

JONATHAN KLANE, M.S.ED., CIH, CSP, CHMM, CIT
Curriculum Vitae (CV)

Expertise	Risk/Decision-Making/Risk Perceptions/Persuasion Narrative/Stories/Storytelling Safety Culture and Culture Change Incident Investigation/Root Cause Analysis EHS Regulations and Compliance (OSHA, EPA, DOT, etc.) Lab Safety/Risk Training & Education, Informal/Casual Learning, Professional Speaker Industrial Hygiene/Indoor Air Quality (IAQ) Wellness/Health Education Expert Witness Hazardous Materials, Hazardous Waste Operations and Emergency Response (HAZWOPER) Asbestos Management Lead Management Risk Communication, Facilitator, Mediator Qualitative (and Mixed Methods) Research
Academic Background	PhD candidate in Human and Social Dimensions of Science and Technology, Anticipated 2024-25 M.S.Ed., Adult Education, Training & Development Concentration, University of Southern Maine, 1995 B.A., Geology, Environmental Focus, University of Massachusetts at Amherst, 1984
Research	How can stories about risk impact laboratory health and safety? An exploration (dissertation) Which works better - Humor or narrative in safety training for biomedical engineering students? Using discourse analysis to assess individual safety attitudes and group safety culture among commenters to a blog post about a serious lab incident How does exposure to science fiction early in life correlate with education/degree and/or work/career in science, technology, engineering, and math (STEM) fields? Interpersonal communication skills among EHS professionals – needs and educational preparation Is a practicum (work experience) linked to a successful career for associate's degree students in occupational health & safety (OHS) at a technical college? Investigating an increasing injury trend among heavy construction workers: An interventional study
Experience	Mr. Klane has over 38 years of health and safety consulting, teaching, writing, and directing EHS, including 3 years of full-time teaching Occupational Health & Safety (OHS) at Central Maine Technical College (CMTC) and 17 years part-time teaching management courses in the MBA and HR Management programs at Thomas College. He was the Senior Safety Editor for

LabX Media Group, and Director of Risk Management and Education for BioRAFT (now SciSure).

He was the Director of Strategic Change in Safety Culture for the College of Engineering at UC Davis and in a similar role for the Fulton Schools of Engineering at Arizona State University. He has been an expert witness in many cases covering a variety of safety, health, and risk areas including asbestos, chemicals, construction, guarding, machinery, mold, noise, risk, training, and several slips, trips, and falls (some fatal).

He owned and operated *Klane's Education Information Training Hub, LLC*SM (*KEITH*SM) full-time and directed all health and safety training for almost 14 years (and continues to consult part-time). He is a frequent speaker at national and regional conferences on a variety of topics. He is often called upon to work in-plant resolving health and safety issues and providing risk communication.

Mr. Klane has been the Director of Safety and Quality for Safe Handling, Inc., a chemical trans-loading company and was the Health & Safety Coordinator for an office of 15 environmental health & safety consultants. He has designed numerous asbestos abatement projects, including in the Governor of Maine's mansion, an operating testing laboratory, and an occupied public library.

He has trained thousands of workers in OSHA-related issues over the last 38 years. Mr. Klane has worked in numerous industries including semi-conductor, life sciences, pulp and paper, site and field work, transportation, healthcare, manufacturing, chemical handling, jet engine manufacturing, construction (heavy, light, and residential), and research labs.

Risk/Decision-Making/Risk Perceptions

- Provided direction to BioRAFT as well as the EHS community on all matters related to risk, safety, perceptions, narrative, persuasion, industrial hygiene, communication, etc.
- Provided direction to UC Davis College of Engineering on all matters related to risk, safety, industrial hygiene, etc. for labs, construction, and operations.
- Provided direction to ASU College of Engineering on all matters related to risk, safety, industrial hygiene, etc. for labs, construction, and operations.
- Performed several research studies on risk and risk perceptions of hazardous lab operations at ASU and elsewhere.
- Provided guidance and recommendations to numerous clients in various industries on risks, etc.

Narrative/Stories, Persuasion-based, and Informal Learning

- Study narrative, creative nonfiction (CNF), and its research as part of a PhD in ASU's School for the Future on Innovation in Society (SFIS).
- Wrote and/or co-wrote about 36 articles for LabX Media Group.
- Performed research on narratives, stories and/or CNF as part of PhD and work at ASU.

- Presented on the need for and research behind the science of narrative, stories, and CNF at several EHS related conferences.
- Designed and delivered workshops to EHS professionals on how to create and use CNF in EHS and other training and communications.
- Developing and writing micro-stories about failed testing methods of an engineering control in labs.

Safety Culture/Culture Change

- As the Director of Strategic Change in Safety Culture & Programs in the College of Engineering at UC Davis, designed and implemented programs and initiatives to facilitate changing to a safety culture driven approach to risk, hazards, and safety.
- As the Safety Director for ASU's College of Engineering at ASU, designed and implemented programs and initiatives to facilitate changing to a safety culture driven approach to risk, hazards, and safety.
- Created and co-lead the Safety Culture Community of Practice (COP) and its leadership team within the Campus Safety Health and Environmental Management Association (CSHEMA). Drafted initial purpose, library, forum topics, and ideas. Drafted initial safety management system for EHS departments to implement.
- Studied and researched safety culture as part of PhD at ASU and elsewhere including creating a new 6-stage model for a culture of safety.

Incident Investigation/Root Cause Analysis

- Performed numerous incident investigations and root cause analyses as an external consultant (for many clients) and internal safety director (at Safe Handling, ASU, UC Davis).
- Taught and wrote about incident investigations and root cause analyses for companies, at conferences, online, etc.
- Performed an interventional study for a large construction firm in Maine with an increasing injury trend. Found several contributing factors that once resolved their injuries decreased to previous levels.

Regulations and Compliance (OSHA, EPA, DOT, etc.)

