

Areas of Specialization

Failure analysis, indoor air quality, moisture intrusion, construction and industrial accidents, slip and fall accidents, ventilation and air conditioning systems, life safety systems, plumbing systems, fire protection systems, electrical systems, lighting systems, construction claims, explosions, building fires, and code compliance. Perform life safety studies and condition assessments for residential, commercial, institutional and resort buildings.

Professional Registration

2015 P.E. - State of Tennessee

2015 P.E. - State of Louisiana

2014 P.E. - State of Indiana

2004 P.E. - State of Illinois

2003 P.E. - State of North Carolina

2003 P.E. - State of Maryland

2002 P.E. - State of Utah

2001 P.E. - State of Texas

2000 P.E. - State of Mississippi

1998 P.E. - State of West Virginia

1993 P.E. - State of New Jersey

1992 P.E. - State of Ohio

1990 P.E. - State of Pennsylvania

LEED Accredited Professional

Certified as a Fire and Explosion Investigator

Certified as a Fire and Explosion Instructor

Registered in the City of Pittsburgh as a Master Electrician and HVAC Contractor

West Virginia Private Investigator

AHIT (American Home Inspection Training) in the areas listed below:

Interiors, Insulation & Ventilation

Heating & Cooling

Electrical

Plumbing

Exteriors

Roofs

Structure

Educational Background

Ph.D. - 2002 Carnegie Mellon University
M.S.C.E. - 1992 Carnegie Mellon University
B.S.M.E. - 1986 Carnegie Mellon University
B.S. - General Science 1981, University of Pittsburgh

Employment History

Romualdi, Davidson & Associates, 1992-Present

Principal

BDA Engineering, Inc., 1990-Present

Principal

Hyde Group, Inc., 1990-2003

Principal

Bert Davis & Associates, 1989

Established a MEPSP consulting business

Ross Bianco Architects, 1989-1990

Engineering Group Leader

Carnegie Mellon University, 1988

Promoted to Senior Project Engineer. Duties included electrical, mechanical, fire protection, and plumbing design, as well as project management and energy conservation.

Carnegie Mellon University, 1986

Mechanical/Electrical Project Engineer

Carnegie Mellon University, 1985

Energy Coordinator. Also served as energy consultant to Action Housing, Inc.

Pennsylvania Governor's Energy Council, 1982

Performed HVAC/Electrical system energy audits of large industrial, institutional, apartment, and office buildings under contract.

Professional Affiliations

ASHRAE Am. Society of Heating, Refrigeration, and Air Conditioning Engineers

ASPE American Society of Plumbing Engineers

ASCE American Society of Civil Engineers

ICC International Code Council

USGBC Member and LEED Accredited

GBA Green Building Alliance

IESNA Illuminating Engineering Society of North America
IAAI International Association of Arson Investigators
NFPA National Fire Protection Association
NAFI National Association of Fire and Explosion Investigators
PSPE Pennsylvania Society of Professional Engineers
SFPE Society of Fire Protection Engineers
PAAI Pennsylvania Association of Arson Investigation

Honors

Tau Beta Pi Honorary Engineering Society
Carnegie Mellon University President
Life Science Society
University of Pittsburgh University Scholar
University of Pittsburgh

Research

Director of a design and development project for the U.S. Department of Energy (DOE). Project involved designing a unique building photovoltaic system and analyzing the system. My research involved predicting building integrated photovoltaic system market potential in the year 2010, 2020, 2030 and modeling of photovoltaic systems effective load carrying capacity (power output) for distributed electricity power production.

Publications

Analysis and design of building integrated photovoltaic systems (DOE).
A technical and policy analysis of building integrated photovoltaic systems. (EPP - Engineering & Public Policy 2002).

Teaching

Carnegie Mellon University - 1998 and 1999 spring semesters
Course was titled EPP 19-101. The first semester reviewed automobile physics, environmental issues and safety issues. The second semester reviewed computer systems and statistical analysis of system reliability.
Carnegie Mellon University - 2003 Seminar
An Engineering and Economic Analysis of Solar Photovoltaic Power Systems
ASHRAE Region III CRC Technical Sessions - August 2006
Presenter - Renewable Energy - LEED Related Credits

New England Fire Cause and Origin (NEFCO) - June 2007 and October 2008

Instructor for Gas/Oil Burner Class

Mother Earth New Fair - 2010

Presenter. Green Mechanical/Electrical/Plumbing system features

Pennsylvania Association of Arson Investigation Training - January 2011, 2012, 2013, and June 2015

Instructor. Appliance Related Fire Investigation. Gas and Oil Fire and Explosion Course. Explosion Investigation and Review and Analysis of CSST Gas Line Failures. PV Codes, Installation, Investigation of Fires and System Damage.

National Association of Subrogation Professionals - March 2012, February 2013, and April 2016

Sprinkler Systems. Electrical Systems, Causes of Electrical Fires and Arcing. Fire Scene Investigation: C&O Analysis and Fire Spread Theory

Eaton Corporation Power Systems Learning Center, July 2012

Instructor. Electricity and Overcurrent Protection

Nationwide Insurance Large Loss Conference, June 2014

Instructor. Building Codes, Building Construction Documents, Mechanical and Electrical Systems and repairs from Fire and other Damage.

State Auto Insurance Company Conference, January 2015

Instructor. Moisture Damage, Existing Building Codes, Building Codes, the IMC and LEED

Allegheny County Fire Marshall Training, November 2015

Instructor. Basic Electricity, Utility Systems and Electrical Failures

Pennsylvania State Police, September 2016

Instructor. Electrical Evidence in Fire Investigation and Live Burn Demonstration