

Molten Salt Reactor Workshop 2020
On to Demonstration: The Next Critical Steps
Presented Virtually from Oak Ridge National Laboratory (ORNL)
Sponsored by: Gateway for Accelerated Innovation in Nuclear (GAIN) and ORNL

Agenda as of 10/15/2020

Event contact	General Chair: David Holcomb, 865-898-2193 (mobile); holcombde@ornl.gov Technical Program Chair: Jordan Rader, 918-704-5980 (mobile); raderjd@ornl.gov	
Time	Event	Lead
Wednesday, October 14, 2020, Eastern Daylight Time (UTC-4:00)		
8:45–9:00 am	Log on – Open Welcome	
9:00–10:00 am	Opening Plenary I Call to Order Welcome Keynote GAIN Update Office Nuclear Energy Overview on Molten Salt Reactor Support	Session Chair: David Holcomb, ORNL David Holcomb, ORNL Kathy McCarthy, ORNL Christine King, GAIN Alice Caponiti, US Department of Energy Office of Nuclear Energy (DOE-NE) Lou Qualls, DOE National Technical Director for Molten Salt Reactors
10:00–10:10 am	Session Transition	
10:10–11:40 am	Morning Session 1: Chemistry Molten Salt Reactor Chemistry: Properties, Database Development, and Modeling Argonne's Molten Salt Property Measurements Molten Salt Research at Los Alamos National Laboratory Molten Salt Research Activities at the Idaho National Laboratory	Session Chair: Ted Besmann, University of South Carolina Jake McMurray, ORNL Melissa Rose, Argonne National Laboratory (ANL) Marisa Monreal, Los Alamos National Laboratory (LANL) Toni Karlsson, Idaho National Laboratory (INL)

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Wednesday, October 14, 2020, Eastern Daylight Time (UTC-4:00)		
11:40–11:50 am	Session Transition	
11:50 am–1:20 pm	<p>Afternoon Session 1: Materials</p> <p>Graphite Materials for Molten Salt Reactors (MSR)</p> <p>Technical Basis of Surrogate Materials Surveillance for Advanced Reactors</p> <p>Molten Salt Material Compatibility Research at Argonne National Laboratory</p> <p>Interactions of Structural Materials with Intentionally or Unintentionally added Impurities in Molten Salt</p>	<p>Session Chairs: Stephen Raiman, ORNL Bruce Pint, ORNL</p> <p>Cristian Contescu, ORNL</p> <p>Sam Sham, ANL</p> <p>Nathan Hoyt, ANL</p> <p>Preet Singh, Georgia Tech</p>
1:20–1:50 pm	Break	
1:50–3:20 pm	<p>Afternoon Session 2: University Updates</p> <p>Development of a Molten Salt Sampling System Design: Progress To-Date and Path Forward</p> <p>MIT Fission and Fusion Salt Activities: From Theory to Integral Experiments</p> <p>The ACU Molten Salt Research Reactor</p> <p>NuSTEM (Nuclear Science, Technology, and Education for Molten salt reactors): Project Overview and Recent Advances</p>	<p>Session Chair: Dianne Bull Ezell, ORNL</p> <p>Megan Harkema, Vanderbilt University</p> <p>Charles Forsberg, Massachusetts Institute of Technology</p> <p>Rusty Towell, Abilene Christian University</p> <p>Jean Ragusa, Texas A&M University</p>
3:20–3:30 pm	Session Transition	

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3:30–4:40 pm	Afternoon Session 3: Licensing Topics and Approaches Fuel Salt Qualification Method Overview MSR Safety Evaluation Considerations Advanced Reactor Licensing	Session Chair: Jordan Rader, ORNL David Holcomb, ORNL Lou Qualls, ORNL Peter Hastings, Kairos Power
4:40 pm	Adjourn Day 1	

Thursday, October 15, 2020, Eastern Daylight Time (UTC-4:00)

8:45–9:00 am	Log on – Open Welcome	
9:00–10:30 am	Opening Plenary II Call to Order Keynote Leveraging Industry Experience to Support MSR Demonstration and Commercial Operation NRC's Preparations for Advanced Reactor Licensing Nuclear Energy: Today and Tomorrow Opportunities in Additive Manufacturing for Advanced Nuclear Energy Systems	Session Chair: Lauren Lathem, Southern Company Lauren Lathem, Southern Company Cristian Marculescu, Electric Power Research Institute Wendy Reed, US Nuclear Regulatory Commission Everett Redmond, Nuclear Energy Institute Kurt Terrani, ORNL
10:30–10:40 am	Session Transition	

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Thursday, October 15, 2020, Eastern Daylight Time (UTC-4:00)		
10:40 am–12:10 pm	Morning Session 1: International Activities Stable Salt Reactors: A New Platform Technology in Nuclear Fission MSR Activities in GenIV Forum Experimental Program with Hot FLIBE Zone at LR-0 Reactor R&D in Euratom projects SAMOFAR and SAMOSAFER	Session Chair: David Holcomb, ORNL Ian Scott, MOLTEX Energy Stephane Bourg, Generation IV International Forum Jan Uhler, Research Centre Rez Jan Leen Kloosterman, Delft University of Technology
12:10–12:20 pm	Session Transition	
12:20–1:50 pm	Afternoon Session 1: Chemistry II/ Modeling Developing Technology and Capabilities to solve MSR off-gas Challenges On-line Monitoring for Molten Salt Reactor Systems Tritium transport phenomena in MSRs Ab-Initio Molecular Dynamics Simulations of Actinide-Containing Molten Chloride Properties	Session Chairs: Joanna McFarlane, ORNL Kristian Myhre, ORNL Amanda Lines, Pacific Northwest National Laboratory Paul Humrickhouse, INL Dave Andersson, LANL
1:50–2:20 pm	Break	

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Thursday, October 15, 2020, Eastern Daylight Time (UTC-4:00)		
2:20–4:10 pm	Afternoon Session 2: Driven Systems/Fuel Cycle Approaches Closing the Fuel Cycle with MuSTAR ThorCon Progress in Indonesia Virginia ADS Consortium—U-233 - Th-232 Breeder Burner Advanced Subcritical Micro Reactor Making the Right Choices for the First Molten-Salt Power Reactor Path Towards a 1MW Demonstration MSR	Session Chair: Andy Worrall, ORNL Rol Johnson, Muons Inc. Lars Jorgensen, ThorCon US Ganapati Myneni, Virginia ADS Consortium & BSCE Systems Inc. Kirk Sorensen, Flibe Energy, Inc. Aslak Stubsgaard, Copenhagen Atomics
4:10–4:20 pm	Session Transition	
4:20–5:50 pm	Afternoon Session 3: First Next Reactors Elysium Industries Update TerraPower's Molten Chloride Fast Reactor (MCFR) Update IMSR® Commercialization before 2030 Kairos Power Update	Session Chair: David Holcomb, ORNL Carl Perez, Elysium Industries USA Jeff Latkowski, TerraPower, LLC Dave Hill, Terrestrial Energy, USA Mark Peres, Kairos Power
5:50 pm	Closeout/Adjourn Workshop	Brian Robinson, DOE-NE