- Responsible for all EHS programs and compliance for multiple employers including Dames & Moore's Maine office, Safe Handling (Maine and Montreal), ASU Fulton Schools of Engineering, and UC Davis College of Engineering.
- Developed and delivered EHS training and EHS programs for many general industry (L.L. Bean, McCain's Potatoes, UMaine, Verso Paper, etc.) and construction clients in Maine (Cianbro, Reed & Reed, Sargent Corp., etc.). Areas included hazard recognition, risk assessment, and risk control such as chemical exposures, confined spaces, fall prevention, heavy equipment, IH, lab safety, LOTO, mineral dusts, noise, trenching, etc.

Lab Safety/Risk

- Directed lab safety for two colleges of engineering with hundreds of research labs (ASU and UC Davis).
- Frequent conference presenter, author, speaker, etc. on lab safety for AIHA, CSHEMA, Future Labs Live, etc. and started two communities of practice within CSHEMA (Embedded Safety Professionals and Safety Culture in academia/higher ed.).
- Studied lab safety culture in my PhD dissertation on how stories affect risk perceptions in research labs.

Training & Education/Professional Speaker

- As a member of the ANSI/ASSP Committee on Z490 Standard on EHS Training, helped write both the Z490.1 standard on EHS training and Z490.2 standard on e-learning.
- Developed and delivered over 100 presentations and/or workshops at numerous National and Regional Conferences including the ACHMM, AIHce, ASSE/ASSP, ASTD, CSHEMA, IAPA, NSC, NSSC, PCIH, SHCNNE, and others. Presented and/or taught seminars across North America and the Caribbean including in AK, AZ, (Kamloops) BC, CA, CO, CT, DE, FL, GA, IA, IL, IN, KY, LA, MA, MD, ME, MN, MO, NH, NJ, NM, (Halifax) NS, NV, NY, OH, (Toronto) ON, OR, PA, (Montreal) QC, RI, TX, VA, VT, WA, and Trinidad & Tobago.
- Developed and presented several on-line “Webinars” for various organizations. These include “Training Needs Assessments: Who, What, When, Where, How, and Why” for the ASSE; “Hazard Assessments: How to Bulletproof Your Company!” for SafetyXChange; “To Test or Not to Test – What Was the Question?!” for the ACHMM; and “The Benefits of Combining Wellness with Health and Safety” for SafetyXChange.
- Developed and performed a training needs assessment for Chevron Corp. Assessed training needs of Lead Auditors in the Operational Excellence Division.
- Developed the instructional design for several of IDEXX Lab’s on-line tutorials for new software upgrade to their imaging equipment. Worked with tech support, learning dept., and product staff to develop audio script, visuals, and content.
- Revised content for on-line course “Health and Safety for Supervisors and Managers” for the Canadian Centre for Occupational Health and Safety (CCOHS) for their U.S. clients to reflect U.S. laws, regulations, language, and culture.
- Developed scripts for Merck, Inc.’s Exposure Assessment & Monitoring (EAM) Training Program (consisting of eight training modules with 325 PowerPoint (PPT) slides). Scripts or speaker’s notes are for either on-line or classroom “stand-up” training.
- Designed and delivered train-the-trainer presentations to City of Portland, Fairchild Semiconductor in South Portland, Maine and on numerous occasions to the Maine Safety Council’s members at the annual conferences and during one-day seminars also at many other national and regional conferences.
- Developed and scripted several in-house safety videos and accompanying workbooks for L.L.Bean. Provided training consultation services to L.L.Bean Safety and Training

Management and Staff. Helped to resolve key training issues and identify training tracking solutions.

- Developed and delivered both Behavior-Based Safety (BBS) training and indoor air quality (IAQ) multi-day courses for both NAVSTA Norfolk, VA and NAVSTA, San Diego, CA for the U.S. Navy's NAVSAFENVTRACEN (aka "Safety School"). Attendees included both enlisted and civilian personnel from U.S. NAVSTA's and overseas locations (including Japan, Italy, and Diego Garcia).
- Developed and delivered Behavior-Based Safety (BBS) training sessions for both Northern Maine Medical Center and McCain's Foods. Assisted both in improving their health and safety programs.
- Developed and delivered graduate level classes for Thomas College's Graduate & CED Dept. for MBA and HR Management students. Taught classes both in the classroom and 100% asynchronous on-line courses, including HR 565: Health, Safety, and Security; MG 563 Environmental Risk Assessment & Management; HR 596: Wellness and Health Promotion Plans; HR 499: Preparation for SHRM Certification (1 module); HR 595: Train-the-Trainer; MG 598: Risk Management for the 21st Century (Summer 2009 Institute – week-long course); MG 551 Organizational Theory and Behavior; MG 567 Conflict Management; and MK 551: Marketing Management.
- Designed and conducted classroom, laboratory, and hands-on instruction in the Occupational Health & Safety (OHS) Associate in Applied Science (AAS) Degree at Central Maine Technical College (CMT). Taught courses, including OHS 165/166: Introduction to Industrial Hygiene with Laboratory; OHS 180: Air Quality (Fall 1996); OHS 101: Basis Principles of Occupational Health; OHS 100: Introduction to OHS (delivered off campus at Pioneer Plastics to 20 Maintenance Dept. employees); OHS 51: Training Methods & Techniques; and OHS 200/210: Practicums I & II in OHS (field-based internships).
- Developed, directed and conducted asbestos abatement training in all U.S. EPA Model Accreditation Plan (MAP) certifications and other EPA AHERA-related disciplines. Received Maine Department of Environmental Protection (DEP) Training Provider Licensure for **KEITHSM**, Dames & Moore, and CMT and Self-Certified under USEPA MAP requirements. Trained hundreds of asbestos abatement professionals including designers, inspectors, air monitors and analysts, supervisors and workers. Conducted many off-campus, work site courses for workers at various companies.
- Designed, developed, and delivered respiratory protection training for all maintenance personnel at ABC Studios/Network in New York City.
- Coordinated and conducted eight health & safety conferences from 1993 to 1996 in conjunction with the Maine Coalition for OHS. Conferences attracted 50 to 400 participants each totaling over 1500 attendees. Coalition members represented business and industry, health care, OSHA, and Maine Department of Labor.
- Developed and conducted OSHA-required training courses for AVPS personnel of Stone & Webster Corp. in Auburn, Maine through the Maine Quality Centers. This helped bring industry to the local area by providing OSHA-required training at no cost to Stone & Webster. Participants earned OSHA Training Institute Cards certifying 30-hours of OSHA Voluntary Compliance.

