

CHAD L. POPE, PHD, PE
(208) 540-2832 popechad@isu.edu

EMPLOYMENT

Professor & Department Chair, Idaho State University, 2013 – present.

Teach upper division and graduate courses in nuclear engineering. Direct a research program focusing on risk analysis and nuclear safety. Serve as the advisor for graduate students. Selected as the Nuclear Engineering Department Chair, January 2016. Promoted to Professor with tenure, April 2018. Jointly appointed to Idaho National Laboratory.

Consultant, TerraPower, 2021 – present.

Participating in nuclear safety activities supporting the Natrium reactor project.

Consultant, Boston Government Services, 2021 – present.

Participating in nuclear safety activities supporting Los Alamos National Laboratory nuclear facilities.

Consultant, Savannah River Site, 2018 – 2021.

Participated in nuclear safety improvement activities, including nuclear facility chemical hazards control strategy and nuclear criticality safety initiatives.

Consultant, Argonne National Laboratory, 2016 – 2018.

Participated in safety analysis activities for the design of a spent nuclear fuel pyro-processing facility.

Consultant, Waste Isolation Pilot Plant, 2016 – 2017.

Provided independent nuclear safety assessment activities supporting restart of the U.S. Department of Energy Waste Isolation Pilot Plant located in Carlsbad, New Mexico.

Nuclear Safety & Criticality Safety Engineer, Idaho National Laboratory, 2005 – 2013.

Technical Lead for nuclear safety at the Materials and Fuels Complex. Provided technical supervision for nine safety analysts covering ten nuclear facilities. Tasks included radiation and chemical dose consequence analysis, shielding analysis, depletion analysis, and unreviewed safety question evaluations. Project lead of the Fuel Conditioning Facility Safety Analysis Report upgrade. The project produced a DOE-STD-3009 compliant safety analysis reclassifying multiple Structures, Systems, and Components from safety class to defense-in-depth and reduced the number of Technical Safety Requirements. Technical Lead for criticality safety at the Materials and Fuels Complex (2005 – 2007). Provided nuclear criticality safety technical leadership for fissile material operations.

Nuclear Safety Analyst, Argonne National Laboratory-West, 1999 – 2005.

Provided nuclear safety support for nuclear facilities. Performed safety analysis and unreviewed safety question evaluations, developed and presented criticality safety training, prepared dose consequence analysis, and developed the Space and Security Power Systems Facility criticality safety strategy.

Criticality Safety & Systems Engineer, Argonne National Laboratory-West, 1991 – 1999.

Provided systems engineering and criticality safety engineering for the Fuel Conditioning Facility. Tasks included spent fuel sodium removal and radioactive liquid waste processing and developing and maintaining the Fuel Conditioning Facility criticality safety program.

Engineer, Naval Reactors Facility, 1989 – 1991.

Tasks included preparation of the fuel handling criticality safety evaluation for D1G-2 Naval Reactor spent fuel and serving as team lead for a fuel handling cost-time study.

EDUCATION

PhD, Nuclear Science and Engineering, *Idaho State University*, Pocatello, ID, May 2011

Dissertation: *Spent Nuclear Fuel Assembly Inspection Using Neutron Computed Tomography*

MS, Nuclear Science and Engineering, *Idaho State University*, Pocatello, ID, May 1993

Thesis: *Prompt Neutron Decay Constant Measurement Using Rossi's- α Method*

BS, General Engineering, with honors, *Idaho State University*, Pocatello, ID, May 1989

RESEARCH

Idaho National Laboratory, INL-ISU Joint-Appointment, 2013 – present.

Jointly appointed to INL supporting nuclear research with an emphasis on nuclear safety while simultaneously seeking academic research opportunities in nuclear engineering. Assignments include Versatile Test Reactor safety basis review committee chair and design basis threat radiological, chemical, and biological analysis.

Nuclear Regulatory Commission, MOV Course Director, 2020 – present.

