

ORNL IS MANAGED BY UT-BATTELLE, LLC FOR THE US DEPARTMENT OF ENERGY

2022 Hybrid Molten Salt Reactor (MSR) Workshop
Energy Through Safe, Secure, and Sustainable Technology
Oak Ridge National Laboratory (ORNL)
Building 5200, Tennessee Rooms 202 A–C and virtually via Zoom
Sponsored by: Gateway for Accelerated Innovation in Nuclear (GAIN) and ORNL

Agenda as of 09/07/2022

Event contact	General Chair: David Holcomb, 865-898-2193 (mobile); holcombde@ornl.gov Technical Chair/Alternate General Chair: Kevin Robb, 814-746-6846 (mobile); robbkr@ornl.gov	
Tuesday, October 11, 2022, Eastern Daylight Time (UTC-4:00)		
Time (EDT)	Event	Lead
8:30–8:35 am	Call to Order	David Holcomb, ORNL
8:35–8:45 am	Welcome	Kathy McCarthy, ORNL
8:45–9:25 am	Plenary Overviews Pathways to Clean Energy Future NNSA's Role in Advanced Reactors DOE-NE Molten Salt Reactor Activities	Christine King, GAIN Corey Hinderstein, National Nuclear Security Administration (NNSA) Patricia Paviet, Pacific Northwest National Laboratory (PNNL)
9:25–10:35 am	Nonproliferation and Regulatory Compliance Session MC&A Considerations for Licensing Briefing on Moltex/IAEA Model Safeguards Approach Engagement Briefing on Terrestrial/IAEA Model Safeguards Approach Engagement Regulatory Compliance Considerations	Session Chair Karen Hogue, ORNL Mike Dion, ORNL Olivier Gregoire, Moltex Energy Robin Rickman, Terrestrial Energy USA Krystee Ervin, ORNL

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Time (EDT)	Event	Lead
10:35–10:45 am	Break	
10:45 am–11:50 am	International Collaboration Session GEN IV International Forum Cooperation Japanese MSR Activities European Union Program Salt Irradiation at the Nuclear Research and Consultancy Group (NRG)	Session Chair: David Holcomb, ORNL David Holcomb, ORNL Motoyasu Kinoshita, MSLab Inc. Jan-Lin Kloosterman, TU Delft Ralph Hania, NRG
11:50 am –12:50 pm	Working Lunch Salt Production and Scale Up at INL	James King/Bill Phillips, Idaho National Laboratory (INL)
12:50–1:10 pm	Special Topic TerraPower's Integral Effects Test Facility	Michael Vandevanter, TerraPower
1:10–2:40 pm	Corrosion Chemistry Session ORNL Salt Corrosion Activities (Past to Present) Argonne National Laboratory (ANL) Salt Corrosion Activities Salt Purification and Corrosion Activities Method for Redox Control with Continuous Electrochemical Measurement in Molten Salt Reactors Development of a Thermodynamic Database for Corrosion in Chloride MSRs Open questions	Session Chair: Joanna McFarlane, ORNL Jim Keiser, ORNL Nathan Hoyt, ANL Jinsuo Zhang, Virginia Tech Mike Simpson, University of Utah Jacob Yingling, INL
2:40–2:50 pm	Break	

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Time (EDT)	Event	Lead
2:50–4:20 pm	MSR Systems Modeling Session SCALE-MELCOR for MSR Systems Analysis SAM Code for Systems Analysis Mass Accountancy with the MOLE/GRIFFIN Code ACU MSRR Systems Modeling	Session Chair: Aaron Graham, ORNL Ben Betzler, ORNL/David Luxat, Sandia National Laboratories (SNL) Rui Hui, ANL Kyoung Lee, ORNL Kevin Clarno, University of Texas-Austin
4:20–5:30 pm	Safety and Licensing Session Off Gas Release Measurement Salt Spill Tritium Transport in MSRs Salt Property Uncertainty Analysis	Session Chair: Dave Luxat, SNL Amanda Lines, PNNL Sara Thomas, ANL Thomas Fuerst, INL Mel Rose, ANL
5:30 pm	Adjourn Day 1 – Virtual Session	
5:30–6:30 pm	Poster Session & Heavy Hors d'oeuvres	Session Chair: Dino Sulejmanovic, ORNL
6:30 pm	Adjourn Day 1 – In-Person Session	

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Wednesday, October 12, 2022, Eastern Daylight Time (UTC-4:00)

Time (EDT)	Event	Lead
8:25–8:30 am	Call to Order	David Holcomb, ORNL Kathy McCarthy, ORNL
8:30–8:45 am	Plenary Session US Department of Energy, Office of Nuclear Energy (DOE-NE)	Kathryn Huff, DOE-NE
8:45–10:15 am	Physical Properties of Molten Salts Session Measurements of Molten Salt Properties at Argonne National Laboratory The LANL Molten Salt Research Capability: 2022 Status Update Property Measurements & Techniques at INL Development and Testing of Thermal Conductivity and Viscosity Measurement Systems	Session Chair: Dianne Ezell, ORNL Mel Rose, ANL Marissa Monreal, Los Alamos National Laboratory (LANL) Toni Karlsson, INL Tony Birri, ORNL
10:15–10:30 am	Break	
10:30 am–12:00 pm	Empowering Pumps Session ORNL University of Wisconsin Advanced Reciprocating Molten Salt Pump Development High Temperature Molten Salt R&D Test Loops for MSR Applications Hayward Tyler, Inc.	Session Chair: Kevin Robb, ORNL Kevin Robb Paul Brooks/Lewis Handy-Cardenas, University of Wisconsin William Sames, Cinco Research Corp. Dan Barth, High Temperature System Designs, LLC Robert Fleming, Hayward Tyler, Inc.
12:00–1:00 pm	Working Lunch Introduction to the Molten Salt Thermal Properties Database	Shane Henderson, ORNL

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Time	Event	Lead
1:00–2:30 pm	Developer Forum 1 ThorCon Status Update Flibe Energy, Inc. Copenhagen Atomics Natura Resources Sustainable Energy Seaborg	Session Chair: Kevin Robb, ORNL Dane Wilson, ThorCon Kirk Sorensen, Flibe Energy, Inc. Aslak Stubsgaard, Copenhagen Atomics Rusty Towell, Natura Resources Andreas Pedersen, Seaborg Technologies
2:30-2:40 pm	Break	
2:40–4:10 pm	Developer Forum 2 Elysium Industries Overview Update for the Molten Chloride Fast Reactor (MCFR) Terrestrial Energy: Leading the Way to a Bright Energy Future Kairos Power Overview Moltex Energy	Session Chair: Joanna McFarlane, ORNL Carl Perez, Elysium Industries Dan Walter, TerraPower Robin Rickman, Terrestrial Energy USA Jake McMurray, Kairos Power Andrew Ballard, Moltex Energy
4:10–4:20 pm	Closing Remarks	Allison Hahn, DOE-NE
4:20 pm	Adjourn Day 2	