WM2022 Superior Paper Award Winners

WMS established the “Superior Paper” recognition at WM2015 with the objective to recognize authors and co-authors for distinguished contributions to the advancement of radioactive waste and radioactive material management.

22045 - “Mobile Platform for Structural Health Monitoring Using Convolutional Neural Network”
Authors: Himanshu Upadhyay, Santosh Joshi, Roger Boza, Walter Quintero, Leonel Lagos, Applied Research Center - FIU

22046 - “Risk Mitigation - A Case Study in Iodine”
Authors: Laura Cree, Todd Wagnon, WRPS

22047 - “Pyrolysis of Radioactive Spent Resins in the PRIME Installation”
Authors: Jurgen Hansen, Ine Bruyninckx, Belgoprocess; Stefan Stouten, Montair Environmental Solutions

22048 - “Tank Side Cesium Removal System Project and Technology Testing Activities”
Authors: Matt Landon, Kevin Ard, Blake Chamberlain, WRPS; David Herman, Daniel McCabe, SRNL; Reid Peterson, Philip Shonewill, PNNL; Ian Pegg, Catholic University of America; Robert Wilson, INTERA; Tim Foley, Blake Nolan, LANL; Janet Diediker, US DOE

22073 - “A Model to Predict Steel Liner Performance in Cementitious Environments for Geologic Timeframes”
Authors: Bruce Wiersma, Xian-kui Zhu, SRNL; Greg Flach, Mark Layton, SRMC

22077 - “Validating the Nuclear Option for Hydrogen Storage”
Authors: Antonios Banos, Thomas Scott, University of Bristol

22078 - “Process and Tooling Selection for Remote Closure of DOE Standard Canisters”
Authors: Janusz Bialach, Brandon Selley, Michael Wright, Limbardi Dimentrics; Daniel Thomas, INL

22108 - “Development of a Draft Safety Inspection Protocol for Rail Shipments of Spent Nuclear Fuel”
Authors: Steven Maheras, PNNL; Erica Bickford, US DOE

Author: Ryan Wilding, Idaho Environmental Coalition – ICP

22122 - “Introducing the Order of Engineering into the Chaos of Demolition”
Authors: Ryan Smith, Chris Waters, UCOR

22124 - “Innovation in Alpha Plant Characterisation (PHUMS AND AMCAM)”
Authors: Daniel Parvin, David Kenwright, Cavendish Nuclear

22125 - “Freeze-Tec Descriptions and Benefits for Environmental Remediation of Soils, Sludges, and Underwater Sediments”
Authors: Bob Mansell, Jonathan, Inman, Studsvik, Inc.: Tammy Monday, AVANTech

22126 - “Use of Regression Analysis to Abstract a Complex Percolation Model into a Simplified Site-Specific Empirical Formula”
Author: Steven Hommel, SRMC

22137 - “The Unrestricted Release of the Harborview Research & Training Building after a Cesium Incident”
Authors: Alex Lopez, Jesus Zamora, Perma-Fix Environmental Services

22142 - “Remote Analysis of Complex Mineral Suspensions in Engineered Pipelines Utilizing Underwater Acoustic Backscatter Systems”
Authors: Serish Tanya Hussain, Timothy Hunter, Martyn Barnes, Hugh Rice, University of Leeds; Martyn Barnes, Sellafield Ltd

22143 - “Beartooth: Nuclear Material Processing with MBSE and Digital Twin”
Authors: Kaleb Houck, Troy Burnett, Christopher Ritter, INL

22158 - “Reviewing the Safety Analysis Report in Packaging Revision Developed for Adding Pu-238 Targets as Approved Content in the BRR Cask”
Authors: Edward Ketusky, Dan Leduc, Charles Mc Keel, William Johnson, SRNL; James Schuler, US DOE

22161 - “Tank Farm Upgrades and Salt Batch Preparation Enhancements to Support Feed Supply to SWPF”
Authors: Azadeh Samadi, Jesse Benedict, Andrew Jung, SRMC

22167 - “Solid-State Electrochemical Oxidation of PuO2 to PuO2+x”
Authors: Colin Boxall, Dominic Laventine, Lancaster University

22168 - “Overview of Innovative Solutions for Management of Challenging Mixed Wastes”
Author: Sriram Suryanarayan, Kinetics

