



Education

- ✚ **Doctor of Science, Work Environment Engineering**, University of Massachusetts Lowell
 - **Dissertation:** *Risk Assessment for Wireless Telephones*
- ✚ **Master of Science, Radiological Sciences**, University of Massachusetts Lowell
 - **Thesis:** *Gamma Spectroscopy at the Massachusetts Institute of Technology Radiation Protection Laboratory*
- ✚ **Master of Business Administration**, Southern New Hampshire University
 - **Thesis:** *Electric Utility Operations Management*
- ✚ **Bachelor of Arts, Philosophy and History**, Christopher Newport University

Current Work

- ✚ **Vermont Department of Health**, 2005-present: Radiological and Toxicological Sciences Program Chief
- ✚ **Vermont Department of Public Safety**, 2006-present: Vermont Hazardous Materials Response Team (VHMRT) Crew Chief.
- ✚ **Private Consultant to Counter Terrorism Operations Support** for Radiological Operations Support Specialist (ROSS) Subject Matter Expert (SME) and Instructor; **Center for Domestic Preparedness** for Chemical Operations Support Specialist (COSS) and Biological Operations Support Specialist (BOSS) SME and Instructor; and **Mele Associates** as Journeyman Engineer/Response Force Expert.

Current Volunteer Support to Government Authorities and NGOs

- ✚ **Federal Emergency Management Agency (FEMA):**
 - 2014 to Present: Radiological Operations Support Specialist (ROSS) Steering Committee.
 - 2017 to Present: Chemical Operations Support Specialist (COSS) Steering Committee.
 - 2018 to present ChemResponder Steering Committee.
 - 2019 to Present: Biological Operations Support Specialist (BOSS) Steering Committee.

- ✚ **Interpol**, July 2017 to the Present: Radiological security subject matter expert in the Bahamas, Panama, Indonesia, Kazakhstan, and Jamaica.

- ✚ **Conference of Radiation Control Program Directors**, 2005 to present: Director Member, former Chair, Homeland Security/Emergency Response Committee-4 Chair.

- ✚ **Health Physics Society**, 1990 to present: Current Homeland Security/Emergency Response Chair-Elect, presenter at numerous annual and mid-year meetings.

- ✚ **American Board of Health Physics**, 1996 to present: Former Part II Panel of Examiners, presenter at numerous continuing education sessions at HPS annual meetings.

- ✚ **Technical Electronic Products Radiation Safety Standards Committee of the US Food and Drug Administration**, 2016 to 2019.

- ✚ **National Council on Radiation Protection and Measurements Service**, 2016 to present:
 - Council Committee CC-1
 - Scientific Committee SC 3-1
 - Scientific Committee SC 3-2
 - Scientific Committee SC 3-1P2
 - Program Area Committee PAC-3
 - 2019 Annual Meeting Program Committee
 - 2019 American Academy of Health Physics Special Session, Potential Health Effects of Low Dose Radiation and the Role of Radiation Protection Professionals

Past Work Experience

- ✚ **Radiation Dose Reconstruction**, 2005 – 2006: Radiation Safety & Control Services, Energy Employee Occupation Illness Compensation Program.

- ✚ **Harvard University**, 2001 - 2005: Health Physicist, Laser Safety Officer, Associate Radiation Protection Officer.

- ✚ **Massachusetts Institute of Technology**, 1992 - 2001: Health Physicist, Assistant Radiation Protection Officer.
- ✚ **Biological, Chemical and Radiological Occupational Health, Public Health, Environmental Protection and Radiological Security Expert**, 1981 to present, private consultant.
- ✚ **North Atlantic Energy Services**, 1990 -- 1992: Institute of Nuclear Power Operations (INPO) certified Health Physics and Supervisor Training Instructor.
- ✚ **Arizona Public Service Company**, 1985 – 1990: INPO certified Health Physics, Chemistry, and Engineering Training Instructor and Supervisor.
- ✚ **Newport News Shipbuilding and Dry Dock Company**, 1981 – 1984: US Navy NAVSEA 389-0288 health physics technician.