- Developed and conducted respiratory protection training at Philips Elmet in Lewiston, Maine for approximately 80 front-line employees. Fit tested employees for negative pressure respirators. Accommodated three shifts of production scheduling by delivering staggered training sessions throughout the day.
- Coordinated and participated in Satellite Live Video Conference on Bloodborne Pathogens (BBPs) training for Emergency/First Responders.
- Delivered BBP training to Colby College's Health Center staff including physicians, nurses, and coaches.

OSHA Compliance/Health & Safety

- Performed comprehensive review of Reed & Reed's (construction) safety program. Interviewed personnel at all levels from President to laborers. Visited all active construction sites to review H&S practices in place. Developed written report with many recommendations. Debriefed to President and HR Manager.
- Provided consulting on State of RI report of OSHA violations and hazards to Hunting Custom Packaging in Lincoln, RI. Helped resolve issues without Federal OSHA involvement as threatened by the State. Developed hazard communication (haz com) and lockout/tagout (LOTO) written programs and provided training to management and workers in English and Spanish (via interpreter).
- Developed multiple OSHA programs (haz com, LOTO, PPE (including hearing protection), respiratory protection, and fall protection) for the Mid-Maine Technical Center (MMTC) faculty, staff, and students in Waterville, Maine. Provided training to MMTC staff and faculty on chemical teratogenicity. Advise the MMTC Student Safety Team (SST).
- Functioned as project industrial hygienist for General Electric's Superfund site in Hudson Falls, NY. Reviewed, modified and approved Health & Safety plan, conducted Health and Safety audits of the site and provided training of site personnel including site safety officers (SSOs). Developed specific procedures for multiple confined space entries and other related tasks. Provided consulting on air monitoring and all aspects of health and safety for multi-year on-going project.
- Functioned as interim health & safety engineer two days per week at Presstek in Hudson, New Hampshire. Developed and implemented several OSHA programs including hazard communication, hearing conservation/noise, lock out/tag out, personal protective equipment, and emergency response. Advised two safety committees, the Human Resources Manager, and other plant management on a wide-variety of health and safety issues. Designed, conducted, and evaluated several rounds of chemical sampling around process equipment.
- Evaluated Buckbee-Mears Cortland (BMC) Cortland, NY existing facility and new modernization/expansion for OSHA compliance and employee health and safety relative to potential chlorine leaks. Facility and expansion were evaluated for emergency egress and response, providing design characterization for area monitoring for chlorine, routing of piping, proximity to air intakes, and building occupants' health. Re-wrote BMC's emergency response and fire prevention plans.

- As lead auditor, performed audit of Karsten Manufacturing Corp. (KMC) in Phoenix, Arizona. Audited KMC's multiple buildings and processes for OSHA standards and best management practices (BMPs). Developed site specific, comprehensive 200-item checklist for facilities.
- Developed Respiratory Protection Program (RPP) for Poland Spring Bottling Company including training to maintenance and QA staff using self-contained breathing apparatus (SCBA) and air-purifying respirators, respectively.
- Developed Confined Space Entry (CSE) Program including training for Safe Handling, Inc. staff entering truck trailers, silos, below ground chemical waste containments, below grade pits, and potentially rail cars.
- Developed lockout/tagout (LOTO) standard operating procedures (SOPs) for the University of Maine's (UM's) Department of Facilities Management (DFM) in Orono, Maine. Interviewed and assessed 13 UM DFM shops for necessary LOTO issues.
- Performed facility-wide survey of pipe labeling for OSHA compliance and water use at United Technologies' Pratt Whitney aircraft engine plant in Berwick, Maine. Facility is the largest one-story building in Maine.
- Directed noise survey of shop areas and maintenance equipment of CMTC. Survey results used to implement noise hearing conservation program amongst staff, faculty, students, and contractors.
- Provided instruction and direction in industrial hygiene to OHS graduates working in business and industry and government as Occupational Health & Safety Technologists (OHSTs). Graduates working for Maine Dept. of Labor, Texaco Refinery, Maine Municipal Association, consultants, healthcare, construction and manufacturing. Provided supervision to OHS graduates performing internships in OHS for OSHA, Maine Dept. of Labor, Loss Control, metropolitan hospitals, and paper mills.

Industrial Hygiene/Indoor Air Quality (IAQ)

- Solved IAQ multiple source problems for USM's Facilities Management offices. Was specifically brought in on multiple occasions to problem-solve and to calm, mediate, and assuage the concerns of the building occupants.
- Performed IAQ survey for the City of Bangor of the Griffin Park Apartments (GPA) regarding chemical release runoff from the Bangor International Airport in the adjacent Birch Stream and other IAQ potential issues. Developed sampling and analytical plan for the survey and compared results of the GPA with nearby "control" housing development.
- Developed IH Monitoring Plan for BE&K Construction as part of their VPP application with OSHA (which they acquired). Perform periodic monitoring of various workplace contaminants and noise levels.

