

DOUGLAS R. MORITA
Vice President – Engineering
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TECHNICAL AREAS

CE Mark Assessment and Consulting, System Safety Analyses of Products, Processes and Equipment, Accident Investigations, Product Analysis and Testing, Computer Code Development and Modeling, Zoning Studies.

EDUCATION:

B. S. Mechanical Engineering
Northwestern University, June 1969.

SHORT COURSES

Human Factors, Lockheed Missiles & Space Co., 1967.

Strain Gages, Micromeritics, Inc., October 22, 1978.

Basic Design and Manufacture of Plastic Parts, Design Engineering Show, May 7, 1979.

Practical Applications of Melt Rheology, Society of Plastics Engineers, June 19, 1979.

Plastic Product Design, Society of Plastics Engineers, June 20, 1979.

Introduction to ORBIT, Systems Development Corp., August 20-21, 1979.

Photoelastic Stress Analysis, Vishay Instruments, November 8, 1979.

Strain Gages and Brittle Coating, Vishay Instruments, February 20, 1980.

Metal Stamping and Safety in the Printing Industry, National Safety Council, October 21, 1980.

Accident Reconstruction and Analysis of Design Defects, ASME, November 22, 1980.

Polymer Rheology, Society of Plastics Engineers, PAD Seminar, April 15, 1981.

Microtoming, Design Engineering Show, April 27, 1981.

Precautionary Labeling, National Safety Council, April 1982.

Failure Mechanisms in Plastics, Society of Plastics Engineers, June 22-23, 1982.

Introduction to the Design and Manufacture of Plastic Parts, Design Engineering Show, March 29, 1983.

Advanced Engineering Design with Plastics, Design Engineering Show March 30, 1983.

SCAD Finite Element System, Best Consulting, October 9, 1983.

Human Factors Considerations, National Safety Council, October 21, 1983.

Fatigue Testing of Plastics, Krugel, November 3, 1983.

Numerical Methods with PC's, Design Engineering Show, March 27, 1984.

Personal Computers in Mechanical Engineering, Design Engineering Show, March 27, 1984.

Human Factors Considerations in Occupational and Product Safety, National Safety Council, October 19, 1984.

Finite Element Analysis in CAE: Fundamentals, Issues in Modeling, Problem Solving, Design Engineering Show, March 2-4, 1987.

PATENTS

847,468 (CLASSIFIED)

PROFESSIONAL SOCIETIES

Systems Safety Society
 American Society of Mechanical Engineers
 Society of Plastics Engineers
 American Society for Testing and Materials

PREVIOUS EXPERIENCE**POLYTECHNIC, INC.****Northbrook, IL.**

January 1977 to Present

Responsible for Polytechnic's facilities and equipment, including the in-house computer systems and software. Responsible for most in-house design and graphics work.

Conducted safety and accident investigations related to various consumer and industrial equipment or products. Conducted systems safety analyses of various components, equipment and processes. Conducted testing and analyses to aid in the selection of the proper material or to determine the cause of various plastic part failures. Conducted testing and analyses to determine compliance with various zoning ordinances. Assisted in the writing of sections of various zoning ordinances. Utilized testing to determine the response of equipment and products to various normal and abnormal environments. These included solar heating of roofing materials, gas leaks in enclosed spaces, wiring errors in critical sensors, etc. Conducted analyses and testing to determine the safety, strength, durability and/or performance of various products. This included finite element stress analyses and experimental stress analyses. Analyzed, designed and redesigned machine control systems. Wrote computer simulations of various processes. Wrote a computer program to assist in the evaluation of property line noise. Designed and constructed numerous models and displays.

ITT RESEARCH INSTITUTE**Chicago, IL.****Fire and Safety Research Section****Systems Research Section****Engineering Mechanics Division****February 1971 to January 1977**

Served as program manager and principal investigator in a wide range of contract research programs. Conducted systems safety analyses of various components, equipment and processes. This included all of the contents of a seven building process plant, and a repository for the storage and shipment to researchers of known and suspected carcinogens. Obviously, these analyses included the equipment, instrumentation and control systems and work procedures. Developed procedures for the hazard classification of in-process materials. Conducted a state-of-the-art assessment of munitions dispersal systems. Developed a computer model to simulate the internal gas dynamics and targeting potential of a new type of munitions dispenser. Designed and tested a prototype of the munitions dispenser and compared it to the simulation and project objectives. Tested a various of unusual items, including experimental weapon concepts, and the ability of nuclear power plant containment walls to withstand tornado borne debris. Developed a cost-benefit methodology and a computer simulation to evaluate the effectiveness of radar braking in reducing the severity of automobile to automobile pedestrian collision scenarios. Conducted a DELPHI survey to develop data on factors affecting driver behavior. Developed a methodology for assessing driver behavior based on data in the driver's record.

U.S. NAVAL ORDNANCE STATION**Forest Park, IL****Project Engineering****WIL Laboratory****June 1969 to February 1971**

Studied the feasibility of using lasers and other sensors in a dynamic gun pointing alignment system. Designed and analyzed jet engine adapters. Conducted quality control testing of incoming materials and components. Designed printed circuit board layouts. Developed fixes for field problems. Developed concepts for a laser assisted torpedo alignment system. Wrote the computer code for a war game analysis of a potential new weapon.