Professional Certifications

- ✚ **Certified Health Physicist**, 1996 to present
- ✚ **Radiological Operations Support Specialist (ROSS) Type 1**: 2019.
- ✚ **FRMAC Assessment Scientist**, 2006 to present.
- ✚ **NFPA 472/1072 Hazardous Materials Technician**, 2007 to present.
- ✚ **Firefighter I**, 2008 to present.
- ✚ **Firefighter II**, 2012 to present.
- ✚ **National Registry of Emergency Medical Technicians EMT**, 2013 to present.
- ✚ **Incident Command System (ICS) 449**, Certified to teach all Incident Command System training classes, 2014 to present.
- ✚ **Homeland Security Exercise and Evaluation Program (HSEEP) Certified Controller/Evaluator**, 2007 to present.
- ✚ **AgriSafe Provider**, University of Iowa Center for Agricultural Safety & Health, 2013.
- ✚ **Professional Ski Instructor**, Professional Ski Instructors of America, 2009 to present.

Professional Affiliations

- ✚ **National Council on Radiation Protection and Measurements (NCRP)**
- ✚ **Conference of Radiation Control Program Directors (CRCPD)**
- ✚ **American Academy of Health Physics (AAHP)**
- ✚ **American Board of Health Physics (ABHP)**
- ✚ **Health Physics Society (HPS)**.
- ✚ **New England Radiological Health Conference (NERHC)**
- ✚ **Nuclear Decommissioning Citizens Advisory Panel Member**
- ✚ **Vermont State Nuclear Advisory Panel**
- ✚ **Town of Bakersfield Planning Commission**
- ✚ **Northwest Regional Planning Commission**

- ✦ **Vermont Firefighters Association**
- ✦ **National Registry of Emergency Medical Technicians**
- ✦ **Bakersfield Volunteer Fire Department**

Selected Publications

- ✦ ***Radiological & Toxicological Risk Assessment and the Linear No-Threshold Perspective***, Journal of Radiological Protection, <http://iopscience.iop.org/10.1088/1361-6498/ab396d>, 2019.
- ✦ ***NCRP Commentary 28 Implementation of Guidance for Emergency Responder Dosimetry***, National Council on Radiation Protection and Measurements, Scientific Committee 3-1P2, NCRP, Bethesda, Maryland, June 2019.
- ✦ ***The ROSS: A Radiological/Nuclear Subject Matter Expert Filling a Critical National Need***, Health Physics, the Radiation Safety Journal, Volume 114, Number 2, Wolters Kluwer, Hagerstown, MD, February 2018.
- ✦ ***NCRP Report 180 Management of Exposure to Ionizing Radiation: Radiation Protection Guidance for the United States***, National Council on Radiation Protection and Measurements Council Committee 1, NCRP, Bethesda, Maryland, December 2018.
- ✦ ***Public Awareness of Medical Imaging as a Source of Ionizing Radiation Exposure***, Fields, Tim; Hall, Michael J.; Janardhan, Arjun; Leung, Lawrence J.; Magier, Samantha; Robbins, Allison B.; Warther, Katie C.; Hoffman-Contois, Razelle; Irwin, William; and Carney, Jan, " (2017). *Public Health Projects, 2008-present*. https://scholarworks.uvm.edu/comphp_gallery/243.
- ✦ ***NCRP Report 179 Guidance for Emergency Response Dosimetry***, National Council on Radiation Protection and Measurements, Scientific Committee 3-1, NCRP, Bethesda, Maryland, October 2017.
- ✦ ***NCRP Commentary 28 Implementation of Guidance for Emergency Responder Dosimetry***, National Council on Radiation Protection and Measurements, Scientific Committee 3-1P2, NCRP, Bethesda, Maryland, June 2019.
- ✦ ***The Science of Responding to a Nuclear Reactor Accident: Summary of a Symposium***, Nuclear and Radiation Studies Board; Division on Earth and Life Studies; National Research Council, Washington, DC: National Academies Press; December 2014.
- ✦ ***Symptoms Associated with prolonged Radio Frequency Radiation Exposure***, Lee, Ernest C., Irwin, William E. and Winters, Thomas H., Environmental Health Perspectives, June 2004.
- ✦ ***Radio Frequency Radiation Risk - A Focus on Wireless Telephones***. Dissertation for The University of Massachusetts Lowell, 2002.
- ✦ ***New Technology in Art***. Encyclopedia of Occupational Health and Safety, Fourth Edition, International Labour Office, Geneva, Switzerland, 1996.