- Performed IH assessment for Central Maine Power Company (CMP) of their operations and services. Developed comprehensive report of findings and recommendations. Worked for Corporate Legal Department.
- Performed mold evaluation for Bates College regarding wet basement office space of faculty member. Worked with Facilities, Faculty and EHS to help resolve space use issues.
- Developed and performed indoor and outdoor air quality study on diesel particulate matter (DPM) related to bus and truck traffic at Senior citizen housing complex. Helped to establish healthy air levels of residents.
- Designed and performed multi-faceted IAQ study of Lohmann Animal Health involving both employee health and product safety. Study included mold, bacteria, ultra-fine particle counts, and formaldehyde levels. Helped to demonstrate areas for attention.
- Evaluated IAQ problems for the City of Portland at their Department of Public Works facility and in the Detective's Bureau of the Portland Police Department. Worked with Risk Management staff and the Occupational Physician to resolve apparent issues (mold growth and lead dust) in a timely and cost-effective manner.
- Performed CIH services for the Maine Municipal Association (MMA) by reviewing and evaluating other IH report on client chemical exposures and follow-up IH sampling for potential worker's compensation claim.
- Designed and performed follow-up radon study of the Muskie Federal Building in Augusta, Maine for the U.S. General Services Administration (GSA). Study required real-time monitoring and data logging of results and evaluation of weather data from National Weather Service for compliance with US EPA Guidelines.
- Developed Arsenic Exposure/Cleaning Procedure for Sanders - A Lockheed Martin Company's semi-conductor manufacturing plant. Procedures included exposure monitoring, decontamination of surfaces and personnel, OSHA compliance, and medical surveillance elements.
- Designed and conducted IAQ survey of Air Traffic Control Tower at Bangor International Airport (BIA) for the Federal Aviation Administration (FAA) relative to mold spore related complaints. Recommended continued surveillance, remediation, and on-going maintenance activities.
- Designed and conducted IAQ studies of numerous schools in Maine. Studies included evaluation of complaints from students and teachers. Provided consulting on remediation and health effects to worker compensation/medical claims management.
- Designed and performed IAQ investigation for Astro Homes (modular homes manufacturer) of occupied home for airborne contaminants including formaldehyde, sewer gases, carbon monoxide, and fibrous dusts. Occupants were experiencing a wide variety of related symptoms.

Wellness/Health Education

- Taught the graduate course HR 596 “Wellness, Health Education, and Health Promotion Plans (HPPs)” in Thomas College’s Graduate/CED Department in Waterville, Maine.
- Teach the seminar “Wellness and Health Education for the Workforce – Making the Connection between Industrial Hygiene and Worker Health!” at the AIHce.
- Presented on Wellness and Health Ed. at the NEHA/NESHTA Annual Conference in 2005 and at the ASSE PDC in 2008.
- Developed and delivered several Webinars and Audio Conferences on wellness topics.
- Advise various clients on wellness issues including C.M. Almy for their corporate safety day with a wellness theme.
- Authored the Chapter “Combine Wellness with Workplace Safety and Health – 12 Steps You Can Take to Increase Your Total Health!” in the book *Healthy Profits- The 5 Elements of Strategic Wellness in the Workplace* edited by Sandra Larkin and published by Yellow Duck Press.
- Authored several articles on wellness in different publications.

Expert Witness

- Provided expert witness services for several fall fatality cases. Performed site evaluation. Provided various reports.
- Provided expert witness services for a fall case ending in a close call. Went through deposition and days of courtroom testimony.
- Provided expert witness services for many slip, trip, and fall cases with various circumstances, locations, causes, etc. I provided depositions, testimony, etc.
- Provided expert witness services on several other cases including chemical exposures, hazardous materials, etc.
- Provided consulting and mold evaluation services for alleged mold exposures and faulty construction.
- Provided expert witness services for alleged mold issues in an underlying case. Reviewed previous data and reports. Performed mold evaluation of the property and produced several opinion reports. Provided courtroom testimony.
- Provided consulting and expert services for alleged hearing loss. Performed noise study that disproved sufficient exposures.
- Provided consulting and expert witness services for alleged exposure to beryllium dust and diagnoses of berylliosis and chronic beryllium disease (CBD). Provided various reports and opinions.
- Provided consulting and expert witness services for alleged environmental, health, and safety violations of waste hauling services. Provided deposition and courtroom testimony.

- Provided expert witness services for alleged hydrogen sulfide (H₂S) exposure case. Provided several opinion papers on various aspects of the case as requested. Provided deposition.
- Provided advice and sampling plan for alleged carbon monoxide (CO) exposure case.
- Provided advice and oral case history for alleged asbestos contamination case.
- Presented at the MIAQC 2007 Annual Conference in Augusta, Maine on “Expert Witness Testimony – The Good, the Bad, and the Ugly”.

Hazardous Materials/Hazardous Waste Operations and Emergency Response

- Health and Safety Coordinator for office of 15 environmental health & safety consultants working on Superfund sites, landfills, UST removals, asbestos abatement projects, lead abatement projects, and industrial hygiene and indoor air quality investigations. Wrote, reviewed, and approved all health and safety plans for engineering projects.
- Developed numerous Health and Safety Plans (HASPs) for contractors and consultants performing hazardous waste site work including Central Artery Tunnel project in Boston, MA.
- Provided numerous initial and refresher training for compliance with 1910.120 – HAZWOPER including 40-hour, 24-hour, Supervisor, Refresher, Haz Mat Technicians, and First Responders.
- Evaluated chemical data for determination of health and safety “action levels” on hazardous waste sites and industrial facilities including landfill leachates and waste water effluents.

Asbestos Management

- Surveyed six residential life buildings at the University of Southern Maine (USM) in Gorham, Maine for asbestos. Provided consulting and similar survey services for the University of Maine System (UMS) on four other UMS buildings.
- Designed and managed decontamination of Blaine House basement (Maine Governor's residence in Augusta). Coordinated with Governor's personal staff to accommodate on-going occupancy and official activities. Decontaminated items included Governor's personal effects.
- Designed and managed abatement of Public Health Laboratory in Augusta, Maine to accommodate HVAC renovations. Coordinated with lab director to accommodate uninterrupted multiple labs work schedule.
- Designed and managed decontamination of Fairfield Woods Branch Public Library in Fairfield, Connecticut due to prior incomplete abatement activities. Library had to remain open as usual, and decontamination involved archival materials.