Serve as the Nuclear Regulatory Commission Motor Operated Valve Training Course Director. The training course is provided for Nuclear Regulatory Commission resident inspectors with a detailed hands-on course addressing the history, design, operation, and maintenance of motor operated valves used in licensed nuclear power plants. **Funding total: \$512,606.**

Idaho National Laboratory, Risk Analysis, May 2014 – present.

Conducting research on nuclear power plant component reliability under flooding conditions in support of the U.S. Department of Energy Light Water Reactor Sustainability program and U.S. Nuclear Regulatory Commission. The research includes experimental methods development using full-scale component testing, smoothed particle hydrodynamic simulations, and component reliability modeling development. Conducting research on the power generation risks associated with commercial nuclear power plants. This research includes development of an open-source software application, Versatile Economic Risk Tool (VERT), which allows plant operators to easily evaluate component contributions to the overall power generation risk. **Funding total: \$1,728,076.**

Idaho National Laboratory, Versatile Test Reactor, 2019 – present.

Developing sodium coolant properties, hazards, design approaches, and history documentation for Versatile Test Reactor users. **Funding Total: \$200,000.**

U.S. Department of Energy, Nuclear Energy University Program, Fall 2014 – 2017.

In collaboration with Argonne National Laboratory, developed a reactor physics benchmark evaluation of the Experimental Breeder Reactor II. This multi-year project focused on an addition to the International Handbook of Evaluated Reactor Physics Benchmark Experiments. The project focused on the reactor configuration during the 1986 landmark EBR-II station blackout and loss of heat sink experiments. **Funding total: \$400,000.**

Korea Atomic Energy Research Institute, Pyroprocessing Nuclear Safety, 2013 – 2017.

International collaboration involving nuclear safety analysis basic research centering on spent nuclear fuel pyro-processing. **Funding total: \$286,400.**

U.S. Department of Energy, Nuclear Safety R&D, July 2014 – September 2016.

In collaboration with the Idaho National Laboratory Materials and Fuels Complex nuclear safety group, developed a software application that provides Monte Carlo calculation of radioactive material release dose distributions. The software will be used by decision makers when determining the need for safety systems and controls. **Funding total: \$220,000.**

Doctoral Research, Idaho State University, Spring 2007 – Fall 2010.

Examined neutron computed tomography for spent nuclear fuel inspection. Analyzed neutron radiography measurements. Performed Monte Carlo simulation of radiography measurements. Developed a process of tomography image generation using Monte Carlo simulation. Adapted the tomography process for anomaly detection using neutron projection differences.

Master's Research, Idaho State University, Fall 1991 – Spring 1993.

Prompt neutron decay constant measurement using Rossi's- α method. Measurements were performed using the ISU AGN-201 reactor.

Pyroprocessing, Argonne National Laboratory / Idaho National Laboratory, 1991 – 2013.

Indirectly engaged in pyroprocessing research conducted at Argonne National Laboratory-West and Idaho National Laboratory. Participated in installation and operation of process and support equipment, initial demonstration operations, establishing nuclear criticality safety limits and controls, and developing the nuclear safety strategy.

TEACHING

Idaho State University, August 2013 – present.

Reactor Physics (NE 4445/5545), Nuclear Systems Laboratory (NE 4447), Nuclear Criticality Safety (NE 4452/5599), Monte Carlo Methods and Applications (NE 4458/5558), Reliability and Risk Assessment (NE 4478/5578), Nuclear Nonproliferation (NE 4488/5588), Project Design (NE 4496), Nuclear Engineering Experiments (NSEN 6601).

GRADUATE STUDENTS**PhD STUDENTS (served as the major advisor)**

Alison Wells, PhD, *Assessing Nuclear Power Plant Component Fragility in Flooding Events using Bayesian Regression Modeling with Explanatory Variables* (2020).

