



CURRICULUM VITAE

John M. Tobias, Ph.D., PE Electrical Safety Engineering Consultant

PROFILE

Dr. Tobias is a highly motivated, personable and technical professional with outstanding credentials as an Electrical Safety Engineer and scientist. He specializes in electrical power, lightning, electromagnetic radiation, grounding, electrocution in electrical accidents, electrical battery fires, lighting/illumination and safety.

Dr. Tobias has demonstrated accuracy in research and assessment compliance of OSHA, NFPA's National Electrical and Safety Codes, and other relevant national consensus standards and best practices. Additionally:

- Provides expert witness and litigation support to trial attorneys as a contract consultant in personal injury, negligence and wrongful-death law cases. Areas of specialization include, but are not limited to, occupational safety and health, accident reconstruction, electromagnetic safety and lightning protection issues.
- Provides consultation services to business and industry on electrical safety issues, concerns and abatement of hazards.
- Provides regulatory compliance and on-site inspection consultation services to business and industry to ensure compliance with all applicable U.S. federal and state electrical requirements, laws and regulations.
- Provides consultation services for design and intellectual property..

PROFESSIONAL CERTIFICATION

Licensed Professional Engineer - State of New Jersey, 1997

ACADEMIC CREDENTIALS

B. Sc. Physics - Seton Hall University, 1987

M. Sc. Electrical Engineering - University of Maryland, 1992

Ph.D. Doctorate, Electrical Engineering - New Jersey Institute of Technology, 2002

AWARDS AND HONORS

- Listed in Who's Who in the World as engineer and inventor, 55th Edition.
- Department of the Army System Safety Professional of the Year 1994.
- United States Army Materiel Command Federal Engineer of the Year 1994 & 2000, awarded by National Society of Professional Engineers.
- United States Army Materiel Command System Safety Engineer of the Year 1993 & 1999.
- Commander's Civilian Service Award, U.S. Army 1993.
- Department of the Army Superior Civilian Service Award, 2000.

PATENTS

- Grounding Device and Use Thereof, U.S. Patent No. 6,288,327 (inventor)
- Radial Surface Ground Electrode, U.S. Patent No. 5,801,327 (inventor)
- Resonant Transformer Systems and Methods of Use, U.S. Patent No. 7,940,534 (co-inventor)
- Methods and Systems for Wireless Energy and Data Transmission, U.S. Patent No. 7,960,867 (co-inventor)

PROFESSIONAL EXPERIENCE

2000 - Present

Americana Safety Associates, LLC - Toms River, New Jersey

Electrical Safety Engineering Consultant

- **Available for Nationwide and International Assignments**
- Provides expert witness and litigation support to trial attorneys as a contract consultant in personal injury, negligence and wrongful-death law cases. Areas of specialization include, but are not limited to, occupational safety and health, accident reconstruction, electromagnetic safety and lightning protection issues.
- Provides consultation services to business and industry on electrical safety issues, concerns and abatement of hazards. Additionally, provides regulatory compliance and on-site inspection services to ensure compliance with all applicable U.S. federal and state electrical requirements, codes and regulations.

1992-Present

U.S. Army Communications Electronics Command, Fort Monmouth, New Jersey

Directorate of Safety - Electrical Engineer

- Responsible for electrical design safety of electrical and electronic systems.
- Army expert in electrical safety and lightning protection.
- Formulates lightning protection and electrical safety engineering safety guidance for Army-wide application.
- Investigates electrical accidents and formulates protective measures.
- Responsible for formulation and conduct of research programs in the area of lightning protection and grounding.

