



CURRICULUM VITAE 2024

ADAM K. ALEKSANDER PHD PE CSP

EDUCATION

1995 Ph.D., **Texas A & M University**, College Station, TX
Industrial Engineering, Major: Human Factors Engineering, Safety Engineering
1980 Master of Engineering, **University of Colorado**, Boulder, CO.
Major: Mechanical Engineering Design and Economic Evaluation
1972 Bachelor of Science, Mechanical Engineering, **California State University, San Jose**, CA.
Major: Machine Design, (Society of Automotive Engineers Achievement Award)
1995 Industrial Fire Fighting Certificate, Brayton Field Training Center, **Texas A&M University**
1985 Business Law Course, Boise State University, Boise, ID
1964 Loyola High School, Montreal, P.Q., Canada

EXPERIENCE

AAPA, Aleksander & Associates, P. A. Boise, ID March 1987 to present
President, Principal Consulting Engineer, Forensic Engineering
Mechanical, Industrial, Safety, and Human Factors Engineering Investigations
AAIC, Aleksander & Associates International Consulting 2016-Present

Precision Energy Services Inc., (PES) Hayden ID, November 2006 to 2021
Vice President / Senior Consultant, Engineering & Research
Energy Systems, Biomass, CFB, Boiler, STG and Material Handling Systems and Investigations
Plastics To Power Energy Systems LLC, (PTPES LLC) President 2019-2023

Texas A&M University, College Station, TX January to May 1995
Lecturer, Department of Industrial Engineering Faculty
System Safety Engineering

Conveyor Engineering Inc. Boise, ID July 1980 to March 1987
Manager of Business Development, Project Engineer, Project Manager
Engineered Heavy Material Handling Systems for the Mining and Forest Industries
Engineering Investigator, Investigations of Accidents and Failures

AMF - Head Division, Boulder, CO November 1972 to June 1980
Senior Manufacturing Engineer, Ski and Tennis Products

Container Corporation of America, Inc. Santa Clara, CA September 1971 to October 1972
Jr. Engineer, Maintenance Engineering Group, Recycled Paper Kraft Board Plant

Diversified Engineering background with specific experience in Manufacturing, Cost Analysis, Consulting Engineering, Engineering Sales, Project Management, Product Development, Research, Lecturing, and Technical / Litigation Forensic Engineering Investigations of accidents and equipment failures.

PROFESSIONAL AFFILIATIONS

Affiliate Associate Professor, Department of Mechanical Engineering, University of Idaho 1997-2012
Licensed Professional Engineer, 1984-2024, State of Idaho ME No. 4925,
Licensed Professional Engineer, 1999-2024, State of Utah, No. 381067
Licensed Professional Engineer, 2012-2015, State of Vermont No. 018.0081655
Licensed Professional Engineer, 2013, State of Alabama No. 33692
NCEES National and International Professional Engineering Record No. 50271
Certified Safety Professional, 1994-2024, CSP No.12285, Board of Certified Safety Professionals
American Society of Mechanical Engineers, Member since 1982
Human Factors and Ergonomics Society, Member since 1991
Institute of Industrial Engineers, Member since 1995
Society of Automotive Engineers, Member 2003 - 2015



National Society of Professional Engineers, Member since 1984
American Academy of Forensic Sciences, 1990-2024, Fellow; Secretary, Program Chair, Engineering Sciences Section Chairman 2000, Awards Chair 2004, Secretary, Member, AAFS Good Forensic Practices Committee 1999-2002
AAFS Engineering Sciences Section Andrew Payne Special Achievement Award 2004
AAFS Engineering Sciences Section Founder's Award 2010
American Society of Safety Engineers (Professionals), Professional Member, since 1996
National Academy of Forensic Engineers, Senior Member, since 1996
ASTM Subcommittee Member, E-30 Forensic Sciences, 1997-2005, E30.05 Subcommittee Chairman 2005-2008
ASTM Main Committee E-58 Forensic Engineering, Chairman, and Charter Founding Member 2008-2010
ASTM Main Committee E-58 Forensic Engineering, Executive Committee 2011-2015
Mary Kay O'Conner Process Safety Center Symposium, Texas A&M University, annual, 1997-2007
NACE International, The Corrosion Society, Member, 2013-2019 NACE Certified Coating Inspector-Level 3.
National Ski Patrol, Bogus Basin Ski Patrol, Senior Alpine Patroller, Patrol Director, Board of Directors, OEC Instructor, OET Instructor & IT, 2006-present.