Lead Management

- Performed evaluation of City of Portland Police Dept. building and determined extent of lead contamination from Officer Shooting Range.
- Assisted Maine Department of Environmental Protection (DEP) in developing approved training provider requirements for the five EPA-specified lead licensed professional categories. First Maine DEP-approved training provider.
- Presented at 69th Maine Safety & Health Conference 1996 in Portland, Maine on "Lead and Particulate Monitoring in the 90's". Developed presentation on 1 ½ days' notice due to unexpected cancellation by another presenter.
- Presented at 68th Maine Safety & Health Conference 1995 in Portland, Maine on "Lead Issues in Maine".
- Coordinated and conducted two, 2-day "New Directions in Lead" Conferences with the Maine Association of Lead Trainers (MALT), attracting 100 attendees. Keynote and guest speakers from US EPA, US HUD, US DOL-OSHA, Maine DEP, Maine DHS, and lead professionals participated.
- Developed exposure assessment procedure and criteria for OSHA compliance on lead-based paint (LBP) abatement of Brunswick Naval Air Station Base Housing.
- Designed and provided Maine DEP-approved Lead Inspector and Risk Assessor training course for the Aroostook Band of Mic Macs and multi-tribal group off-site. Course included extensive hands-on modules using XRF LBP detector.
- Designed and delivered Lead-Smart Renovator training to ~1080 persons in Maine on behalf of the Maine DEP, Maine State Housing Authority (MSHA), City of Auburn, and Window Reps of Maine.
- Designed and delivered Lead-Sampling Technician training to ~200 persons in Maine. Also, provide training (initial and refresher) to most of the lead professionals in Maine.
- Delivered EPA RRP Rule Lead Renovator Initial and Refresher training to ~350 persons in Maine for compliance with EPA's Renovation, Repair, and Painting (RRP) Rule.

Risk Communication/Facilitator/Mediator

- Mediated and resolved many confidential conflicts at ASU involving students, staff, and faculty.
- Mediated and problem-solved several IH/IAQ, health and safety problems for different clients. Differences of opinion were perceived by management and employees. Resolved the health and safety issues and facilitated progress so all could move forward.
- Emceed USM Adult Education Program 25th Anniversary/Retirement Party for Professor Will Callender with over 100 attendees. Required a mix of keeping the evening on track, while allowing attendees to speak freely honoring Dr. Callender.
- As Conference Director, facilitated 8 conferences at CMTC in Auburn, Maine. Attended by over 400 attendees from a wide variety of industries and companies representing varied interests (often including labor/union vs. leadership/management).

- Facilitated/led multiple project status meetings for Buckbee-Mears Cortland (BMC) related to expansion start up operations and their emergency response plan. Mediated participants' widely differing views on operational readiness.
- Responsible for facilitation of on-going status meetings of many construction/abatement projects. Mediated between contractors, owners' representatives, abatement company, and State of Maine Bureau of General Services.
- Facilitated/led several class discussions on controversial topics with non-traditional students (adults). Topics included environmental tobacco smoke, diversity/tolerance, Americans with Disabilities Act (ADA) compliance, labor vs. management issues, and environmental air quality.

Professional History

Storytelling Consultant, Jonathan Klane – Storytelling Consultant, 2025-present

Sr. Manager, Business Development, EHS Advisor, Draeger, Inc., 2024-2025

Senior Safety Editor, LabX Media Group (Lab Manager magazine), 2022-2024

Director of Risk Management and Safety Education, BioRAFT, 2020-2022

Director of Strategic Change in Safety Culture & Programs, College of Engineering at University of California Davis (UC Davis), 2019-2020

Assistant Director – Safety Programs, Ira A. Fulton Schools of Engineering (FSE) at Arizona State University (ASU), 2012-2019

Owner, ***Klane's Education Information Training Hub, LLC***SM, Fairfield, ME, 1998-2012

Director of Safety & Quality, Safe Handling, Inc., Auburn, Maine, 1998

Regional Manager, Industrial Hygiene Services, Dames & Moore, Augusta, Maine 1997-1998

Environmental Services Training Director, Dames & Moore, Augusta, Maine, 1996-1997

Training Director/Instructor, Central Maine Technical College (Center for Occupational Health & Safety) Auburn, Maine, 1993-1996

Staff Geologist/Equipment Manager, Balsam Environmental Consultants, Augusta, Maine, 1991-1993

Field Operations Manager, Balsam Environmental Consultants, Augusta, Maine, 1989-1991

Industrial Hygienist, Balsam Environmental Consultants, Augusta, Maine, 1987-1989

Water Safety Instructor, Head Guard, and Lifeguard, Lexington, Mass., 1977-1982

Citizenship United States

Publications and

Interviews

WORKBOOKS + TEXTBOOK/MANUAL

- ❖ *Communicating OEHS Concepts – Learner Workbook and Facilitator Guide*. AIHA. 2022.
- ❖ *Manual of Environmental Safety & Health Abbreviations (or MESHA)*. American Conference of Governmental Industrial Hygienists (ACGIH). February 1997. ISBN 978-1882417186.

BOOK CHAPTERS

- ❖ "Risk Communication", *The Occupational Environment: Its Evaluation, Control, and Management (aka "The White Book")*. AIHA, 2025 (tentative).
- ❖ "Adult Learning and Effective Training", *Biosafety Reference Manual*, AIHA, 2025 (tentative). [co-author Ashley Augspurger, PhD, CIH, CSP]
- ❖ "Controlling Workplace Chemicals", *Managing Hazardous Materials*, Institute for Hazardous Materials Management (IHMM), 2025. [co-author Ashley Augspurger, PhD, CIH, CSP]
- ❖ "Training and Communication", *Desk Reference, 3rd Ed.*, Alliance of Hazardous Materials Professionals (AHMP), 2017.
- ❖ "Combine Wellness with Workplace Safety and Health – Twelve Steps You Can Take to Increase Your Total Health" in *Healthy Profits: The 5 Elements of Strategic Wellness*, edited by Sandra Larkin, Yellow Duck Press, 2009.
- ❖ Chapter 5 "Training Delivery" of *Accepted EHS Training Practices - An Implementation Guide on ANSI/ASSE Z490.1 Criteria for Accepted Practices in EHS Training*, National Environmental, Safety and Health Training Association (NESHTA), 2003.

PEER JOURNALS and conference proceedings papers

- ❖ Harris, T. M., Hottle, T. A., Soratana, K., Klane, J., & Landis, A. E. (2016). Life cycle assessment of sunflower cultivation on abandoned mine land for biodiesel production. *Journal of Cleaner Production*, 112, 182-195. <https://doi.org/10.1016/j.jclepro.2015.09.057>.