Emerald Ryan, PhD, *Determination, Development, and Validation of a Fluid Height Analysis Method and Particle Spacing Protocol for the Smoothed Particle Hydrodynamic Code Neutrino* (2019).

Aaron Thompson, PhD, *Optimization of Neutron and Gamma Ray Layered Shielding for Hot Cells Containing Used Nuclear Fuel* (2018).

Edward Lum, PhD, *Simulating the Katana Effect - Monte Carlo Neutron Transport Combined with Finite Element Analysis to Calculate Negative Reactivity Due to Duct-Bowling* (2017).

Bilguun Byambadorj, PhD, *Simulating Experimental Breeder Reactor II Approach-to-Critical* (2017).

Tony Riley, PhD, *Process Informed Safeguards Approach for a Pyro-processing Facility* (2014).

MS STUDENTS (served as the major advisor)

Konner Casanova, MS, *Neutron Energy Spectrum Characterization of the TREAT High Bay* (2020).

Trevor Boaz, MS, *Idaho State University AGN-201 Reactor Power Calibration Cadmium Ratio Improvement Using Monte Carlo Methods* (2018).

Sam Giegel, MS, *Neutron Beam Characterization at the Neutron Radiography Reactor at the Idaho National Laboratory* (2018).

Cody Muchmore, MS, *Categorization and Evaluation of Spray Patterns from Pipe Leaks*, (2018).

Antonio Tahhan, MS, *Performance Improvements to the Portal Evaluation Tank, Characterization Analysis of Nuclear Power Plant Component Flooding Tests* (2018).

Soumadipta Jash, MS, *Instrumentation for Measuring Velocity of Wave Produced by Wave Impact Simulation Device for the Idaho State University Component Flooding Evaluation Laboratory* (2018).

Brittany Grayson, MS, *Level 1 Probabilistic Risk Assessment of an Air Ingress Event at a Pyro-Processing Facility* (2017).

Seth Robison, MS, *Spent Fuel Gamma Ray Shielding Using Automated Importance Variance Reduction* (2017).

Sneha Suresh, MS, *Development of an Interior Component Flooding Fragility Model and Design of Component Evaluation Flooding Laboratory Safety Circuit* (2017).

Andrew Maas, MS, *Developments for the Stochastic Objective Decision Aide and Investigation into Respirable Fraction Parameter Distribution* (2017).

Ryan Stewart, MS, *Sensitivity and Uncertainty Analysis in the Homogenization of the EBR-II Core* (2017).

Quinton Beaulieu, MS, *Determination of the Sodium Temperature Coefficient of Reactivity* (2016).

Emerald Ryan, MS, *Construction of a Smoothed Particle Hydrodynamic Model for Flow Over an Ogee Spillway Comparison to Determine Viability in Modeling Flooding Scenarios* (2016).

Mary Toston, MS, *Parametric Study of Plume Dispersion for Stochastic Objective Decision Aide* (2016).

Bishwo Bhandarai, MS, *Full Scale Door Testing Under Flooding Conditions to Develop Testing Protocol* (2016).

Kushal Bhattari, MS, *SODA Application Design and Development* (2016).

David Kamerman, MS, *The Use of Flooding Fragility Curves in Nuclear Power Plant Risk Analysis* (2016).

Jordan Sheppard, MS, *EBR-II Fuel Depletion Analysis Utilizing SCALE 6.1 TRITON, T6-DEPL Sequence* (2016).

Shawn Seegmiller, MS, *Sensitivity Analysis of the Experimental Breeder Reactor II* (2015).

Andrew Layne, MS, *Approach-To-Critical with the Idaho State University Sub-Critical Assembly* (2015).

HONORS AND AWARDS

Idaho State University Outstanding Researcher, 2021.

Gold Medallion Award, *Idaho National Laboratory*, for technical leadership of the Fuel Conditioning Facility safety basis upgrade, 2011.