LOCKHEED MISSILES AND SPACE COMPANY
Sunnyvale, CA
Antelope Propulsion Systems
Agema Military Satellites
Poseidon Ground Support Equipment
Satellite Electronics Manufacturing
Co-op 1966-1969

Conducted experimental studies and analyses of solid fuel rocket motors. Conducted the first preliminary system safety analysis of a class of solid fuel rocket motors. Analyzed the design of the Polaris SLBM thrust termination system. Designed ground support equipment for Poseidon SLBM. Designed portions of a folding solar array panel for use in a spy satellite. Conducted troubleshooting of a production line making missile and satellite electronic modules.

PUBLICATIONS and
SEMINARS

ASME Design Engineering Conference - Chairman Sessions 43,4.4, 1982

"Preliminary Risk and Hazard Analysis of the Sprout Waldron Model 12-4.5 Mixer", D. R. Morita, ICI-Americas, Inc., May 1981.

"Metal Particle Impact Sensitivity Testing", D. R. Morita, ICI-Americas, Inc., November 1980.

"Evaluation of 2mm Tramp Metal in the Black Powder Plant", D. R. Morita, Plastics Design Forum, Mary/June 1980.

"QC Test That Can Help Pinpoint Material or Design Problems", D. R. Morita, Plastics Design Forum, May/June 1980.

Testing of Plastics for Better Design, Trouble Shooting, Quality Control, D. R. Morita, Design Engineering Conference, McCormick Place, Chicago, IL., March 1980.

"Hazards Analysis of Equipment Related to the Final Design of the Improved Black Powder Plant", D. R. Morita, ICI-Americas, Inc., May 1979.

"Preliminary Hazards Analysis of the Rexnord Fluid Bed Dryer", D. R. Morita, ICI-Americas, Inc., February 1978.

"Olin-Badger West Line Study", Dr. R. Morita, C. J. Dahn, Badger AAP, June 1977.

"Hazards Analysis of Processes and Equipment Related to the Manufacture of Ball Powder", D. R. Morita, C. J. Dahn, Olin Corp., August 1977.

"Hazards Testing of Pyrodex Powders", D. R. Morita, C. J. Dahn, Pyrodex Corp., August 1977.

"Olin Spit Powder Hazards Tests", D. R. Morita, Olin Corp., June 1977.

"Hazards Analysis of the Niro Atomizer Vibro Fluidizer Drying System", Olin Corp., April 1977.

"Engineering and Experimental Studies for the Development of Hazards Classification Data on Propellants and Explosives", D. R. Morita, Picatinny Arsenal, December 1976.

"Hazards Analysis – An Overview", International Powder and Bulk Solids Handling and Processing Conference, D. R. Morita, Rosemont, IL., May 11-13, 1976.

"Explosion Dispersion Study", D. R. Morita, A. J. Tulis, Goodyear Aerospace Co., March 1976.

"Hazards Analysis of the Final Design of the Improved Black Powder Process", D. R. Morita, R. Pape, Indiana AAP, December 1975.

"Characteristics of Liquid/Slurry Explosives as Related to the HSM Application", D. R. Morita, H. S. Napadensky, H. Neilson, Goodyear Aerospace Co., May 1975.

"Driver Analyst Assessment Handbook", O. J. Viergutz, D. R. Morita, H. Wakeley, State of Illinois, Office of the Secretary of State, February 1975.

"Preliminary Fault Tree Analysis of a Conveyor", D. R. Morita, Indiana AAP, October 1974.

"Collision Avoidance Radar Braking System Investigation, Phase I", G. Demos, S. Kazel, R. Carlson, O. J. Viergutz, D. R. Morita, D. Lanera, Final Report to NHTSA, September 1974.

"Determination of the Burn Rate of Black Powder and Its In-Process Forms in Simulated Conveyors", D. R. Morita, Indiana AAP, July 1974.

"Explosive Dispersal System for Submissile Warhead", D. R. Morita, A. J. Tulis, C. J. Dahn, AFATL-TR-74-42, February 1974.

"Submunition Dispersal Techniques", D. R. Morita, C. J. Dahn, AFATL-TR-73-121, Eglin AFB, January 1973

"Hazards Analysis of the Debugging Operation for Obsolete Gun Propellant", J. J. Swatosh, H. S. Napendensky, D. R. Morita, 14th Explosives Safety Seminar, New Orleans, La. November 1972.

"TNT Equivalence Studies", J. J. Swatosh, D. R. Morita, 14th Explosives Safety Seminar, New Orleans, La., November 1972.

"Seismic Analysis of a Control Panel", D. R. Morita, A. J. Kalinowski, Aqua Chem., Inc., 1971.

"Feasibility Study – Dynamic Gun Pointing Error Compensation System", D. R. Morita, NOSF 6920, ORDTASK 08B-112/065-1UF 17-313-209, 1971.

"Stress Analysis of C2A Air Transport Stand Adapters for TF30P8, J57-P10, TF41-A2 and T56-A-8A Engines", NOSF 6917, D. R. Morita, T. J. Studt, NAVAIR Engineering Center, PO-09011 and PO-9-8033, 1970.