PUBLICATIONS AND PRESENTATIONS

Estimating of Manufacturing Joint Costs, Technical Paper MM80-912 Society of Manufacturing Engineers, 1980, reprinted in Manufacturing Cost Estimating, P.F. Ostwald, SME ISBN 0872630536.
Explosion of a Hydro-Pneumatic Storage Tank, presented at American Academy of Forensic Sciences, February 1990.
Collapse of a Conveyor Structure, and a Conveyor Nip Point Fatality paper presented at American Academy of Forensic Sciences, February 1991.
Human Factors and Forensic Engineering paper presented at American Academy of Forensic Sciences, February 1994.
Visual Correctness via a PC; A Model for Visual Courtroom Presentations paper presented at American Academy of Forensic Sciences, February 1995.
Glare Mitigation in Night Driving Using Partially-Tinted Lenses, 1995 Dissertation, Texas A&M University Paper Presented at Vision in Vehicles VII Conference, Marseilles, France, September 1997.
PRT, Perception Reaction Time, Fact or Fiction, paper presented at AAFS, February 1997.
Invited Speaker at Iowa State University/Stark rpx seminar on **Perception, Reaction and Conspicuity in Driving**, Iowa City IA, November 1997, published 2003.
Invited Speaker at Idaho Trial Lawyers Association seminar on **Technology and Persuasion**, Moscow ID, Nov. 1997.
New Perspectives in Forensic Engineering; Convergence of Design, Ergonomics, and Safety Engineering paper presented at American Academy of Forensic Sciences, February 1998.
A Human Factors Approach to Risk Management Invited speaker, Risk Insurance Mgmt Society, Sun Valley Id, Aug. 1999.
Homicide by Water Injection, paper presented at American Academy of Forensic Sciences, February 1999.
Skin Penetration by Water Jet presented at International Academy of Forensic Sciences, Aug. 1999, AAFS Feb 2000.
Applied Industrial Ergonomics Two day seminar presented for University of Idaho, Mar. '00, in Boise ID.
Forensic Engineering and Ethics, Us vs. Them Invited speaker Idaho Society of Prof. Engineers meeting Apr. 2000.
Ergonomics Issues in Workers Comp Invited speaker, Penland/Lorimer seminar, June '00, Boise ID.
Designing Safe Products for Consumers and Industry Two day seminar presented for Univ. of Idaho, June 2000.
Geothermal Plants and Forced Outage Analysis Methodologies Geothermal Resources Council Annual Meeting, San Francisco CA September 2000.
Forensic Engineering Issues in Glare Environments NAFE Seminar, San Diego CA Jan. 2005, published in NAFE Journal 2007.
Go Cart Fatality paper presented at American Academy of Forensic Sciences, New Orleans, February 2005.
Forensic Engineering Analysis of TASER Product Liability Issues NAFE Seminar, Chicago IL Jul 2005.
Third World Chlorine System Safety Issues Chlorine Institute Seminar, Tampa FL, Jan. 2006.
Forensic Engineering Analysis of TASER Issues and Safety Warnings American Academy of Forensic Sciences, Seattle, February 2006.
Defective Jack Causes Fatal Collapse of Overpass Falsework American Academy of Forensic Sciences, Seattle, February 2006.
Human Factors: Industrial Incidents, in Wiley Encyclopedia of Forensic Science, Jamieson, A., Moenssens, A., (eds). John Wiley & Sons Ltd., Chichester, UK, pp 1483-1495, 2009.
Global thinking and methodologies in evidence-based forensic engineering science in Forensic Science Current Issues, Future Directions, Ubelaker D. H. ed, Liptai L., Aleksander A. K., et al, 2013 Wiley & Sons Ltd.



