

MDS³ WINTER MEETING AGENDA

January 14 – 15th 2026

ThinkBox 1st Floor, Case Western Reserve University

Wednesday, January 14th

9:00 – 9:30	Breakfast	Lobby
9:30 – 9:50	Opening Remarks and State of the Center	Auditorium
9:50 – 10:10	LLNL Data Governance – Asit Sharma	Auditorium
10:20 – 12:40	Morning Technical Sessions	Various
10:20 – 11:20	Introductory Track	Meeting Room A
	<i>Intro to MDS³ – AM, Aging, and Lifetime</i>	
	<i>Ontologies for FAIR, Learning and Semantic Reasoning</i>	
	<i>Overview of CRADLE & Automated Workflows</i>	
10:20 – 11:20	Aging & Lifetime Track	Meeting Room B
	<i>Materials Science Foundation Models and Graphs: From Task GNNs to Graph Foundation Models</i>	
	<i>Lifetime & Degradation of PMMA using Semantic Data Management of a Historical Study</i>	
	<i>Energetic Materials: Materials Discovery using Graph Neural Networks & Semantic Data Management</i>	
	<i>Group Discussion</i>	
11:40 – 12:40	AI for Materials Data Science	Meeting Room A
	<i>Formulation Automation for Scintillators and Silicone</i>	
	<i>Advanced Manufacturing Defect Detection</i>	
	<i>LLM-enhanced Hierarchical Graph Attention Networks for Molecular Solubility Prediction</i>	
11:40 – 12:40	Semantic Data Management (SDM) for Synchrotron Science	Meeting Room B
	<i>Synchrotron Science Overview</i>	
	<i>Semantic Data Management for Synchrotron Science</i>	
	<i>Beamlines & Automated Pipelines</i>	
	<i>Group Discussion</i>	
12:40 – 1:40	Lunch	Lobby
1:40 – 3:10	Facility Tours	Various
3:10 – 4:10	Afternoon Technical Sessions	Various
3:10 – 4:10	MDS-Onto and Knowledge Graph Demos	Meeting Room A
	<i>Open Source Packages for Semantic Data Management of Historical, Sparse & Massive Materials Datasets:</i>	
	<i>FAIRLinked & Onto check</i>	
	<i>CEMENTO and ASPHALTO Demo</i>	
	<i>GeoOutageKG: A Multimodal Geospatiotemporal Knowledge Graph for Multiresolution Power Outage Analysis</i>	
3:10 – 4:10	MDS3 Data Segmentation for Qualification Topics	Meeting Room B
	<i>Material Segmentation Model Garden & Contextualized Analysis Pipeline</i>	
	<i>Demo of Counterfactual</i>	
	<i>Semantic Segmentation for Scanning Electron Microscopy Images of Optoelectronic Device Metallization</i>	
	<i>Group Discussion</i>	
4:10 – 6:00	Poster Reception	Auditorium

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9:30 – 10:00	Breakfast	Lobby
10:00 – 10:10	Opening Remarks and Recap of Day 1	Auditorium
10:10 – 11:10	Breakout Discussion	Various
	Advanced Manufacturing Discussion	
	Aging & Lifetime Discussion	
	Semantic Material Science Track	
11:10 – 12:10	Lunch	Lobby
12:10 – 1:40	Additional Tours, Visit to Faculty Research Groups	Various