[Note: I was brought in as a co-author to get through peer review blockage]

- ❖ Doerstling, F. and Klane, J. (2013). [Studying the Need for Interpersonal Communication \(IPC\) Skills among SH&E Professionals and Reviewing SH&E Academic Curricula for IPC-related Courses](#). ASSE's Academic Forum research study proceedings paper.
- ❖ Klane, Jonathan. (2012). [A Retrospective Review of the Value of a Practicum in the OHS Associate Degree Program at a Technical College and Its Correlation to Employment](#). ASSE's Academic Forum research study proceedings paper.
- ❖ Klane, Jonathan T., (2011). "Diacetyl, it's Baaaack" - What's New and What's Not", *The Monitor, Newsletter of the Industrial Hygiene Practice Specialty*, American Society of Safety Engineers (ASSE).
- ❖ Klane, Jonathan. (2009). The challenges of chemical safety (or any) training! *Journal of Chemical Health and Safety*, 16, 4, 10–18. <https://doi.org/10.1016/j.jchas.2008.12.001>.

[Note: The editor of the *Journal of Chemical Health and Safety* attended my talk and asked me to write this paper.]

- ❖ Klane, Jonathan. (2010). Anything But Lecture! How to Use Other Training Approaches and Methods. ASSE's Safety 2010 PDC conference paper. https://www.academia.edu/100418073/Anything_But_Lecture_article_for_Safety_2010_PDC_Klanes_Session.
- ❖ Klane, Jonathan. (2017). [Conflict Management & Resolution for EHS Professionals](#). ASSP's PDC proceedings paper.
- ❖ Klane, Jonathan. (2012). Why Isn't Anyone in the Classroom? Market and Promote Safety Training More Effectively! https://www.academia.edu/64523377/Why_Isn_t_Anyone_in_the_Classroom_Market_and_Promote_Safety_Training_More_Effectively.
- ❖ Klane, Jonathan. (2009). "Culturally Appropriate Training - How to Do It Right!", Safety 2009 Conference Proceedings, American Society of Safety Engineers (ASSE). https://www.academia.edu/70559746/Culturally_Appropriate_Training_How_to_Do_It_Right.

DISSERTATION



Klane, Jonathan. *"How can stories about risk impact laboratory health and safety? An exploration"*. For completion of the PhD in Human and Social Dimensions of Science and Technology (HSD) at Arizona State University (ASU). [Note: in progress]

ARTICLES



- AIHA's Synergist articles
- Training in a Pandemic: [A Guide](#) to Designing and Delivering Learning Events
- Introduction to [Microlearning \(part 1\)](#)
- A Quick Dive into [Microlearning \(part 2\)](#)
- 15 Rules of Marketing, Nov. 15, 2000. [Note: Publication pre-dates current archives]

Lab Manager [articles](#)

1. Six Ways to Consider the [Costs of Ergonomics](#) in the Lab
2. [Team-Based Risk](#) Management
3. Five Ways to [Foster Lab Safety Culture](#)
4. Using [Safety Metrics Intelligently](#)
5. Design and Implement [Lab Automation to Increase Safety](#)
6. The Critical Role of [Chemical Inventory Tracking in Risk Management](#)
7. The [Oddities of Chemical Hygiene](#)
8. Addressing the [Limitations of PPE](#)
9. [Proactive Crisis Management](#): Essential Strategies for Lab Preparedness
10. [Embracing Neurodiversity](#) in the Lab with Psychological and Emotional Safety
11. [Preventing Contamination](#) in Your Lab
12. A [Systematic Approach to Risk](#) Assessment
13. [Control Banding](#) as a Risk Assessing Tool
14. Do You Know [All the Biosafety Levels](#)?
15. What Can We Learn from Near Misses?
16. How Well Do You Know [Fume Hood Operational Realities](#)?
17. How to [Protect Your Assets Using Scenario Planning](#)
18. How Lab Managers and Embedded Safety Professionals Can [Collaborate Effectively](#)
19. Useful [Industrial Hygiene Tools](#) for Your Lab
20. One Innovator's Serpentine Journey to [Solving Heat Crises and Saving Lives](#)
21. Top 13 Safety Principles for [Healthier Staff](#)
22. Examining the Benefits of [Ductless Fume Hoods](#) for Your Lab Applications
23. Ohio Train Derailment Tells [Story of Environmental Testing](#) in an Emergency Response
24. How to Apply a [Human Body Model](#) to Safety
25. [Stories](#) from the Most Innovative School in the US
26. [Persuading Others](#) Toward a Culture of Safety
27. Recognizing and Preventing the [Risks of Aging Systems](#)
28. [Innovations](#) in Personal Protective Equipment
29. [OSHA Cites, Fines](#) Environmental Testing Lab for Over \$907K
30. What are the Six Key Components of [a Safe Lab](#)?
31. The [Benefits of Continuing Education](#) for Personal Growth and Team Effectiveness
32. Lab Inspections Involve [More than You Think](#)
33. [Risk-Based](#) Programs, Tools, and Techniques

Today's Clinical Lab [article\(s\)](#)

- [How to](#) Implement an OSHA Recordkeeping Compliance Plan
- Improving Cancer Therapies with [Organ-on-a-Chip Technologies](#)

SciSure (was SciShield and BioRAFT) [blog posts](#) [pages 13-15 – see some below]

1. Why call this blog [the Won \(1\) Minute Warning](#)?
2. [Measure](#) What You Want to See (and You'll Be Rewarded with More of It)

3. Let's Stop Talking about Mere Safety – [Instead Let's Discuss ...](#)
4. [Leading vs. Lagging Indicators](#) – Which Matter More?
5. Instead of ["Safety First", We Should Be Saying ...](#)
6. What Can [Alex Honnold Teach Us About Risk?](#)
7. And Now That We're Talking About [Safety Culture, We Should Also Be Discussing ...](#)
8. [Safety Culture](#) – What descriptors would others use to describe yours?
9. [Effectiveness vs. Efficiency](#) – Let's Not Confuse the Two
10. [Teams](#) and the One Thing That Makes Them Successful
11. [Leadership](#) – What Do We All Want?
12. How Well Do You Know [the Father of Adult Learning?](#)
13. [Training needs assessments](#) – Do not pass go, do not collect \$200
14. Rock Your EHS Training with [ASSE/ANSI Z490 Standard on EHS Training](#)
15. [Mandatory Continuing Education – What Is It Good For ... And How can We Make It Better?](#)
16. When Did We [Start Telling Stories ... and Why?](#)
17. [Dale Carnegie's Rule #1](#) is Backed by Science
18. Why Is [Persuasion Like the 5th Dimension?](#)
19. [Adult Learning](#) – What It's All About!
20. [Culturally Appropriate Training](#) – How to Do It Right!
21. [Dozen Dos for Daily Discussions!](#) (or Safety Talks and BS* Walks!)
22. What I [Need to Know Now About ANSI Z490.1](#) Standard on EHS Training
23. [Games for Trainers](#)
24. [System 1 or System 2 thinking](#) – which are we all using?