Best Paper Presentation, *American Nuclear Society*, for addressing electrorefiner criticality calculation validation, 2005.

Pacesetter Award, *Argonne National Laboratory*, for devising and conducting a cask drying experiment that resulted in a \$200,000 cost savings, 1993.

PROFESSIONAL AFFILIATIONS AND LISCENSE

Member of the American Nuclear Society.

Charter member of the ANSI/ANS-8.26, *Criticality Safety Engineer Training and Qualification Program*, National Standard working group.

American Nuclear Society, Nuclear Criticality Safety Division Secretary, 2014 – 2016.

Registered Professional Engineer - Nuclear. Idaho license number 8135, obtained in 1995.

PUBLICATIONS

W. Yockey, A. Ali, **C. L. Pope**, Development of a New Control Rod Drive Mechanism Design for the ISU AGN-201M Reactor, *Annals of Nuclear Energy*, doi.org/10.1016/j.anucene.2021/108817, (2021)

J. Miller, S. Ercanbrack, **C. L. Pope**, The Versatile Economic Risk Tool (VERT), *International Topical Meeting on Probabilistic Safety Assessment and Analysis - American Nuclear Society*, dx.doi.org/10.13182/PSA21-34683 (2021).

D. Mandelli, C. Wang, S. Hess, R. Sugrue, D. Morton, I. Popva, **C. L. Pope**, J. Miller, S. Ercanbrack, D. Cole, J. Yurko, Integration of Data Analytics with System Health Programs, *International Topical Meeting on Probabilistic Safety Assessment and Analysis - American Nuclear Society*, dx.doi.org/10.13182/PSA21-34725 (2021)

Z. Ma, S. Zhang, C. Smith, **C. L. Pope**, Research to Develop Flood Barrier Testing Strategies for Nuclear Power Plants, *International Topical Meeting on Probabilistic Safety Assessment and Analysis - American Nuclear Society*, dx.doi.org/10.13182/PSA21-34582 (2021).

J. Miller, S. Ercanbrack, **C. L. Pope**, U.S. Nuclear Power Plant Performance Assessment Using the Versatile Economic Risk Took (VERT), *28th International Conference on Nuclear Engineering (ICONE 28)*, ICONE2021-65769, https://doi.org/10.1115/ICONE28-65769, (2021).

