

Molten Salt Reactor Workshop 2019
Science, Old and New, Accelerating the Deployment of MSRs
Sponsored by: GAIN and ORNL

Final Agenda

Event contacts	General Chair: David Holcomb, 865-576-7889 (office); 865-898-2193 (mobile); holcombde@ornl.gov Technical Program Chair: Jordan Rader, 865-241-6336 (office); 918-704-5980 (mobile); raderjd@ornl.gov		
Wednesday, October 2, 2019			
Time	Event	Lead	Location
7:00	ORNL Visitor Center Check-In Continental Breakfast Available		ORNL Conference Center, TN Rooms 202 A-C
8:00	Call to Order Safety Minute Welcome Keynote <ul style="list-style-type: none"> • NRC's Preparations for Advanced Reactor Licensing • TVA Clinch River Site Project Update 	David Holcomb, ORNL Angel Kennedy, ORNL Alan Icenhour, ORNL Ray Furstenau, US NRC Joe Shea, TVA	
9:00	<ul style="list-style-type: none"> • DOE MSR Federal Manager • National Perspective 	Brian Robinson, DOE Lou Qualls, ORNL	
9:30	Break		
10:00	Morning Session: Understanding Salt <ul style="list-style-type: none"> • Molten Salt Redox Potential Control for Corrosion Mitigation • Thermochemistry Measurements • Development of a Thermal Conductivity Apparatus for Molten Salts • On-line Monitoring for Molten Salt Reactor Systems • Molten Salt Chemical Behavior: Modeling and Database Development • Online Monitoring of Molten Salt Redox State 	Session Chair: Jake McMurray, ORNL Jinsuo Zhang, Virginia Tech Jake McMurray, ORNL Dianne Ezell, ORNL Amanda Lines, PNNL Ted Besmann, University of South Carolina Nathan Hoyt, ANL	ORNL Conference Center, TN Rooms 202 A-C

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Wednesday, October 2, 2019			
Time	Event	Lead	Location
12:00	Working Lunch Salt Fission and Fusion Reactors: Synergisms for Rapid Development of Flibe Salt Systems	Charles Forsberg, Massachusetts Institute of Technology	
1:00	Afternoon Session 1: MSR Materials <ul style="list-style-type: none"> • Overview of Materials Session • Irradiation effects in austenitic alloys and prospects for improved performance • Degradation Studies of Graphite and New & Commercial Alloys with Molten Fluoride Salt • Corrosion in Molten Chloride Salts • Structural Alloys for Fluoride High Temperature Reactor (FHR) – Interactions with Carbon • Alloy Development and Commercialization 	Session Chair: Govindarajan Muralidharan, ORNL Govindarajan Muralidharan, ORNL Steve Zinkle, UTK/ORNL Jim Keiser, ORNL Stephen Raiman, ORNL Preet Singh, Georgia Institute of Technology Ramanathan Krishnamurthy, Haynes International	ORNL Conference Center, TN Rooms 202 A-C
3:00	Break		
3:30	Afternoon Session 2: Modeling and Simulation <ul style="list-style-type: none"> • Overview of MSR Modeling and Simulation Tools • MELCOR Modeling Capabilities for Molten Salt Reactors • DOE-NE Modeling & Simulation Program - MSR Applications • Molten Salt Irradiation – Past and Future 	Session Chair: Brad Rearden, ORNL Brad Rearden, ORNL Dave Luxat, SNL Bo Feng, ANL Joel McDuffee, ORNL	ORNL Conference Center, TN Rooms 202 A-C
5:15	Reception: Heavy hors d'oeuvres (in lieu of dinner) Poster Session	Nathan Myhrvold Video Presentation introduced by Jeff Latkowski	
7:30	Adjourn Day 1		

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Thursday, October 3, 2019			
Time	Event	Lead	Location
7:30	Continental Breakfast Available		ORNL Conference Center, TN Rooms 202 A-C
8:00	Day 2 Welcome and Overview Keynote <ul style="list-style-type: none"> Nuclear Energy Institute National Nuclear Security Administration Molten Salts in Extreme Environments: Energy Frontier Research Center 	David Holcomb, ORNL Maria Korsnick, NEI Kevin Veal, NNSA Jim Wishart, BNL	
9:00	Morning Session 1: Science of Nuclear Material Accounting and MSR Safeguards <ul style="list-style-type: none"> MPACT MSR Safeguards Activities International and Domestic Safeguards Considerations for the Design of Molten Salt Reactors Safeguards and Process Modeling for Molten Salt Reactors Q&A 	Session Chairs: Mike Browne, LANL Mike Reim, DOE Louise Worrall, ORNL Don Kovacic, ORNL Nathan Shoman, SNL	
10:15	Break		
10:45	Morning Session 2: Science of MSR Safety <ul style="list-style-type: none"> Enabling Nuclear Energy – Licensing Modernization Safety Strategy for MCFR MSR Fuel Qualification MSR Identification of Initiating Events and Licensing Basis Events 	Session Chair: Alex Huning, ORNL Brandon Waites, Southern Company Brian Johnson, TerraPower George Flanagan, ORNL Alex Huning, ORNL	ORNL Conference Center, TN Rooms 202 A-C
12:00	Working Lunch	ORNL Virtual Tours Video Presentation David Holcomb, ORNL	

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Thursday, October 3, 2019			
Time	Event	Lead	Location
1:00	Afternoon Session 1: International Cooperation <ul style="list-style-type: none"> • Status of Petten Molten Salt Irradiations • MSR Research at CNL: Current Status and Future Developments • GIF MSR System Status 	Session Chair: David Holcomb, ORNL Ralph Hania, NRG-EU Mouna Saoudi, CNL David Holcomb, ORNL	ORNL Conference Center, TN Rooms 202 A-C
1:45	Break		
2:15	Afternoon Session 2: Developer Forum <ul style="list-style-type: none"> • Terrestrial Energy USA • TerraPower • Kairos • Flibe Energy • ThorCon • Copenhagen Atomics • Elysium 	Moderator: David Holcomb, ORNL	
4:45	Closing Remarks	Brian Robinson, DOE	
5:00	Adjourn Workshop	David Holcomb, ORNL	