Unusual Failure Modes of Large Diesel Generators, Bangladesh American Academy of Forensic Sciences, Washington DC, February 2013.

A Near Electrocution by Irrigation Pipe Case, Solved by Photo Inspection American Academy of Forensic Sciences, Washington D.C., February 2013.

Steam Iron Electrocution, San Diego CA American Academy of Forensic Sciences, Seattle WA, February 2014.

Ski Collision Fatality, Alpine Meadows, CA American Academy of Forensic Sciences, Seattle WA, February 2014.

Forensic Engineering Investigation of Burn Injuries in a Defective Spa Pool Light Installation, American Academy of Forensic Sciences, Orlando FL, February 2015.

Forensic Engineering Critical Site Photogrammetry and the use of GPS in a Ski Collision Case, American Academy of Forensic Sciences, Orlando FL, February 2015.

Forensic Engineering Investigation of Dual Fatality Auto-Pedestrian Collision by Impaired Vision Driver, American Academy of Forensic Sciences, Las Vegas NV, February 2016.

Forensic Engineering Examination of Stucco on CMU Wall, Paint Layer Evidence and Crack Propagation, Las Vegas NV, February 2016.

Forensic Engineering Investigation of Vision in Crashes and related Incidents, Part 1, New Orleans LA, February 2017.

Forensic Engineering Investigation of Vision in Crashes and related Incidents, Part 2, New Orleans LA, February 2017.

Forensic Engineering Review of the TAU Phenomenon and Cautionary Application to Crashes, Seattle WA, February 2018.

Plastics to Power Waste Conversion, Waste Conversion Technology Conference, Atlantic City N.J. June 2019.

Plastics to Power Technology for the Ocean Economy, Asian Development Bank, Asia Clean Energy Forum, Manila PI June 2019.

Plastics to Power Waste Conversion Barge System, Asian Development Bank, Asia Clean Energy Forum, Manila PI June 2019.

FORENSIC ENGINEERING TECHNICAL INVESTIGATIONS 1972-2023

- **Investigations** of engineering systems and components, to determine proximate cause of failure, and contributing factors, equipment failures, manufacturing anomalies, accidents, event reconstruction, technical interpretation of documents, drawings, and testimony, documentation, photography, and exhibit preparation.
- **Services** include photogrammetry, microscopy, x-ray, and laboratory disassembly and testing, engineering tests, experimental design and statistical analysis. Tests provided include headlamp and tail lamp filament analysis, metallurgical fracture analysis, PMI x-ray fluorescence, photo and video documentation and analysis.

Product Liability (design, manufacturing and marketing defects, involving damage, injury or fatality).

Go Cart Nip Point Fatality, Washing Machine Amputation, Amputations in Punch Presses, Hydro-Pneumatic Tank Explosion, Agricultural Truck Amputation, Airport Conveyors, Biscuit Cutter, Amusement Rides, Water-Jet Fatality, Slips & Trips, Lead Rope Snap, Exercise Machine Failures and Injuries, Document Burn Injuries, Folding Chair Collapse, Concrete Anchor System, Nail Gun Injury, Roof Collapse Panel Hangers, Prosthesis Bolt Failure, Steam Iron Electrocution, Pool Light Burn, Design of Warnings and Instructions, ATV Rollover, Automotive Failures and Crash Related Phenomena, Measurement of ECDs (TASER®), TASER® Time Stamp Anomaly, Potato Sorting System Nip, Range Fire and Warnings, Quad Rollover Winch Investigation, Mango Tool Injury, Batting Cage Injury, Automated Door Injury, Medical Warning Seat Cushion Injury, Genie Lift Injury, Sorting Conveyor Fatality, Bucket Truck crush, Polaris SxS Rollover fatality.