- J. D. Bess, **C. L. Pope**, A. Chipman, C. B. Jensen, Utility of EBR-II Benchmark Model to Enable MOX Fuel Pin Characterization, *Transactions of the American Nuclear Society*, **124** (2021).
- Z. Ma, S. Zhang, **C. L. Pope**, C. Smith, Research to Develop Flood Barrier Testing Strategies for Nuclear Power Plants, US Nuclear Regulatory Commission, NUREG/CR-7279, in review, (2021).
- S. H. Giegel, A. E. Craft, G. C. Papaioannou, A. T. Smolinski, **C. L. Pope**, Neutron Beam Characterization at Neutron Radiography (NRAD) Reactor East Beam Following Reactor Modifications, *Quantum Beam Science*, **5**(2):8 (2021), DOI: 10.3390/qubs5020008.
- E. S. Lum, **C. L. Pope**, Simulation of the Fast Reactor Fuel Assembly Duct-Bowing Reactivity Effect using Monte Carlo Neutron Transport and Finite Element Analysis, *Nuclear Technology*, **207** (2021), DOI: 10.1020/00295450.2020.1794190.
- D. LaBrier, **C. L. Pope**, W. Marcum, Revitalization of Sodium-Cooled Fast Reactor Competence through the Development of a U.S.-Based Sodium Technology School, *Transactions of the American Nuclear Society*, **123** (2020), DOI: 10.13182/T123-32868.
- E. D. Ryan, **C. L. Pope**, Coupling of the Smoothed Particle Hydrodynamic Code Neutrino and the Risk Analysis Virtual Environment for Particle Spacing Optimization, *Nuclear Technology*, **206** (2020), DOI: 10.1080/00295450.2019.1704576.
- R. Stewart, E. Lum, **C. L. Pope**, Design of an Experimental Breeder Reactor Run 138B Reactor Physics Benchmark Evaluation Management Application, *Journal of Nuclear Science and Technology*, **57**, (2020) DOI: 10.1080/00223131.2019.1680325.
- A. Malicoat, **C. L. Pope**, "Design Improvements to the ISU AGN-201 Reactor SCRAM, Interlock, and Magnet Circuits," *Annals of Nuclear Energy*, **136** (2020).
- A. Wells, E. Ryan, B. Savage, A. Tahhan, S. Suresh, C. Muchmore, C. L. Smith, **C. L. Pope**, "Non-watertight Door Performance Experiments and Analysis Under Flooding Scenarios," *Results in Engineering*, **3** (2019).
- S. Giegel, **C. L. Pope**, A. Craft, "Determination of the Neutron Energy Spectrum of a Radial Neutron Beam at a TRIGA Reactor," *Nuclear Inst. and Methods in Physics Research, B*, **454** (2019).
- C. L. Pope**, C. B. Jensen, D. M. Gerstner, J. R. Perry, Transient Reactor Test (TREAT) Facility Design and Experiment Capability, *Nuclear Technology*, **205** (2019), DOI: 10.1080/00295450.2019.1599615.
- Y. I. Chang, R. W. Benedict, M. D. Bucknor, J. Figueroa, J. E. Herceg, T. R. Johnson, E. R. Koehl, R. M. Lell, Y. S. Park, **C. L. Pope**, S. G. Wiedmeyer, M. A. Williamson, J. L. Willit, R. James, S. Meyers, B. Spaulding, J. Underdahl, M. Wolf, Conceptual Design of a Pilot-Scale Pyroprocessing Facility, *Nuclear Technology* **205** (2019).
- E. D. Ryan, B. M. Savage, C. L. Smith, **C. L. Pope**, Comparison of Free Surface Flow Measurements and Smoothed Particle Hydrodynamic Simulation for Potential Nuclear Power Plant Flooding Simulation, *Annals of Nuclear Energy* **126** (2019).
- E. Lum, **C. L. Pope**, Experimental Breeder Reactor II Reactor Physics Benchmark Evaluation, *Transactions of the American Nuclear Society* **119** (2018).

