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KEVIN BRITTON P.ENG

Profile

New Graduate in **Earth Sciences – Chemical and Environmental Toxicology**; **Environmental Engineer** experienced in **risk assessment** and **safety analysis** working with laboratories, design and operations. Excellent adaptor and team facilitator demonstrating focus on organizational priorities.

Educational Background

Master of Science Degree -
Earth Science – Chemical & Environmental Toxicology

University of Ottawa, Ottawa, Ontario, Canada
GPA: 3.7/4.0
Key Courses:
- Computer Techniques in Earth Sciences (ArcGIS, Python)
- Geochemistry of Natural Waters (PHREEQC)
- Principles of Toxicology
- Seminar in Toxicology

Bachelor of Engineering Degree –
Environmental Engineering

Carleton University, Ottawa, Ontario, Canada
Key Courses:
- Hydrogeology & Groundwater Flow
- Unit Processes
- Air Pollution & Emissions Control
- Contaminant & Pollutant Transport
- Water Resources Engineering
- Systems Modelling
- Unit Operations
- Environmental Chemistry
- Computer Methods in Engineering (C++, Assembly)
- Numerical Methods
- Probability and Statistics

Applied Experience

Reference # 7
University of Ottawa, Ottawa, On
Project: Radium series lake sources and partitioning
Jul 2016 – Aug 2018

Environmental Scientist

- Applied ArcGIS to geospatial watershed, bedrock and soil data for study design
- Collected streams and prepared wet chemistry for analysis by alpha spectroscopy and ICP-MS
- Conducted literature review of radium series studies, compiled data
- Studied geochemical processes controlling lake partitioning and transport
- Created decay partitioning model for radium series in freshwater bodies
- Applied model to 11 water bodies to resolve hypotheses about the source and fate of lead and polonium

Environment: Word, Excel, PowerPoint, Visual Basic, Mathematica

Reference # 6
University of Ottawa, Ottawa, On
Project: Polonium Toxicology Assessment
Sept 2016 – Nov 2017

Environmental Risk Assessment Specialist

- Conducted literature review of polonium exposure, bioassay and epidemiological studies
- Applied known biochemistry and tissue clearance to consider doses due to elevated and acute intakes
- Summarized findings in a meta-study toxicological report
- Gave seminar on polonium background variation and case study exposures

Environment: Word, PowerPoint

Reference # 5
Notesolution Inc, Toronto, On
Aug 2017 – Aug 2018 (part time)

Tutor

- Created solutions for college and university students in statistics and science

Environment: Minitab, Excel, Word, LaTeX, Mathematica

Professional Experience

Reference # 4
Arcadis Canada, Ottawa, On
Jan 2018 – Present (part time)

Environmental Engineer

- Analyze dose pathways for planning uranium mine tailings deposit management
- Draft radiological protection plan for remediation of radium contaminated soil
- Assess human and ecological radiological doses for planning mine and mill tailing management
- Compile information and draft monitoring guidelines to abandon pipelines in the oil and gas industry

Environment: Excel, Word, PowerPoint, Outlook, Visual Basic, RESRAD, Mathematica

Reference # 3
International Safety Research, Ottawa, On
Jul 2016 – Dec 2016 (part time)

Safety Analyst

- Proposed design upgrades and operational limits to retrieve and store fuel at temperatures below 0°C
- Created a safety hazards checklist and what-if briefing note, and helped lead a what-if meeting
- Wrote a hazard identification and analysis report for 15 percent design of a near surface disposal facility

Environment: Excel, Word

Reference #2
Suretech Development, Deep River, On
Nov 2015 (part time)

Safety Analyst

- Verified source activity inventory of liquid waste tank for contents retrieval system design

Environment: Excel, Word

Reference #1
Canadian Nuclear Laboratories, Chalk River, On
Jul 2001 – May 2015

Safety Analyst / Operations Engineer

- Assessed normal and accident exposure scenarios and doses to write nuclear facility safety analysis reports, and for classification to CSA nuclear standards for systems and pressure boundaries and to seismic design requirements
- Incorporated internal and regulatory reviews into safety analysis and recommendations for nuclear facility design and operation
- Determined safety-related status of components and systems
- Contributed to condition finding, legacy remediation action and operability recommendations
- Planned and led hazard assessments
- Contributed to writing and review of procedures for safety engineering program development
- Contributed to validation disposition of MicroShield code for application to safety engineering
- Helped apply CSA standard to decommissioning engineering and operations
- Acted as secretary for NRU reactor experimental facility design and operational upgrade projects
- Tabled safety cases at internal safety review committee meetings
- Acted as safety assessment section head for NRU design changes to triage and assign work
- Revised facility authorization documents with updated limits and conditions for regulatory approval
- Contributed to NRU reactor restart instrumentation commissioning
- Incorporated specialized shutdown instrument analysis for NRU reactor restart into safety analysis, wrote restart safety analysis report and provided regulatory technical responses
- Assessed safety of NRU design changes and made recommendations for design, operations and licensing
- Acted as safety engineering representative for CANDU industry ADDAM atmospheric dispersion and dose analysis method code
- Assessed dispersion and doses due to normal and accident scenarios for project and facility safety cases
- Contributed to design upgrades and determination of operational conditions for NRU reactor loop experimental facility return to service
- Established bounding fuel characteristics and wrote source term basis report for safety analysis and design of spent fuel storage facility
- Wrote analysis basis report and supervised pathways analysis and dose assessment for sludge landfill
- Gave recommendations to waste projects for design upgrades for safety and operability
- Contributed to submissions for project intent and construction and facility operation for regulatory approval
- Created MCNP Monte Carlo models of radiation transport for shielding assessments, design changes and operational planning and waste remediation
- As **Operations Engineer**, wrote licensing plans, safety analysis reports, and waste acceptance criteria
- Investigated emergent events and wrote event and safety reports for waste management facility
- Contributed to management, compliance program and regulatory visits of waste management facility

- Reviewed operational procedures, engineering reports and criticality safety reports for a waste management facility

Environment: Word, Excel, PowerPoint, Access, Visual Basic, RESRAD, MCNP, MicroShield, Mathematica

Skills and Attributes

Environmental Engineering Tools and Competencies	Life cycle analysis, dimensional analysis, parameter sensitivity fault tree analysis, event tree analysis
Data Analytics Tools and Competencies	Field definition, outlier criteria, analysis of variance, regression, uncertainty analysis, optimization
Operating Systems	Windows, Linux
Software Tools	R, Minitab, ArcGIS, Python, PHREEQC, RESRAD, MCNP, MicroShield, ADDAM, Mathematica, C++, Assembly, Visual Basic, LabVIEW
Office Tools	MS Office, Word, Excel, PowerPoint, Access, Outlook, Visual Basic
Volunteer Work	Tutor – University of Ottawa, Earth Sciences Department Staff – Accelerator Mass Spectrometry Conference 14
Awards and Recognition	CNL Voyageur Award-Shielded Modular Above-Ground Storage Project
Language Skills	English, French (B/B/X)
Groups and Associations	Professional Engineers Ontario Amateur Radio Operator (Industry Canada, Basic) Radio Amateurs of Canada