

**2021 Virtual Molten Salt Reactor (MSR) Workshop**  
**Building from a Strong Foundation**  
**Presented Virtually from Oak Ridge National Laboratory (ORNL) via Microsoft Teams**  
**Sponsored by: Gateway for Accelerated Innovation in Nuclear (GAIN) and ORNL**

Agenda as of 10/28/2021

<b>Event contact</b>	General Chair: David Holcomb, 865-898-2193 (mobile); <a href="mailto:holcombde@ornl.gov">holcombde@ornl.gov</a> Technical Chair/Alternate General Chair: Kevin Robb, 814-746-6846 (mobile); <a href="mailto:robbkr@ornl.gov">robbkr@ornl.gov</a>	
<b>Time</b>	<b>Event</b>	<b>Lead</b>
<b>Tuesday, October 12, 2021, Eastern Daylight Time (UTC-4:00)</b>		
8:45–8:50 am	<b>Call to Order</b>	David Holcomb, ORNL
8:50–9:00 am	<b>Welcome</b>	Kathy McCarthy, ORNL
9:00–10:00 am	<b>Plenary Overviews</b>  Pathways to Clean Energy Future  US Department of Energy, Office of Nuclear Energy (DOE-NE)  Molten Salt Reactor Campaign  Overview of NEAMS Program  Advanced Reactors Regulatory Perspectives	Christine King, GAIN  Katy Huff, DOE-NE  Patricia Paviet, Pacific Northwest National Laboratory (PNNL)  Chris Stanek, Los Alamos National Laboratory)  Robert Taylor, NRC
10:00–11:30 am	<b>Chemistry Session</b>  Thermophysical Modeling of Molten Salts  Salt Properties from Classical and Ab-Initio Molecular Dynamics  Overview of the MSR Campaign: Experimental Determination of Molten Salt Properties	<b>Session Chair:</b> <b>Jake McMurray, Kairos Power</b>  Dianne Ezell, ORNL  Chao Jiang, Idaho National Laboratory (INL)  Mel Rose, Argonne National Laboratory (ANL)

Time	Event	Lead
11:30 am–12:00 pm	<b>Lunch</b> Decommissioning Challenges at the Molten Salt Reactor Experiment Site	Eric Abelquist, UCOR Tommy Morgan, UCOR
12:00–1:30 pm	<b>Salt Irradiation Session</b>  Molten-Salt Research Temperature-Controlled Irradiation (MRTI)  Integrated Research Project: Salt Loop Irradiation  Generation of Critical Irradiation Data to Enable Digital Twinning of Molten Salt Reactors  A Molten Salt Irradiation and Measurement Facility at the PULSTAR Reactor	<b>Session Chair:</b> <b>Dianne Ezell, ORNL</b>  Abdalla Abou-Jaoude, INL  Charles Forsberg, Massachusetts Institute of Technology (MIT)  Gordon Kohse, MIT  Ayman Hawari, NCSU
1:30–3:00 pm	<b>Modeling &amp; Simulation Session</b>  The Thermochemical Molten Salt Database  MELCOR non-LWR Modeling and Simulation Capabilities  Systems Level Simulations of Heat and Mass Transport in MSRs	<b>Session Chair:</b> <b>Dane De Wet, ORNL</b>  Ted Besmann, University of South Carolina  David Luxat, Sandia National Laboratories  Rui Hu, ANL
3:00–3:45 pm	<b>DOE National Nuclear Security Administration (NNSA) Resources Session</b>  Nuclear Nexus Overview  Advanced Reactor International Safeguards Engagement (ARISE) Program Overview  International Nuclear Security Resources for the U.S. Advanced Reactor Industry  Proliferation Resistance Optimization (PRO-X)	<b>Session Chair:</b> <b>Karen Hogue, ORNL</b>  Jeff Chamberlin, NNSA  Anagha Iyengar, NNSA  Katherine Holt, NNSA  Brian Waud, NNSA

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Time	Event	Lead
3:45 pm	<b>Adjourn Day 1</b>	

**Wednesday, October 13, 2021, Eastern Daylight Time (UTC-4:00)**

8:25–8:30 am	<b>Call to Order</b>	David Holcomb, ORNL
8:30–10:00 am	<b>Operations and Monitoring Session</b>  Process Monitoring for Molten Salt Reactor Off-Gas Systems  Development of Laser Induced Breakdown Spectroscopy Sensor for Molten Salt Reactor Off-Gas Stream  Status and Direction of Molten Salt Loops at ORNL  Development of Test Articles for Surrogate Materials Surveillance	<b>Session Chair:</b> <b>Hunter Andrews (ORNL)</b>  Amanda Lines, PNNL  Hunter Andrews, ORNL  Kevin Robb, ORNL  Sam Sham, INL
10:00 am–11:50 am	<b>Safety &amp; Licensing Session</b>  MSR Fuel Salt Qualification Guidance Development  International Atomic Energy Agency (IAEA) MSR Safety Evaluation  Liquid-Fuel Molten Salt Reactor Design Safety Standard (ANS 20.2) Overview  Experiments to Advance and Validate Accident Progression Models for MSRs  Molten Salt Reactor Fundamental Safety Function PIRT	<b>Session Chair:</b> <b>Alex Huning, ORNL</b>  David Holcomb, ORNL  Gerardo Martinez-Guridi, IAEA  David Holcomb, ORNL  Sara Thomas, Argonne National Laboratory (ANL)  Alex Huning, ORNL

12:00–12:30 pm	<b>Lunch</b> Concerned Experts in the Development of Thorium as an Alternate Nuclear Fuel and for Other Applications	John Kutsch, Thorium Energy Alliance
<b>Time</b>	<b>Event</b>	<b>Lead</b>
12:30–2:00 pm	<b>Developer Forum 1</b>  ThorCon Status Update 2021  Progress on Lithium-Fluoride Reactor Technology  Copenhagen Atomics: 9000 Hour Test & Non-Fission Prototype  Natura Resources Sustainable Energy  Alpha Tech Research Corp Overview	<b>Session Chair:</b> <b>Kevin Robb, ORNL</b>  Lars Jorgensen, ThorCon  Kirk Sorensen, Flibe Energy, Inc.  Aslak Stubsgaard, Copenhagen Atomics  Tony Hill, Natura Resources  Michael Stoddard, Alpha Tech Research Corp
2:00–3:30 pm	<b>Developer Forum 2</b>  Elysium Industries Overview  Update for the Molten Chloride Fast Reactor (MCFR)  Terrestrial Energy: Leading the Way to a Bright Energy Future  Kairos Power Overview	<b>Session Chair:</b> <b>Joanna McFarlane, ORNL</b>  Carl Perez, Elysium Industries  Jeff Latkowski, TerraPower  Robin Rickman, Terrestrial Energy USA  Brandon Haugh, Kairos Power
3:30–3:40 pm	<b>Closing Remarks</b>	Alison Hahn, DOE-NE
3:40 pm	<b>Adjourn Day 2</b>	