



**FORENSIC APPLICATIONS CONSULTING TECHNOLOGIES, INC.**

**EXAMPLE PROJECTS FOR  
CAOIMHÍN P. CONNELL  
EXTENDED LIST  
(INDUSTRIAL HYGIENE PROJECTS ONLY)**

- Contract Industrial Hygienist for the US National Center for Atmospheric Research, and University Center for Atmospheric Research
- Chemical exposure assessment of hydrocarbons in an office building during a roofing operation
- ASTM International D22.05.08 Committee Sampling and Analysis of Moulds
- ASTM International D22 Committee and Technical Reviewer for D22.05 Guide For The Assessment Of Fungal Growth In Buildings
- Toxicological body burden pharmacokinetic modeling of EtOH for a northern Colorado Police Department during a criminal investigation
- Toxicological assessment of catastrophic mercury contamination in a medical office
- Evaluation and assessment of acanthamoeba in a residential water system
- Criminal investigation of infanticide – toxicological body burden modeling and illegal drug, chemical and mould exposure resulting in death of a child
- Emergency response coordinator and tactical entry coordinator for Law Enforcement
- Ergonomic evaluation of computer workstations at a mortgage company
- Preparation of an HASP/SHERP for potassium permanganate well injection remediation of vadose zone tetrachlorethylene
- Toxicological assessment of monocyclic terpenes as fugitive emissions through vadose water
- Indoor mould assessments (hundreds of projects)
  - Private home owners
  - Realtors
  - Home Inspectors
  - National Center for Atmospheric Research
  - Oil and gas industries
  - Federal Buildings
  - Correctional facilities
  - Parole and probation
  - Car dealerships
  - Hospitals
  - Insurance companies
  - Attorneys
  - Swimming pools and recreation centers
- Chemical exposure assessment in a commercial marijuana grow and cocaine house
- Risk Assessments of Meth-labs (Property owners, Realtors and Insurance Carriers)
- Conducted Indoor Air Quality testing and mathematical modeling for hundreds of different clients including:
  - Private industry (OSHA and non-OSHA issues)
  - Correctional facilities
  - Private residences
  - Home Builders
  - Insurance Providers

- Auto mechanic shops
- Industrial paint booths
- Banks
- Office complexes
- Sewerage treatment facilities
- Federal Laboratories
- State owned chemical and biological laboratories
- Expert witness (Plaintiff and Defense) regarding indoor air quality mitigation issues.
- Expert witness (Plaintiff and Defense) in litigation concerning mould exposures
- Perchloric acid explosion hazard & toxicological assessment in US Gov Research Lab
- Human exposure/risk assessment/ OSHA Compliance organic compounds in an office
- Laser assessments for heavy industry
- Expert witness for plaintiff in litigation concerning Bacterial exposures in Apt Bldg.
- Toxicological assessment for hard metal product, western Canada
- Microbial investigations following a sewer losses in various building types including
  - Elementary schools
  - Restaurant
  - Multimillion dollar private residence
  - Furniture storage facility
  - Trailer home
- Expert witness for defense in sodium sequicarbonate exposure
- *Active Shooter* S.O.R.T. Instructor; State of Colorado; Colorado Police Corps, Colorado Division of Criminal Justice (Sniper and Hostage Situations)
- HIDTA Certified Meth Lab instructor, instructor for Colorado Department of Criminal Justice
- State of Colorado, Department of Health, Clandestine Laboratory Working Group (Regulatory Sampling and Analysis assessment for Meth Labs)
- Preparation of trade secret MSDSs for proprietary cleaning products
- Laboratory fume hood assessments
  - US Department of Energy
  - US Department of Corrections
  - National Institutes of Standards and Technology
  - University Center for Atmospheric Research
  - Municipal Waste Water Treatment Facilities
  - Private laboratories
- Evaluation of Bacterial additives in an hydrocarbon degradation product
- Developed nationally adopted method for the enumeration of airborne fungi.
- Developed an extensive fungal database used in preparation of expert witness testimony.
- On-site industrial hygienist various Superfund CERCLA/SARA and NPL sites across the US for various actions involving PCBs, dioxins, hydrazine, furans, heavy metals, beryllium, and asbestos. Prepared S.H.E.R.P.s and H.A.S.P.s for these sites.
- Soil gas probe sampling and analysis, soil gas migration studies
- Conducted personal and area air monitoring and laboratory analysis of various air contaminants using NIOSH, OSHA, MCAWW and EPA series protocols.
- Guest Lecturer in Risk and Toxicology, Denver University.
- Investigated IAQ issues (chemical, microbial, radiation and comfort) for Federal (Expert witness), State and local governments, and other "Sick Building Syndrome" related issues involving moulds, Bacteria, and a variety of other insults.
- Conducted radon gas endangerment study for the German Government in Grafenwöhr, Germany.



- OSHA HazWoper Certification Trainer (Adjunct professor, RRCC, Golden, CO)
- Investigated clandestine methamphetamine labs. Assisted local agencies and governments in identification and quantification of hazards associated with the labs.
- Performed proprietary sound modeling and noise investigations for the Federal Bureau of Investigation in conjunction with US Department of Corrections.
- Developed qualitative and quantitative mathematical airborne dispersion models for CO<sub>2</sub>, asbestos, DMF, and non-specific hydrocarbons.
- Developed a laboratory fume hood evaluation protocol.
- Lead instructor (Red Rocks Community College) in classes for:
  - Fundamentals of Toxicology
  - Fundamentals of Radiation Safety and Toxicology
  - Air Monitoring and Analysis
  - Ergonomics
  - Respiratory Protection
  - Confined Space Entry Procedures
  - TSCA II Approved Classes
  - Fundamentals of Risk Assessment
  - OSHA Hazardous Waste Regulation
  - Noise Exposure
  - Heat and Cold Exposure
- Expert witness for litigation in ergonomic, and toxic tort (toxicological aspects of asbestos, microbiological, and chemical exposure cases).
- Performed ELF/EMF electromagnetic surveys for public and private industry
- Conducted mock OSHA inspections for heavy industry.
- Team leader for environmental health and safety audit for over 100 U.S. Geological Survey laboratories.
- Conducted ergonomic assessments for industry and ergonomic training for Veterans Administration Medical Center.
- Conducting sound exposure assessment analysis, modeling and isoplethic mapping for heavy industry.
- Microwave emission studies for private residences
- Prepared proprietary and general M.S.D.S.s for various U.S. and foreign companies.
- Conducted radiological risk audit for radiopharmaceutical therapy provider.
- Team Leader for health and regulatory compliance audit for several medical laboratories for the Veterans Administration Medical Center including assessment of bloodborne pathogen exposure.
- Team leader for health and safety audit of several laboratories in a large metropolitan waste water treatment facility.
- Conducted exposure assessment to silica, heat, noise, lead, and solvents for employees of a heavy industry facility.
- On site Industrial Hygienist and Site Radiation Safety Officer for remediation projects involving large quantities of alpha and gamma emitters.