- E. Lum, C. L. Pope, GODIVA-IV Reactivity Temperature Coefficient Calculation Using Finite Element and Monte Carlo Techniques, *Nuclear Engineering and Design* **331** (2018).
- C. L. Pope**, C. W. Solbrig, J. P. Andrus, Fuel Conditioning Facility Inert Gas Filled Reprocessing Hot Cell Leak Rate Measurement, *Annals of Nuclear Energy* **111** (2018).
- R. Stewart, **C. L. Pope**, E. Ryan, Fast Spectrum Reactor Fuel Assembly Sensitivity Analysis, *Annals of Nuclear Energy* **110** (2017).
- A. Tahhan, C. Muchmore, L. Nichols, A. Wells, G. Roberts, E. Ryan, S. Suresh, B. Bhandari, **C. L. Pope**, Development of Experimental and Computational Procedures for Nuclear Power Plant Components Under Flooding Conditions, *Proceedings of the 2017 25th International Conference on Nuclear Engineering* (2017).
- E. D. Ryan, **C. L. Pope**, Sensitivity Analysis of an Experimental Breeder Reactor II Fuel Assembly, *Transactions of the American Nuclear Society* **115** (2016).
- A. Maas, M. Toston, K. Bhattarai, **C. L. Pope**, J. P. Andrus, Recent Progress on the Stochastic Objective Decision Aide (SODA) Application, *Transactions of the American Nuclear Society*, **115** (2016).
- T. R. Riley, **C. L. Pope**, R. W. Benedict, Safeguards Performance Model for Evaluation of Potential Safeguards Strategies Applied to Pyroprocessing Facilities, *Nuclear Engineering and Design*, **301** (2016).
- E. S. Lum, **C. L. Pope**, Matlab Enhanced Multi-Threaded Tomography Optimization Sequence (MEMTOS), *Annals of Nuclear Energy*, **91** (2016).
- C. L. Pope**, K. Bhattarai, J. P. Andrus, Stochastic Calculation of Radioactive Material Release Dose Consequences, *Transactions of the American Nuclear Society* **112** (2015).
- A. Layne, **C. L. Pope**, Approach-to-Critical with the Idaho State University Sub-Critical Assembly Using the Modified Source Method, *Transactions of the American Nuclear Society* **111** (2014).
- C. W. Solbrig, **C. L. Pope**, J. P. Andrus, Thermal Analysis of ZPPR High Pu Content Stored Fuel, *International Journal of Nuclear Energy* Article ID 402351 (2014).
- C. W. Solbrig, **C. L. Pope**, J. P. Andrus, Transient Response and Radiation Dose Estimates for Breaches to a Spent Fuel Processing Facility, *Nuclear Engineering and Design* **275** (2014).
- C. W. Solbrig, **C. L. Pope**, J. P. Andrus, Stress and Diffusion in Stored Pu ZPPR Fuel from Alpha Generation, *International Journal of Heat and Mass Transfer* **74** (2014).
- C. W. Solbrig, J. Andrus, **C. L. Pope**, ZPPR Fuel Element Thermal Stress-Strain Analysis, *World Journal of Nuclear Science and Technology* **4** (2014).
- S. W. Morgan, J. C. King, **C. L. Pope**, Beam Characterization at the Neutron Radiography Reactor, *Nuclear Engineering and Design* **265** (2013).
- C. L. Pope**, M. J. Lineberry, Comparison of Measured and Monte Carlo Results for Neutron Beam Transmission Through an Irradiated Nuclear Fuel Assembly, *Nuclear Technology* **182** (2013).

- S. W. Morgan, J. C. King, **C. L. Pope**, Simulation of Neutron Radiograph Images at the Neutron Radiography Reactor, *Annals of Nuclear Energy* **57** (2013).
- C. W. Solbrig, **C. L. Pope**, Cadmium Release from a Reprocessing Electrorefiner Falling Over, *Nuclear Engineering and Design* **255** (2013).
- C. L. Pope**, Fuel Assembly Neutron Computed Tomography Using Monte Carlo Simulation, *Transactions of the American Nuclear Society* **107** (2012).
- S. W. Morgan, J. C. King, **C. L. Pope**, Beamline Model Validation Through Flux Profile and Neutron Activation Measurements at the Neutron Radiography (NRAD) Reactor, *Transactions of the American Nuclear Society* **106** (2012).
- J. P. Andrus, **C. L. Pope**, Derivation of Accident-Specific Material-at-Risk Equivalency Factors, INL/CON-12-24336, Idaho National Laboratory (2012).
- C. A. Van De Graaf, **C. L. Pope**, J. T. Taylor, Hazard Categorization Reduction via Nature of the Process Argument, INL/CON-12-24467, Idaho National Laboratory (2012).
- C. L. Pope**, W. W. Scates, J. T. Taylor, Hot Cell Window Shielding Analysis Using MCNP, INL/CON-09-15334, Idaho National Laboratory (2009).
- C. L. Pope**, Fast Reactor Spent Fuel Processing: Experience and Criticality Safety, INL/CON-07-12106 (2007).
- C. L. Pope**, E. W. Papaioannou, Ten Years of Fast Reactor Spent Fuel Processing: Criticality Safety, *Transactions of the American Nuclear Society* **95** (2006).
- R. M. Lell, J. A. Morman, **C. L. Pope**, Range of Applicability Determination for Validation of LiCl-KCl Fissile Mixtures with Sparse Benchmark Data, Nuclear Criticality Safety Division Topical Meeting, American Nuclear Society (2005).
- J. A. Morman, **C. L. Pope**, ANSI/ANS-8.26: Nuclear Criticality Safety Engineer Training and Qualification Program, *Transactions of the American Nuclear Society* **91** (2004).
- R. M. Lell, **C. L. Pope**, Criticality Safety at the ANL-W Fuel Conditioning Facility, Embedded Topical Meeting, American Nuclear Society (2001).
- C. L. Pope**, Fuel Conditioning Facility Zone-to-Zone Transfer Administrative Controls, *Transactions of the American Nuclear Society* **83** (2000).
- R. M. Lell, **C. L. Pope**, Criticality Safety Requirements for Transporting EBR-II Fuel Bottles Stored at INTEC, Embedded Topical Meeting, American Nuclear Society (2000).

