers
Mar 2004	The Reid Technique of Interviewing and Interrogation.	24	John E. Reid & Associates
Feb 2004	Fire Alarms	6	Massachusetts Electrical Contractors Association
Sep 2003	Heating System Fires	6	Massachusetts Chapter Of International Association Of Arson Investigators
Jun 2003	Live Burns of Appliances	8	Massachusetts Chapter Of International Association Of Arson Investigators
Mar 2003	Lightning Detection	4	Vaisala
Aug 2002	2002 National Fire, Arson and Explosion. Investigation Training Program	24	National Association of Fire Investigators
Nov 2002	Small Appliance Fire/ Product Liability	12	Massachusetts Chapter of International Association Of Arson Investigators

<u>Date</u>	<u>Course Title</u>	<u>Hours</u>	<u>Sponsor(s)</u>
Nov 2002	Grounding	4	Massachusetts Electrical Contractors Association
Nov 2002	Investigation of Gas and Electric Appliance Fires Seminar	16	Fire Findings Laboratories
Sep 2002	Explosives, Secondary Devices, Explosions and Their Investigation	6	Massachusetts Chapter International Association Of Arson Investigators
Jun 2002	Testifying Skills Workshop	8	SEAK
Jan 2002	Post Fire Investigation of Electrical Components	6	Massachusetts Chapter of International Association Of Arson Investigators
Nov 2001	Basic Fire Science and Fire Investigation	12	Massachusetts Chapter of International Association Of Arson Investigators
Mar 2001	Motor Vehicle Accident Reconstruction	24	Society of Automotive Engineers
Jan 2001	Forensic Photography	6	Massachusetts Chapter Of International Association Of Arson Investigators
Nov 1998	Basic Geometric Dimensioning and Tolerancing	16	Worcester Polytechnic Institute
Jun 1998	Design for Manufacture and Assembly	16	Worcester Polytechnic Institute
Dec 1996	Failure Mode and Effects Analysis Workshop	16	Worcester Polytechnic Institute
Oct 1996	Basic Project Management	16	Worcester Polytechnic Institute
Jun 1996	Introduction to Design of Experiments and Statistical Process Control	16	Worcester Polytechnic Institute
Jun 1996	The Taguchi Method of Experimental Design	8	Worcester Polytechnic Institute
Mar 1996	Time Management	8	Worcester Polytechnic Institute

SEMINARS GIVEN

<u>Date</u>	<u>Topic</u>	<u>Hours</u>	<u>Sponsor(s)</u>
Sep 2023	Commercial Kitchen Appliances Fires	4	Rhode Island Chapter Of International Association Of Arson Investigators
Aug 2021	Portable Appliance Fires	6	Vermont Chapter Of International Association Of Arson Investigators
Jun 2019	Portable Appliance Fires	6	Maine Chapter Of International Association Of Arson Investigators
Nov 2018	Portable Appliance Fires	6	Massachusetts Chapter Of International Association Of Arson Investigators
Mar 2014	Electricity and Fire	8	Rhode Island Chapter Of International Association Of Arson Investigators
Jan 2013	Residential Forensic Fire Investigations	2	American Society of Home Inspectors
Dec 2007	The Legal, Investigative and Technical Aspects of Claim Investigations	2	Adjuster's Roundtable of Boston
Jan 2007	Electricity and Fire	6	Connecticut Chapter Of International Association Of Arson Investigators

ARTICLES PUBLISHED

<u>Date</u>	<u>Title</u>	<u>Publication</u>
Dec 2019	Bathroom Exhaust Fan Fire Attack Study	GAI Engineers Website
Dec 2019	Cooking Oil Ignition Study	GAI Engineers Website
Dec 2018	AFCI-GFCI Breaker Study	GAI Engineers Website
Dec 2014	GFCI-Protected Flexible Cord Fire Attach Study	GAI Engineers Website
Sep 2011	Candle Burning Study	GAI Engineers Website

PROFESSIONAL

Registered Professional Engineer, PEN.0029092 - Connecticut, 13041 - Maine, 45453 - Massachusetts, 13882 - New Hampshire, 9981 - Rhode Island, 018.0088630 - Vermont

Licensed Private Investigator, LP0694D, Massachusetts

Certified Fire & Explosion Investigator, 8446-3596, National Association of Fire Investigators

Certified Evidence Collection Technician, 722, International Association of Arson Investigators

Certified EPA Section 608 Technician, Universal, TEEP10191040511-101929

Member, Technical Committee TC-0982, *Motor-Operated Household Food Preparing Machines*, Underwriters Laboratories

Member, Technical Committee TC-1026, *Household Cooking Appliances*, Underwriters Laboratories

Member, Technical Committee TC-1042, *Electric Room Heaters*, Underwriters Laboratories

Chair, Town of Easton, Municipal Building Committee

American Society of Mechanical Engineers, 2927747

Institute of Electrical and Electronics Engineers, 41307491

International Association of Arson Investigators, 26220

National Association of Fire Investigations, 8446

National Fire Protection Association, 2030453

National Society of Professional Engineers, 300025312