PROFESSIONAL AFFILIATIONS

- Institute of Electrical and Electronic Engineers – Member
- National Fire Protection Association (NFPA) – Principal Member
 - NFPA Technical Committee 780 on Lightning Protection - Member and Chairperson
 - NFPA Technical Committee 70E, Electrical Safety in the Workplace
- Federal Lightning Protection Group - Chairperson, 2001.
- U.S. National Committee of the International Electro-technical Commission
 - Deputy Technical Advisor, Committee 81 on Lightning Protection
- International Association of Electrical Inspectors – Inspector Member
- Certified Designer/Inspector, Lightning Protection Institute

PUBLICATIONS AND PRESENTATIONS

- "Downconductors in Lightning Protection Systems," *Lightning Safety Handbook*, publication pending.
- "Lightning Downconductors," Ground 2000 Conference, Belo Horizonte, Brazil, 2000.
- "Surface Currents from Lightning Events," Ground 2000 Conference, Belo Horizonte, Brazil, 2000.
- "Electrical Safety Seminar," 18th International System Safety Conference, Ft. Worth TX, September 2000.
- "Self-imaging Observed in Photonic Crystal at Sub-wavelength Ranges," *Optics Letters*, December 1, 1999.
- "Personnel Hazards Resulting from Lightning Effects (Revisited)", *Proceedings of the 17th International System Safety Conference*, Orlando, FL, August 1999.
- USACECOM Technical Report 98-6, (Co-author), *Earth Grounding and Bonding Pamphlet*, October 1998.
- "New Developments in Lightning Modeling and Risk Assessment", *Proceedings of the 16th International System Safety Conference*, Seattle, WA, September 1999.
- National Fire Protection Association Standard 780, "Standard for the Installation of Lightning Protection Systems" (contributor), National Fire Protection Association, Quincy, MA, 1997.
- "Personnel Hazards Resulting from Lightning Effects", *Proceedings of the 15th International System Safety Conference*, Washington, D.C. August 1997.
- "Review of Modern Lightning Protection Technology", *Proceedings of the 14th International System Safety Conference*, Albuquerque, NM, August 1996.
- USACECOM Technical Report 96-6, *Step Potential Modification by the Lightning Electromagnetic Environment*, September 1996.
- "Testing of Ground Conductors with Artificially Generated Lightning Current," *IEEE Transactions on Industry Applications*, Vol. 32, No. 3, May/June 1996.
- USACECOM Technical Report 96-2 (Co-author), *Earth Grounding*, January 1996.
- "Surface Wire Grounding System", *Proceedings of the 13th International System Safety Conference*, San Jose, CA, 1995. (July 1995.)
- US Army Technical Bulletin 43-0129, *Safety Requirements for Antenna and Mast Systems*, January 1, 1995.
- "Tracked Vehicle Grounding Study", (co-author) *Proceedings of the 12th International System Safety Conference*, New Orleans, LA, 1994. (Won best paper.)
- USACECOM Technical Report 94-9, *Surface Ground Device*, June 1994.
- USACECOM Technical Report 94-8, *MK-2551 Grounding Kit (Surface Wire Ground System): Engineering Application Notes*, February 1994.
- "Step Potential Behavior in Electrical Grounding Systems", *Proceedings of the 12th International System Safety Conference*, New Orleans, LA, 1994.
- "Probabilistic Risk Assessment Methods for Lightning Strike Hazards", *Proceedings of the 11th International System Safety Conference*, Cincinnati, OH, 1993.
- "Lightning Protection System Performance Testing", *Proceedings of the 11th International System Safety Conference*, Cincinnati, OH, 1993.
- USACECOM Technical Report 93-1, *Lightning Protection System Applications for Tactical Communications Systems*, January 1993.
- Thesis, *Detection of Hydrocarbon Vapor Using Near Infrared Light*, Univ. of MD, February 1992.
- USACECOM System Safety Technical Bulletin #8, *Estimation of Risk due to Lightning Hazard in Tactical Antenna Systems*, February 1992.
- Army Regulation 50-6-1, *Chemical Agent Security Program*, contributor, November 1, 1991.

AVAILABILITY

Dr. Tobias is available for nationwide and international assignments through Americana Safety Associates, LLC.