BOOK CHAPTERS

C. L. Pope, R. Stewart, E. Lum, *Experimental Breeder Reactor II*, IntechOpen, (2021), in review.

C. L. Pope, W. Phoenix, *Idaho State University Low Power Teaching Reactor – An Overlooked Gem*, IntechOpen, (2021), in review.

A. Wells, E. D. Ryan, **C. L. Pope**, *Improving Nuclear Power Plant Flooding Hazard Analysis Through Component Performance Experiment, Fragility Model Development, and Smoothed Particle Hydrodynamic Simulation*, (2021), Elsevier, in review.

A. Wells, **C. L. Pope**, *Flooding Fragility Model Development Using Bayesian Regression*, (2021), DOI: 10.5772/intechopen.99556.

C. L. Pope, E. Lum, *Nuclear Reactor Thermal Expansion Reactivity Effect Determination Using Finite Element Analysis Coupled with Monte Carlo Neutron Transport*, (2020) DOI: <http://dx.doi.org/10.5772/intechopen.93762>.

Evaluation of Run 138B at Experimental Breeder Reactor II, A Prototype Liquid Metal Fast Breeder Reactor, E. S. Lum, **C. L. Pope**, R. Stewart, B. Byambadorj, Q. Beaulieu, EBR2-LMFR-RESR-001, International Handbook of Evaluated Reactor Physics Experiments (2018).

C. Wilson, **C. L. Pope**, C. W. Solbrig, *Cadmium Personnel Doses in an Electrorefiner Tipping Accident*, Radioactive Waste, Rehab Abdel Rahman, IntechOpen, DOI: 10.5772/35818. (2012) Available from: <https://www.intechopen.com/books/radioactive-waste/cadmium-personnel-doses-in-an-electrorefiner-tipping-accident>.

TECHNICAL REPORTS

Research to Develop Flood Barrier Testing Strategies for Nuclear Power Plants, D. Mandelli, Z. Ma, S. Zhang, C. Pope, C. Smith, , NUREG/CR-7279, INL-EXT-19-56427 (2022).

Industry Use Cases for Risk-Informed System Health and Asset Management, D. Mandelli, C. Wang, M. Abdo, K. Vedros, J. Cogliati, J. Farber, A. Al Rashdan, S. Lawrence, D. Morton, I. Pova, S. Hess, **C. Pope**, J. Miller, S. Ercranbrack, INL-EXT-21-64377 (2021).

Development and Release of the Methods and Tools for Risk-Informed Asset Management, C. Wang, D. Mandelli, M. Abdo, A. Alfonsi, J. Cogliati, P. Talbot, S. Lawrence, C. Smith, D. Morton, I. Popova, S. Hess, **C. L. Pope**, J. Miller, S. Ercanbrack, INL/EXT-21-63255, Idaho National Laboratory, Research Report (2021).

