

Plenary Schedule

DAY 1 Tuesday, Nov 1		DAY 2 Wednesday, Nov 2		DAY 3 Thursday, Nov 3	
Time		Time		Time	
9:00-12:00	Plenary Program Co-chairs: Kevin Lee & Moe Fadaee	9:00-12:00	Plenary Program Co-chairs: Dan Foster-Roman & Gabriel	9:00 – 12:00	Plenary Program Co-chairs: Naz Shahbandi & Michael Page
9:00-9:02	Conference Opening Welcome from CNS President	9:00-9:10	Dan Foster-Roman Recap & Day 2 Welcome	9:00-9:10	Moe Fadaee Recap & Day 3 Closing Remarks
9:02-9:10	Kevin Lee Opening remarks (Theme, Org, Committee, Sponsors)	9:10-9:30	Bill Walker President & CEO Organization of Canadian Nuclear Industries	9:10-9:30	Jennifer Ngadiuba Associate Scientist Fermilab
9:10-9:30	Paul Dabrowski Sr. Manager, IT Programs Ontario Power Generation	9:30-9:50	Sriram Suryanarayan Director, Innovation Kinectrics	9:30-9:50	Christian Lange Director, Space Exploration Planning Canadian Space Agency
9:30-9:50	Rumina Velshi President and CEO Canadian Nuclear Safety Commission	9:50-10:10	Kasia Izdebska Senior Manager, Enterprise Innovation Ontario Power Generation	9:50-10:10	Laban Coblentz Head of Communications ITER Organization
9:50-10:10	Todd Warnell CIO Bruce Power	10:10-10:30	Panel Discussion: “Innovation as a Team Sport” Moderated by: Gabriel Aversano Scientific Engineering Associate, Applied Nuclear Physics Lawrence Berkeley National Lab	10:10-10:30	Panel Discussion: “Disruptive Technologies” Moderated by: Larisa Logan Director, Standards – Power Generation/Petroleum & Natural Gas CSA Group
10:10-10:30	Panel Discussion: “Towards 2030: The Nuclear Net Zero Future” Moderated by: Daniel Gammage Director Life Cycle Management & Component Integrity Kinectrics	10:30-10:40	Coffee Break	10:30-10:40	Coffee Break
10:30-10:40	Coffee Break	10:40-11:00	Issam Hammad Professor, Dalhousie University	10:40-11:00	Sheldon Fernandez CEO DarwinAI
10:40-11:00	Chris Dixon Facility Operations Director Global First Power	11:00-11:20	Melissa Judd Vice President, Research Operations & Academic Partnerships Vector Institute	11:00-11:20	Michael Cohen CEO Qii.AI
11:00-11:20	Abhinav Saxena Principal Scientist – Machine Learning GE Research	11:20-11:40	Luigi Ferrara Dean of the Centre of Arts, Design and Information Technology George Brown College	11:20-11:40	Rafal Janik Chief Operating Officer Xanadu
11:20 - 11:40	Andy Ballard Head of R&D Moltex Energy	11:40-12:00	Panel Discussion: “Next Gen of Talent in AI, Big Data and Machine Learning” Moderated by: Nazgol Shahbandi Asset Management Advisor Ontario Power Generation	11:40-12:00	Panel Discussion: “Trusted Disruption” Moderated by: Michael Page Director, Industry Innovation Vector Institute
11:40-12:00	Panel Discussion: “Digital Technologies for Small Modular Reactors” Moderated by: Justin Hannah Director, Nuclear Energy Division NRCAN	12:00-12:20	Lunch Break	12:00-12:20	Lunch Break
12:00 - 12:40	Lunch Break				