22176 - “Improvement of Quantification in Non-Destructive Characterization of Radioactive Waste Packages”
Author: Stefan Rummel, Thomas Bucherl, Christoph Lierse von Gostomski, Technical University Munich
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<td>Andrew Cooper, Greg Failla, Silver Fir Software; Eric Heritage, Matthew Smith, Kinetics</td>
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<td>22181</td>
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<td>Antonio Rigato, Steven Maheras, PNNL; Calvin Hopper, ORNL; Ronald Pope, ANL</td>
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<td>22184</td>
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<td>“Towards the Decontamination of Plutonium Contaminated Bricks: Investigation of Cerium Based Simulant on Brick Penetration”</td>
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<td>“Understanding the Role of Biotic Vectors in the Accumulation and Spread of Radioactive Contamination on the Savannah River Site”</td>
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<td>“Radiological Surveillance of Hanford Tank Farm Using an Autonomous Mobile Platform”</td>
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22388 - "Saltstone Enhancements and Performance During 1st year of Salt Waste Processing Facility Operations"
Author: Andrew Jezewski, SRMC

22409 - "Performance of a Scaled Tank Side Cesium Removal Test System at High Solids Loading"
Authors: Philip Schonewill, Phillip Gauglitz, Richard Daniel, Carolyn Burns, Stephen Davidson, PNNL; Matt Landon, WRPS

22414 - "Addressing Big Data Challenges with Geophysical Data Archival, Discoverability, and Re-use"
Authors: Nicolas Huerta, Judy Robinson, Kenneth Ham, Jon Thomle, PNNL; Vicky Freedman, Sealaska

22415 - "Organic Gas Injection Delivery Behavior for Vadose Zone Remediation"
Authors: Kenneth Carroll, Cheyenne Stice, Chia-hsing Tsai, New Mexico State University; Christian Johnson, Jim Szecsody, PNNL

22424 - "Filtration of Hanford Tank 241-AP-107 Supernatant Samples Obtained at Prototypic Tank Level and Filtered at 16 °C"
Authors: Reid Peterson, Jarrod Allred, John Geeting, Amy Westesen, Edgar Buck, PNNL; Kris Colosi, WRPS

22426 - "Leveraging Innovative Data Collection and 3D Visualization Tools for Optimizing Real-time Decision-Making at a FUSRAP Site"
Authors: Tim Cushman, Christopher Bowles, Thomas Cornuet, Danielle Radomile, Kyle Kohler, Ramboll; Daniel Sirkis, George Bock, Joseph Loepere, USACE; Don Wadsworth, TerraneapMC

22432 - "Thinking Differently About Radioactive Waste in the UK—A Site License Company’s Journey of Growth and Improvement"
Authors: Martin Walkingshaw, Helen Cassidy, Nuclear Waste Services

22435 - "Modelling Methodologies and Applications for use in Calibrating and Defining Measurement and Uncertainty Parameters in Non-Destructive Assay Systems"
Authors: Gareth White, Colin Wilkins, Mirion Technologies (Canberra) SAS; Patrick Chard, Mirion Technologies (Canberra UK)

22445 - "The Backfill Integrated Project: Providing Scientific, Technological, and Engineering Underpinning for UK GDF Backfill Materials"
Authors: William Bower, Nuclear Waste Services; Robert Winsley, Shaun Robarts, Matthew Kirby, Radioactive Waste Management; David Holton, MCM Environmental Services Ltd; David Lever, Jacobs

22446 - "RWM Overview of the Challenge’s Metallic Fuels and Chemically Reactive HAW Presents for Geological Disposal"
Authors: Martin Cairns, Nuclear Waste Services; Robin Cowley, Paul Skelton, Radioactive Waste Management

22453 - "Steam Generator Waste Management Using a Rip & Ship Approach"
Authors: Christophe Maufrais, Arne Larsson, Fredrik Nilsson, Gregor Krause, Cyclife Sweden AB; Heiko Herbell, Framatome GmbH

22467 - "DWPF Process Improvements and Performance During the First Year of SWPF Operations" Author: Helen Boyd, SRMC

22473 - "OPTIMUS® Packaging for HALEU Fuel" Authors: Steven Sisley, Janet Bivens, NAC International

22512 - "Atomistic Simulation of Helium Incorporation in PuO2"
Authors: Elenor Murray, Mark Read, University of Birmingham; Rob Jackson, University of Keele; Nathan Palmer Robin Orr, NNL; Helen Steele, Sellafied Ltd; William Neilson, Lancaster University

22573 - "Underwater Spectroscopic Techniques for In-situ Nuclear Waste Characterisation"
Authors: David Megson-Smith, Yannick Verbelen, John Day, Thomas Scott, Jonathan Teague, University of Bristol

22583 - "The US Department of Energy Long-Term Stewardship Working Group"
Authors: Padraic Benson, Cliff Carpenter, Tracy Atkins, US DOE Office of LM

22587 - "Progress in Establishing an Australian National Facility for Radioactive Waste Management"
Authors: Sam Usher, David Osborn, Australian Radioactive Waste Agency; Jonathan Shatwell, Department of Industry, Australia