INTERVIEWS

Discussions at the Round Table podcast with Noah Bolmer

- Discussions at the Round Table with [Health and Safety Expert, Jonathan Klane](#)
- Engaging with Panel Experts, [Mr. Jonathan Klane, Mr. Mike Favetta, and Dr. Elliot Fishman](#)

Sarah Elkins' podcast, Your Stories Don't Define You. How You Tell Them Will.

[Episode 201](#): What is Risk? And How Can Storytelling Change How We Think About It?

Lisa Ryan's podcast, The Manufacturer's Network.

[Episode 40](#): Reducing Risk and Telling Stories in Manufacturing with Jonathan Klane

SciShield (formerly BioRAFT) Community Connection Webinars (as a panelist):

- [Conflict Resolution Techniques](#)
- [Designing Safety Training that Sticks](#)
- [Coronavirus Bathroom Safety – Aerosols & Transmission](#)

Others:

Klane, Jonathan, 2017. "Campus Safety Challenges", Professional Safety Journal, American Society of Safety Engineers (ASSE) at <http://www.asse.org/campus-safety-challenges/>.

Klane, Jonathan, "Conflict Management & Resolution for EHS Professionals", ASSE Safety 2017 PDC Conference Proceedings.

Klane, Jonathan, "Rock Your EHS Training with ASSE/ANSI Z490 Standard on EHS Training!", ASSE Safety 2016 PDC Conference Proceedings.

Klane, Jonathan, "135 Trainer's Tips and Tricks!", ASSE Safety 2015 PDC Conference Proceedings.

Klane, Jonathan T., 2015 Chapter 13 – “Controlling Workplace Chemicals”. *Managing Hazardous Materials*, IHMM.

Tyler M. Harris, Troy A. Hottle, Kullapa Soratana, Jonathan Klane, Amy E. Landis, 2015. “Life Cycle Assessment of Sunflower Cultivation on Abandoned Mine Land for Biodiesel Production”, *Journal of Cleaner Production*

Klane, Jonathan, “The Challenges of Safety Training”, ASSE Safety 2014 PDC Conference Proceedings

Klane, Jonathan T., 2013 Chapter 51 – “Training and Communication”. *Hazardous Materials Management Desk Reference, 3rd edition*. AHMP.

Klane, Jonathan T., 2013 “Tips for Communicating with Workers”, *The Communicator*, ASSE.

Doerstling, F. and Klane, J. 2013 “Studying the Need for Interpersonal Communication (IPC) Skills among SH&E Professionals and Reviewing SH&E Academic Curricula for IPC-related Courses (Or Are We Adequately Preparing SH&E Students and Professionals to Communicate Effectively?)” ASSE Safety 2013 PDC Conference Proceedings.

Klane, Jonathan T. 2013. “What’s Wrong with Mandatory Safety Training and How to Fix It” ASSE Safety 2013 PDC Conference Proceedings.

Klane, Jonathan T., 2011 “Successful Training and Its Essential Elements Via Case Stories!”, Safety 2011 Conference Proceedings, American Society of Safety Engineers (ASSE)

Klane, Jonathan T., 2011 “Conflict Management and Resolution for IAQ Professionals”, Proceedings Paper of the Indoor Air Conference, International Society of Indoor Air Quality and Climate (accepted but unpublished due to not attending to present)

Klane, Jonathan T., 2011 “Diacetyl, “It’s Baaaack” - What’s New and What’s Not”, *The Monitor*, Newsletter of the Industrial Hygiene Practice Specialty, American Society of Safety Engineers (ASSE)

Klane, Jonathan T., 2011 “Anything But Lecture! How to Use Other Training Approaches and Methods!”, Safety 2010 Conference Proceedings, American Society of Safety Engineers (ASSE)

Klane, Jonathan T., 2010 “Managing Adult Ed in the EHS Arena or How to Survive in Trying Times!”, *The Compass* of the Management Practice Specialty, American Society of Safety Engineers (ASSE)

Klane, Jonathan T., 2009 “Culturally Appropriate Training - How to Do It Right!”, Safety 2009 Conference Proceedings, American Society of Safety Engineers (ASSE)

Interviewed by Noelle Lord for *The Old House Handbook*, by Taunton Press, due out 2009

Klane, Jonathan T., 2009 Chapter on “Combine Wellness with Workplace Safety and Health – Twelve Steps You Can Take to Increase Your Total Health” in *Healthy Profits: The 5 Elements of Strategic Wellness*, edited by Sandra Larkin, Yellow Duck Press.

Klane, Jonathan T., 2008 “Health Education and Wellness for EHS Practitioners!”, Safety 2008 Conference Proceedings, American Society of Safety Engineers (ASSE)

Interviewed by/for Sacks, Evelyn, 2008 "Want to Make Your Safety Training Sizzle?", OSHA Compliance Advisor, Bureau of Legal Reports (BLR)

Klane, Jonathan T., 2007 "Training Needs Assessments: Who, What, When, Where, Why, and How", *The Communicator, Volume 1, Number 1*, American Society of Safety Engineers (ASSE)

Klane, Jonathan T., 2007 "ANSI Z490.1 – An Overview for Trainers", *The Communicator, Volume 1, Number 1*, American Society of Safety Engineers (ASSE)

Interviewed by Cable, Josh, 2007 "Training from Hell!", *Occupational Hazards* magazine, Penton Media, Inc.