Integration of Data Analytics with Plant System Health Program, D. Mandelli, C. Wang, J. Cogliati, C. Smith, S. Hess, **C. L. Pope**, J. Miller, S. Ercanbrack, D. Cole, J. Yurko, INL/EXT-20-59928, Idaho National Laboratory, Research Report (2020).

Plant Integral Risk-Informed System Health Program, D. Mandelli, Z. Ma, R. Youngblood, S. St. Germain, C. Smith, P. Talbot, S. Hess, D. Dube, A. Winter, J. Burr, **C. L. Pope**, J. Miller, M. Robbins, D. Das, M. Azarian, J. Coble, INL/EXT-19-55808, Idaho National Laboratory, Research Report (2019).

- Conceptual Design of a Pilot-Scale Pyroprocessing Facility*, Y. I. Chang, R. W. Benedict, M. D. Bucknor, J. Figueroa, J. E. Herceg, T. R. Johnson, E. R. Koehl, R. M. Lell, Y. S. Park, **C. L. Pope**, S. G. Wiedmeyer, M. A. Williamson, J. L. Willit, R. James, S. Meyers, B. Spaulding, J. Underdahl, M. Wolf, ANL/NE-Landmark-CRADA-12 (2018).
- Nuclear Power Plant Component Flooding Fragility Research*, **C. L. Pope**, B. Savage, S. Jash, B. Johnson, C. Muchmore, L. Nichols, E. Ryan, S. Suresh, A. Tahhan, R. Tuladhar, A. Wells, C. L. Smith, INL/EXT-18-45247, Idaho National Laboratory, Research Report (2018).
- Nuclear Power Plant Mechanical Component Flooding Fragility Experiments FY-2017 Report*, **C. L. Pope**, B. Savage, B. Johnson, C. Muchmore, L. Nichols, G. Roberts, E. Ryan, S. Suresh, A. Tahhan, R. Tuladhar, A. Wells, C. Smith, INL/EXT-17-43439, Idaho National Laboratory, Research Report (2017).
- Nuclear Power Plant Mechanical Component Flooding Fragility Experiments Status*, **C. L. Pope**, B. Savage, B. Johnson, C. Muchmore, L. Nichols, G. Roberts, E. Ryan, S. Suresh, A. Tahhan, R. Tuladhar, A. Wells, C. Smith, INL/EXT-17-42728, Idaho National Laboratory, Research Report (2017).
- Flooding Fragility Experiments and Prediction*, C. Smith, B. Bhandari, C. Muchmore, A. Tahhan, A. Wells, L. Nichols, **C. L. Pope**, INL/EXT-16-39963, Idaho National Laboratory, Research Report (2016).
- Status of the Flooding Fragility Testing Development*, **C. L. Pope**, B. Savage, A. Sorensen, B. Bhandari, D. A. Kamerman, A. Tahhan, C. Muchmore, G. Roberts, E. Ryan, S. Suresh, A. Wells, C. Smith, INL/EXT-16-39115, Idaho National Laboratory, Research Report (2016).
- Progress on the Industry Application External Hazard Analyses Early Demonstration*, C. L. Smith, S. Prescott, J. Coleman, E. Ryan, B. Bhandari, S. Sludern, **C. L. Pope**, R. Sampath, INL/EXT-15-36749, Idaho National Laboratory, Research Report (2015).
- Industry Application External Hazard Analyses Problem Statement*, R. H. Szilard, J. Coleman, C. L. Smith, S. Prescott, A. Kammerer, R. Youngblood, **C. L. Pope**, INL/EXT-15-36101, Idaho National Laboratory, Research Report (2015).
- Prototype Consequence Modeling Tool Based Upon the Hybrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) Software*, **C. L. Pope**, B. Byambadorj, C. Hill, E. Lum, B. Nield, J. Swanson, Idaho National Laboratory, Research Report (2014).

**Idaho State University Roster of Officials
for Materials License SNM-1373, Docket No. 1374**

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Chairperson of the Reactor Safety Committee

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