Equipment Failures (proximal cause of failure with contributing factors).

Farm Equipment, Failed Engines, Mining Conveyors, Power Plant Systems, Belt Conveyors, Potato Processing System, Sewer Line, Tire Shredder Processing Analysis, Failed Brake Die, Failed Conveyor Bearing, RV Axle Repair Failure, Trailer Suspension System Failure, Trailer Hitch Separation, Dump Truck Telescoping Cylinder Failure, Brake System Fatality, Headlight Filament Analysis, Service Station Gasoline Tank Leak, Bicycle Tube Failures, Tub Grinder Track Defect, Hay Press System Dual Amputation, Hay Press System Hydraulic System Fatality, Steam Turbine Generator Building Fire C&O, Arbitration, Heat Exchanger System Failure, Potato Piler Hydraulics, Tub Grinder Fire, Failures of Three Wartsila 18V46 Diesel Generators, 20 Inch Primary Steam Line Fracture, Vertical Turbine Pump Coupling Failure With Injuries, Commercial Building Hydronic Freeze Failure, Motorcycle Crash Inspection, Ash Storage Silo Implosion, Bucket Truck Lift Fatality, Trailer Hitch Fatality, Fuel Oil Screw Pumps, Bucket boom fatality, Washer door injury.

Construction, OSHA, and Safety Engineering.(regulatory and safety issues)

Falling Loads, Construction Backing Crush Fatality, Tank Clean-Out Confined Space Injury, Ladder Falls, Construction Claims, Compactor Fatality, Roof Collapse Fatality, Forklift Fatality, Lock Out Tag Out Failure, Site



Safety Assessments, Falling Object, 13.8KV Arc Flash Injury, 19.9KV Arc Flash Irrigation Pipe, Premises Trip, Ladder/Scaffold Misuse, Coating Separations on Fractured Wall, Metal Shred Conveyor Design Adequacy, Plating Tank Immersion Injury, Fall Protection Failure, Bounce Bin Neck Fracture, Seed Sorting Machine Fatality, Forklift Un-Loading Fatality, Potato Conveyor Entrapment, Telescoping Spout Fatality, Belly Dump Truck Fatality, Scaffold Fall, Caught in Chain Drive Injury, Water Jet Injury, Crane Crush Injury, Fishing Vessel Conveyor Injury, Liquid Dispenser Burn Injury, Fall FBH Injury, Farm Construction Electrocutation, Farm Tape Lift Injury, Rendering Facility Fatality, Log Process Conveyor Fatality, Elevator Crush Fatality.

Human Factors, Visibility, Ergonomics, and General Research Issues (product usability, warnings, perception). Highway Visibility, Night Visibility, Bicycle Accidents, Plant OSHA Safety Analysis, Human Factors and Safety Analysis of Peroxide Facility, Five Part Plant Wide Ergonomics Program, Skier Tree Hit Fatality, ECD Warnings Development (TASER®) , Dual Fatality Auto Pedestrian Crash (Criminal), Dump Truck Backing Fatality, Skier Collision Injury, Playground Visibility LOS, Mining Scoop Backing Fatality, Truck v. Pedestrian Collision, Truck v. Child Collision, Motorcycle Visibility Crash, Dual Fatality Pickup Into Truck Crash, Looming and Tau Events, Curb Fall Fatality Inspection, Parking Lot Crash Injury, Medical Device Warning, Knee Cooler Thermal Study.