Technical Schedule

DAY 1 Tuesday, Nov 1	
Time	
12:40 – 14:25	Session 1 Artificial Intelligence and Deep Learning Chairs: Nhan Tran and Juliana Rapper
	<i>A Hybrid Predictive Maintenance Framework for Nuclear Power Plants</i> Presenter: Athanasios Alifantis (Thanos Alifantis) Affiliation: SNC Lavalin
	<i>Robotic machining: size reduction for ITER decommissioning</i> Presenter: Benjamin Rae Affiliation: Nuclear AMRC
12:40 – 13:30	<i>Using Machine Learning (ML) For Detecting Anomalies in The NRU Plant Chemistry Data</i> Presenter: Dennis Deng Affiliation: Canadian Nuclear Laboratories
	<i>Using Machine Learning Method for Predicting Initial Nuclear Fuel Composition Based on Isotopes in the Irradiated Fuel</i> Presenter: Huiping Yan Affiliation: Canadian Nuclear Laboratories
	Block 1 Q & A
	<i>Powering the Nuclear Fuel Reload Process with AI</i> Presenter: Timothy Crook Affiliation: Blue Wave AI Labs
	<i>Application Of Deep Learning for Anomaly Detection in Electrical Conductors</i> Presenter: James Hoang Affiliation: Kinectrics Inc.
13:30 – 14:20	<i>System Identification for Exploratory Analysis of Dynamic Systems Data</i> Presenter: Salim El Bouzidi Affiliation: Canadian Nuclear Laboratories
	<i>Radioactive Waste Storage Arrangement: An Optimization Problem</i> Presenter: Doddy Kastanya Affiliation: Kinectrics
	Block 2 Q&A
14:25 – 17:00	Training Workshops
14:25 – 15:50	<i>Introduction to Deep Learning – Tutorial</i> Led by Aleem Juma
15:50 – 17:00	<i>Modern Scientific Computing – Kitting Your Stack</i> Led by Nick Torenvliet
END OF DAY 1	

DAY 2 Wednesday, Nov 2	
Time	
	Vendor Discussion Moderator: Nazgol Shahbandi Chair: Moe Fadaee
12:20 – 12:40	<i>Safe Weld Shut Spent Fuel Container Lid, Next to Fuel Pellets</i> Presenter: Paul Cheng Affiliation: FuseRing
12:40 – 14:20	Session 2 Computer Vision and Object Recognition Chair: Aleem Juma and Nicole Davies
	<i>Using Computer Vision for Nuclear Security & Safeguards Applications</i> Presenter: Gabriel Aversano Affiliation: Lawrence Berkeley National Laboratory
12:40 – 13:35	<i>X-Ray Classification of Special Nuclear Materials Using Image Segmentation And Feature Descriptors</i> Presenter: Andrew Campbell Affiliation: University of Strathclyde
	<i>Incremental Learning for Anomaly Detection Applied to Computed Tomography Scans</i> Presenter: Oluwabukola Adegboro Affiliation: Ontario Tech University
	<i>Digital Twin Development Through Auto-Linking To Manage Legacy Assets In Nuclear Power Plants</i> Presenter: Daniel Lopez Morales Affiliation: University of Waterloo
	Block 1 Q & A
	<i>Application Of Computer Vision in Nuclear Inspections Automation</i> Presenter: Samareh Azimpoor Affiliation: Kinectrics Inc.
13:35 – 14:20	<i>Application Of Computer Vision Within PPE Equipment Testing</i> Presenter: Jaideep Prasad Affiliation: Kinectrics
	<i>Smart Industrial Inspection Using Hybrid Defect Detection</i> Presenter: Abderrazak Chahid Affiliation: Ontario Tech University
	Block 2 Q & A
14:20 – 14:30	Coffee Break
14:30 – 16:00	Session 3 New Technology in Nuclear Applications Chair: Aleem Juma and Nicole Davies
	<i>Scene Data Fusion & the Future of Autonomy for Radiation Detection</i> Presenter: Emil Rofors Affiliation: Lawrence Berkeley National Laboratory
14:30 – 15:15	<i>A Research Assistant Tool using Semantic Search</i> Presenter: Daniel Liang Affiliation: Ontario Power Generation
	<i>Digital enabling safer and more sustainable site delivery</i> Presenter: Christian Pilon Affiliation: SNC Lavalin
	Block 1 Q & A
	<i>Integration and Interoperability of Construction and Performance Digital Twins to Improve Decision Making</i> Presenter: Jeffrey Lane Affiliation: Zachry Nuclear Engineering
15:15 – 16:00	<i>Digital Twin for Outage Scope Development and Execution Planning in Fuel Channel Elongation Management</i> Presenter: Tolulope Ogundimu Affiliation: Kinectrics Inc
	<i>How to Successfully Execute Large Software and ML Projects</i> Presenter: Chris Kennedy Affiliation: ProLucid Technologies Inc.
	Block 2 Q & A
16:00 – 17:00	Vendor Discussion Session Moderator: Nazgol Shahbandi Chair: Nicole Davies
16:00 – 16:20	<i>Innovating for Today and Into Tomorrow</i> Presenter: Rachna Clavero Affiliation: Kinectrics
16:20 – 16:40	<i>AI-powered solution for Reduced-Order Modeling and Digital Twin generation</i> Presenter: Livio Mariano Affiliation: Altair
16:40 – 17:00	<i>Don't Build Robots - Deliver Results</i> Presenter: Ryan Gariepy Affiliation: ClearPath
END OF DAY 2	