Klane, Jonathan T., 2007 "Games for Trainers!", Safety 2007 Conference Proceedings, American Society of Safety Engineers (ASSE)

Interviewed by Cable, Josh, 2007 "Climbing Higher", *Occupational Hazards* magazine, Penton Media, Inc.

Interviewed by Noelle Lord for "Home Project Safety Basics" in Antique Homes Magazine, Winter 2007

Interviewed by Noelle Lord on noise exposure and hearing loss for "A Closer Look at Shop Vacs" Old House Journal Magazine, April/May 2007

Klane, Jonathan T., 2006 "Training from Hell!", Safety 2006 Conference Proceedings, American Society of Safety Engineers (ASSE)

Klane, Jonathan T., 2006 "Effective HazCom Training Needs Good Adult Learning Principles", *The Monitor and RM/Insight*, ASSE

Interviewed by Noelle Lord for "House Hazards" in Greater Portland Landmarks Observer, Winter 2006

Klane, Jonathan T., 2006 "The Challenges of Safety (and Any) Training!", Safety 2005 Conference Proceedings, American Society of Safety Engineers (ASSE)

Interviewed by Noelle Lord for "Restore It!" series in the Maine Sunday Telegram 2005

Klane, Jonathan T., 2004. "Really Effective Training!" *Occupational Health & Safety*, Stevens Publishing

Klane, Jonathan T., 2003. Chapter 5 "Training Delivery" of *Accepted EHS Training Practices - An Implementation Guide* on ANSI/ASSE Z490.1 Criteria for Accepted Practices in EHS Training, National Environmental, Safety and Health Training Association (NESHTA)

Klane, Jonathan T., 2002. Chapter 13: "Controlling Workplace Chemical Exposures" of *Managing Hazardous Materials*, Institute of Hazardous Materials Management

Klane, Jonathan T., November 15, 2000. "15 Rules of Marketing", *The Synergist*, American Industrial Hygiene Association (AIHA)

Klane, Jonathan T., 1998. "Are Your Workers Protected to Deaf?" *Occupational Health & Safety*, Stevens Publishing

Klane, Jonathan T., 1997. *Manual of Environmental Safety & Health Abbreviations*, American Conference of Government Industrial Hygienists

Klane, Jonathan T., 1996. "Mandatory Continuing Education - How Can We Make It Better?" *Occupational Health and Safety*, Stevens Publishing.

Civic Involvement	Served as Advisor to the Student Safety Team (SST) of the Mid-Maine Technical Center (MMTC) in Waterville, Maine 1999-2000 (<i>pro bono</i>) Platelets (and convalescent plasma) donor, Platelet Apheresis Program, American Red Cross, Portland, Maine + Vitalant [formerly United Blood Services], Mesa, Arizona + Vitalant [formerly Blood Source] Davis, CA = total lifelong donations between 250-350
Certifications	Certified Industrial Hygienist (CIH) CP-7207, American Board of Industrial Hygiene (ABIH) Certified Safety Professional (CSP) CSP-29895, Board of Certified Safety Professionals (BCSP) Certified Hazardous Materials Manager (CHMM) Master Level #9829, Institute of Hazardous Materials Management (IHMM) Certified Instructional Trainer (CIT) #95-397 [formerly called Certified Environmental Safety & Health Trainer (CET)], BCSP [formerly via National Environmental Safety and Health Training Association (NESHTA)] OSHA 10 and 30-hour Trainer in Voluntary Compliance for General Industry Standards, Course 501, OSHA Training Institute (former) OSHA 10 and 30-hour Trainer in Occupational Safety and Health for Construction Standards, Course 500, OSHA Training Institute (former) Occupational Hearing Conservationist (OHC) #35414, Council for Accreditation of Occupational Hearing Conservationists (CAOHC) (former) EPA-Approved Lead Trainer for RRP Rule Renovator and Sample Tech Courses (former) Maine Department of Environmental Protection (MEDEP) Licensed Lead Training Provider (LP-0001) (former) MEDEP Licensed Asbestos Training Provider (TP-0011) (former) Asbestos Abatement Design Consultant DC-0011, Maine Department of Environmental Protection (DEP) (former) Asbestos Air Monitor AM-0062, Maine DEP (former) Asbestos Management Planner MP-0112, Maine DEP (former) Asbestos Inspector AI-0063, Maine DEP (former)

Asbestos Abatement Project Supervisor AS-0084, Maine DEP (former)

Asbestos Air Analyst AA-0105, Maine DEP (former)

Affiliations

Academy of Certified Hazardous Materials Managers (ACHMM)

Adult Education Graduate Society (AEGS), Networking Chair 1996

American Academy of Industrial Hygiene (AAIH)

American Conference of Governmental Industrial Hygienists (ACGIH)

American Industrial Hygiene Association (AIHA), Chair Committee on Communicating OEHS Concepts, 2025-present

American Society of Safety Engineers (ASSE)

American Society for Training & Development (ASTD), Maine Chapter

Bowen Learning, Training and Advisory Board member, 2015-2016

Campus Safety, Health, and Environmental Management Association (CSHEMA), Embedded Safety Professionals (ESPs) Community of Practice (COP) Co-Leader and Founder, 2017-2019

Campus Safety, Health, and Environmental Management Association (CSHEMA), Safety Culture Community of Practice (COP) Co-Leader and Founder, 2019-present

Downeast Chapter of AIHA (DEAIHA), President 2010 and 2001, Board of Directors, 1998-2000, 2007-09

Institute of Hazardous Materials Management (IHMM)

Maine Association of Lead Trainers (MALT), Conference Chair 1995, 1996

Maine Chapter of ASSE (ME-ASSE), President 2005-2008, President-Elect 2004-2005

Maine Indoor Air Quality Council (MIAQC), Board Member 2006-08, Annual Conference Chair 2005, Education Committee member, Best Practices Chair 2005-08

National Environmental Safety & Health Training Association (NESHTA)

Northern Environmental Professional Association (NEPA), President 1997, 1996, Vice President 1994, 1995