Sports Related Cases and Experience

Cases have included sports related events, ski collisions, bicycle visibility and use. Experienced cyclist, skier, kayaker and sailor. Senior Alpine Patroller, Member National Ski Patrol, Bogus Basin Alpine Patroller of the Year, 2007 & 2010, Current CPR card, Outdoor Emergency Care Instructor, Outdoor Emergency Transportation Instructor, Secretary, Assistant Patrol Leader, Patrol Director, Board of Directors Bogus Basin Ski Patrol, Volunteer Special Olympics Winter Games, Bogus Basin ID Feb 2009, Ski Patrol Athlete Care Medical Services, Feb 2010 Winter Olympic Games Vancouver, Canada.

CONFIDENTIAL PROJECTS FOR CLIENTS

Significant projects have been undertaken for confidential clients, working with their attorneys on sensitive research issues. 1995-2007

AAPA-AAIC INDUSTRIAL INVESTIGATIONS / DESIGN / FORENSIC PROJECTS 1971-2023

2021	Feedwater Heater, Screw Pump, Air Preheater Letters of Determination, San Buenaventura Power Ltd. Co, (SBPL).
2021	Fuel Oil Screw Pump failures investigation, San Buenaventura Power Ltd. Co, (SBPL) Mauban, Philippines
2020	Pre-Feasibility Report, Marine Debris, Plastic & RDF Waste to Energy System, A Barge Mounted Process Plant for Island Nations, Focus: Philippines
2019	ADB Asia Clean Energy Forum, PrPES waste to energy system presentations, June 2019, Manila, Philippines
2019	Asia Development Bank (ADB) meetings, PrPES waste to energy system, March 2019, Manila, Philippines.
2018	Conception of Plastics to Power™ ocean plastic waste recovery and mitigation system, PES/PrPES™.
2017	Safety Assessment 815 & 615 x 2 MW Paton Energy facility, Probolingo, East Java, Indonesia.
2017/18	Design and Project Management, \$10M coal yard reclaim system, POMI, East Java Indonesia.
2015	Investigation and Report in AARA Section 1603 matter of GUSC v United States, Biomass CHP Facility, NY.
2014	Affidavit testimony presented to Philippines Energy Regulatory Commission regarding SBPL Project.
2013	Investigation and testimony, \$17M v \$5M arbitration hearing re failed steam turbine generator and fire, WA.
2013	Case analysis and report on failed Thermal Oxidizer system, ethanol plant, MN.
2012	Root Cause Analysis of fractured 20 in dia. main steam pipe, forced outage, 500MW plant, Philippines.
2011	Root Cause Analysis of three failed Wartsila 18V46 diesel generators, \$18M loss, Bangladesh
2011	Post-fire structural steel assessment to determine fire related effects, restore crane operability, WA.
2011	Steam boiler pipe inspection by X-ray fluorescence to comply with materials requirement, Oregon
2011	Inspection and verification of compliance with ARRA Section 1603 for \$100M Biomass projects.
2010	Investigation and emergency remediation plan of failing coal silos, Risk Management Plan, Philippines.
2010	Investigation of turbine generator fire and \$5 M loss, Project planning for \$20M Biomass conversion.
2009	Investigation of 13.8KV arc flash injury incident at utility, investigation of conveyor belt failure, Philippines.
2007/9	Chlorine gas dispensing system for utility plant seawater cooling system, design, furnish, install, and train.
2007	Support in litigation issues at power plant construction sites, demolition of thermal stack at U of Idaho.
2006/7	Chlorine system ton container on-site storage system, secure modular transportation system proposal.
2005	Conveyor material failure, Scale and Feeder calibration, Chlorine Transportation Risk Assessment, Quezon, PI
2005	Refinery Delayed Coker Unit Safety Analysis, Minneapolis WI
2005	Taser ECD Related Research and Design of Warnings and Instructions
2005	Power Plant ASTM coal sampling Design & Furnish, and data systems, Quezon, PI
2004	Power Plant Chlorination system analysis HAZOP and PSM RPM Program, Quezon, PI
2003	Completion of hazardous gas monitoring and site safety systems at shaft well development project. SS, UT
2002	Research and design coordination of proposed geothermal plant Vapor Recovery Unit systems. Puna Hawaii
2002	Continued methane safety responsibility at Cogeneration well development project. Sunnyside, UT