DAY 3 Thursday, Nov 3	
Time	
	Vendor Discussions Moderator: Nazgol Shahbandi Chair: Moe Fadaee
12:20 – 12:40	<i>Improving Nuclear Unit Outage Scheduling with Artificial Intelligence</i> Presenter: Charlie Qaqish Affiliation: OPG
12:40 – 13:25	Session 4 Policy and Regulation for DIET Chair: Nick Torenvliet and Michele Lunney
	<i>Development of the Regulation of AI for Nuclear Applications in UK</i> Presenter: David Smeatham Affiliation: Office for Nuclear Regulation
12:40 – 13:25	<i>The Canadian Nuclear Safety Commission: DIET and the Regulatory Body</i> Presenter: Kevin Lee Affiliation: Canadian Nuclear Safety Commission
	<i>What Regulatory/Policy Implications Would Remotely Piloted Systems (RPS) Have on Remote Deployment of Small Modular Reactors?</i> Presenter: Juliana Rapper Affiliation: Carleton University
	Policy and Reg Q & A
13:25 – 14:45	Session 5 The Human / Technology Interface Chair: Kevin Lee and Michele Lunney
	<i>Leveraging Robotics to Support Site Delivery on Nuclear Sites</i> Presenter: Luca Duffy Affiliation: SNC Lavalin
13:25 – 14:05	<i>Automatic Report Generation of Inspection of Transmission and Distribution Lines</i> Presenter: Jiashang Liu Affiliation: Kinectrics
	<i>Fuzzy Reliability and Safety Assessment of Small Modular Reactor's Passive Safety Systems</i> Presenter: Parham Khosravi Babadi Affiliation: Ontario Tech University
	Block 1 Q & A
	<i>The Use of Virtual Reality Gaming as a Training Methodology for Nuclear Workers</i> Presenter: Jeffrey Gibson Affiliation: Ontario Tech University
14:05 – 14:35	<i>BioTwins® - Live and Virtual Performance Tracking Systems and its Potential</i> Presenter: Fernando Muniz Simas Affiliation: EXO Insights
	Block 2 Q & A
14:35 – 14:45	Coffee Break
14:45 – 16:30	Session 6 Valuable Data Chair: Nazgol Shahbandi and Wesley Ross
	<i>Data Quality Guidelines for Machine Learning Applications Using Station Data</i> Presenter: Tim Rector Affiliation: Canadian Nuclear Laboratories
14:45 – 15:30	<i>Data Management and Human-in-the-Loop with Computed Tomography for Automated Nuclear Reactor Inspection</i> Presenter: Matthew Immanuel Samson Affiliation: Ontario Tech University
	<i>Semi-Automated Annotation of the CT data</i> Presenter: Md Jamiul Alam Khan Affiliation: Ontario Tech University
	Data 1 Q & A
15:30 – 16:15	<i>The Implementation of ISO15926 and ISO19650 for New & Existing Nuclear Facilities</i> Presenter: Thomas Pritchard Affiliation: NPX Innovation
	<i>Leveraging Your Data With Structured Content and Single-Source Publishing</i> Presenter: Manfred Hammers Affiliation: Rivtec Inc
	<i>Metrics, Relevance and Significance of Emerging Technologies and Data Quality in the Nuclear Industry</i> Presenter: Akira Tokuhira Affiliation: Ontario Tech University
	Data 2 Q & A
16:15 – 17:00	Closing Session
END OF CONFERENCE	