

GERALD F. ZAMISKI

TECHNICAL AREAS OF SPECIALIZATION:

- Material Failure Analysis
- Metallurgical Failure Analysis
- Mechanical Failure Analysis
- Fire and Explosion Analysis
- Electrical and Gas Appliance Fire Analysis
- Water System Component Failure Analysis

EDUCATION:

Ph.D. in Mechanical Metallurgy
University of California, Los Angeles (1990)

Master of Science in Mechanical and Materials Engineering
Massachusetts Institute of Technology (1980)

Bachelor of Science in Mechanical and Materials Engineering
Southern Illinois University (1978)

Electrical Fires: Causes, Investigation and Prevention
University of Wisconsin Extension (1984)

Investigation of Gas and Electric Appliance Fires
Fire Findings (1999)

Plastics Fracture Analysis Workshop
Bodycote Polymer / Society of Plastics Engineers (2004)

REGISTRATION:

Professional Engineer, California Number MT1851

PROFESSIONAL EXPERIENCE:

President, Vollmer-Gray Engineering Laboratories, Inc. (January 2000 to present); Staff Engineer, Vollmer-Gray Engineering Laboratories (November 1982 to December 1999). Material, metallurgical, and mechanical engineering failure analysis including metals and plastics, fire and explosion analysis, electrical and gas appliance fire analysis, and water system component failure analysis.

Failure Analyst, Consumer Product Safety Commission (1997). Metallurgical and fire analysis investigation of forced air furnaces.

Lecturer, UCLA (Spring 1992, Spring 1996). Graduate course in Fracture of Structural Materials.
CSULB (Spring 1997). Graduate course in Fatigue and Creep.

Mechanics and Materials Engineer, Northrop Aircraft, Advanced Systems Division (September 1981 to November 1982). Materials selection and characterization, materials testing (fatigue, toughness), corrosion, fracture mechanics, material processing.

Mechanical and Materials Engineer, Douglas Aircraft Company (September 1980 to September 1981). Failure analysis of commercial aircraft landing gear parts, fracture mechanics, test programs, fatigue, processing requirements.

Research Engineer, Massachusetts Institute of Technology (August 1978 to August 1980). Fatigue analysis and characterization, microstructural analysis, electron microscopy, vacuum systems, environmental testing, corrosion.

Research Engineer, Argonne National Laboratories (May 1977 to August 1977). Fracture mechanics, mechanical testing, SEM analysis.

PAPERS:

Survey of Current Problems (Including Residual Stresses, Heat Treatment, and Reheat Cracking), and Their Effects/Solutions Dealing with the Welding Construction of Large, Thick Walled Coal Gasification Vessels Using the Proposed 2 1/4 Cr - 1 Mo Steel, Department of Mechanical Engineering, MIT, December 1978.

An Investigation Into the Mechanisms of Hydrogen Assisted Crack Growth in Steels, Department of Mechanical Engineering, MIT, May 1979.

PUBLICATIONS:

Investigation of Factors Affecting Near-Threshold Fatigue Crack Growth in Low Alloy, Pressure Vessel Steels, co-author with R.O. Ritchie and C.M. Moss, Department of Mechanical Engineering, MIT, February 1979.

Effect of Strength, Load Ratio, and Environment on Near-Threshold Fatigue Crack Propagation of 2 1/4 Cr - 1 Mo Steel, MIT, August 1980.

An Investigation Into the Effect of Second Step Aging Temperature Variation of 7050 Aluminum Alloy on Mechanical Properties, Douglas Aircraft, No. MDC-J1890, December 1981.

Oxide-Induced Crack Closure: An Explanation for Near-Threshold Corrosion Fatigue Crack Growth Behavior, co-author with S. Suresh and R.O. Ritchie, Metallurgical Transactions A, Volume 12A, August 1981, Pages 1435-1443.

The Application of 2 1/4 Cr - 1 Mo Pressure Vessel Steel for Thick-Wall Pressure Vessels, co-author with S. Suresh and R.O. Ritchie, ASTM, STP 755, 1981.

Micro-Mechanism Fracture Initiation Model for Intergranular Ductile Fracture, Proceedings of the International Symposium on Testing and Failure Analysis, November 1, 1988, Los Angeles, CA.

Micro-Mechanism Fracture Toughness Model for Intergranular Ductile Fracture, co-author with K.Ono, Proceedings of the Fifth International Aluminum-Lithium Conference, March 27-31, 1989, Williamsburg, VA.

PRESENTATIONS:

Investigation of Factors Affecting Near-Threshold Fatigue Crack Growth in Low Alloy, Pressure Vessel Steels, with R.O. Ritchie and C.M. Moss, Denver, CO, 1980.

Fracture Initiation Model for Intergranular Ductile Fracture, Westec 89, March 21, 1989, Los Angeles, CA.

Micro-Mechanism Fracture Toughness Model for Intergranular Ductile Fracture, Fifth International Aluminum-Lithium Conference, March 27-31, 1989, Williamsburg, VA.

Proper Investigation Techniques Involving Electrical Fires, Fire and Arson Investigation Seminar, January 11, 1996, Irvine, CA

Gas and Electric Appliances (arcing, thermal controls, coffee makers, gas water heaters, gas dryers, gas furnace), California Conference of Arson Investigators Training Seminar, July 18, 2006, San Luis Obispo, CA

PROFESSIONAL AFFILIATIONS:

American Society of Mechanical Engineers
American Society for Metals
American Society for Testing Materials
Society of Automotive Engineers
American Institute of Mining, Metallurgical & Petroleum Engineers
National Fire Protection Association
California Conference of Arson Investigators
Society of Plastics Engineers
International Association of Arson Investigators
National Association of Corrosion Engineers