ALEKSANDER CV 2024

- 2001 Planning and execution of penetrating a sealed 1000ft vertical methane filled mineshaft, with instrumentation, video and data acquisition, sample recovery and site safety coordination. Site project coordination with client attorney, city, state and federal regulatory agencies. Sunnyside, UT
- 2000 Investigations of geothermal plant anomalies and recuperator performance studies, NV, and sorbent limestone production studies for CFB plants, UT. Performance evaluation of geothermal plant VRU system. Investigation of ESP precipitator performance issues at RB waste wood plant., CA
- 1999-01 Investigation of water utilization at power plant in Utah, modeling, well issues, study of proposed opening of a sealed mineshaft.
- 1996-98 Cogeneration power plant, research issues related to EPA, DOJ actions, and analysis of plant performance problems related to sorbent quality and material handling, \$1.5+ M project award for Pilot Plant and related plant modification projects. Coal barn storage analysis, CA.
- 1984-1988 Developed computational program for crushing plant gradation analysis used in multiple litigation actions.
- 1986 Developed conceptual and proposal documents, administered design and furnish contracts for \$1 M Pegasus and Rochester gold ore heap leach crushing and conveying projects near Lovelock, NV.
Developed application software for CEMA belt conveyor calculations (still in use 2016).
- 1985-86 Project Manager, Dillingham-Cerrillos Dam Project, Puerto Rico, managed engineering design and furnishing of \$3.5 M dollars of material handling equipment, structural steel, conveyors, foundations and primary crusher concrete structure, MCC's, control panels, programmable control system, including 14,000 hours of engineering design effort.
- 1985 Project Engineer, site installation of vortex shedding modifications to a 200 ft. bent structure at the Caballo mine, Gillette, WY.
- 1984-85 Project Engineer, Chino Mines Conveyor System Study to resolve dynamic loading problems.
- 1984 Project Engineer, Conceptual Design, Proposal, and Award of \$.9 M wood chip conveyor system at Longview Fibre Co. LV, WA.
- 1980 Capital Cost study and technical evaluation of proposed reaction injection ski molding (RIM) system and equipment selection for new products.
- 1979-80 Responsible for the redesign of all ski tooling to critical molding parameters developed through quality control data.
- 1972-80 On the hill ski, boot, and binding technical tester, AMF-Head Manufacturing and R&D Engineering.
- 1977-78 Designed an automated production system for polyurethane ski foam cores, with individual air actuated mold assemblies in a recirculating curing oven.
- 1977 Redesign of plant water cooling and heating systems.
- 1975-80 Forensic Photo Documentation, Failure Analysis Courses, Failed Engine Analysis and litigation.
- 1975-77 Complete redesign of forty hydraulic press cavities used to manufacture fiber reinforced plastic (FRP) skis.
Development of measurement methods and statistical process controls which substantially changed traditional molding operations concepts. Commendation letter. Design of ski production machines and fixtures.
- 1970 Paper Mill expansion CCA-Santa Clara, CA Jr engineer, supervised mill pump piping and kraft board sheeter equipment installations.

This document issued to: <u>M. Kane 702</u>	Date: <u>6MAY24</u>	File: <u>AZ</u>
The above named recipient is authorized to use this document only in direct support of the specific case or instance intended. Any use of this document is predicated upon the complete execution of a work agreement or contract with Aleksander & Associates, P.A. The use of this document in litigation constitutes acceptance of the terms of the agreement, and the minimum retainer therein. The reproduction, use of, or distribution of this document is prohibited without the express written permission of Aleksander & Associates, P.A. © Copyright, 2024 ALEKSANDER & ASSOCIATES, P.A. All Rights Reserved CV24.1		