

**Workshop on Molten Salt Reactor Technologies—
 Commemorating the 50th Anniversary of the Startup of the MSRE:**

From the MSRE to a New Emerging Class of Reactors 50 Years Later

Workshop Objectives: (1) Commemorate and acknowledge the 50th year anniversary of the startup of the Molten Salt Reactor Experiment reflecting back on the successful operations and (2) provide a forum for sharing information and status on several MSR-related initiatives, R&D programs, and international collaborations that have developed recently as renewed interest in MSRs has emerged.

FINAL Agenda as of October 14, 2015

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|-----------------------------------|--|---|--|
| Event contacts | David Holcomb, 865-576-7889 (office); 865-898-2193 (mobile); holcombde@ornl.gov Gary Mays, 865-574-0394 (office); 865-599-5303 (mobile); maysqt@ornl.gov | | |
| Thursday, October 15, 2015 | | | |
| Time | Event | Lead | Location |
| 7:30-8:15 a.m. | ORNL Visitor Center Check-in | | ORNL Conference Center, TN Rooms 202 A-C |
| 8:15-9:15 a.m. | <p>Welcome</p> <ul style="list-style-type: none"> ORNL Welcome <p>Keynote Talks</p> <ul style="list-style-type: none"> Empowering Change: The Mandate for Innovation and Collaboration Perspective on Advanced Reactor Technology Development—DOE Workshop Scope and Purpose | <p>Thom Mason, ORNL, Laboratory Director</p> <p>Steve Kuczynski, Chair, President, and CEO, Southern Nuclear</p> <p>John Kotek, Acting Assistant Sec’y for the Office of Nuclear Energy</p> <p>Alan Icenhour, ORNL, Associate Lab Director, Nuclear Science and Engr.</p> | |
| 9:15-10:30 a.m. | <p>Open Plenary</p> <ul style="list-style-type: none"> History of ORNL Molten Salt Program MSRs Today—Status and Challenges MSRs for the Future | <p><i>John Wagner, Session Chair</i></p> <p>Jess Gehin</p> <p>David Holcomb</p> <p>Per Peterson, UCB</p> | |
| 10:30-10:45 a.m. | Break | All | |

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| Thursday, October 15, 2015 (continued) | | | |
| Time | Event | Lead | Location |
| 10:45 a.m.-12:15 p.m. | <i>MSRs Worldwide Status on Programs & Technology Development</i> <ul style="list-style-type: none"> • Generation IV International Forum • Australian Molten Salt Reactor Materials Research • Czech Experimental Program in Molten Salt Reactor Physics • China's TMSR Program | <i>George Flanagan, Panel Moderator</i> David Holcomb for Jérôme Serp, CEA Lyndon Edwards, ANSTO Jan Uhliř, Research Centre Řež Hongjie Xu, SINAP | ORNL Conference Center, TN Rooms 202 A-C |
| 12:15-1:30 p.m. | <i>Working lunch:</i> DOE Office of Nuclear Energy Advanced Reactor R&D Program | Carl Sink, DOE-NE | |
| 1:30-2:45 p.m. | <i>Nuclear Industry Perspectives on Advanced Reactors</i> <ul style="list-style-type: none"> • EPRI • Future of Nuclear Power in the United States • Southern Nuclear Company | <i>Jess Gehin, Panel Moderator</i> Andrew Sowder, EPRI Everett Redmond, NEI Nick Irvin, Southern Nuclear | |
| 2:45-4:10 p.m. | <i>Emerging Commercial Design Concepts: Session 1</i> <ul style="list-style-type: none"> • The Integral Molten Salt Reactor • TerraPower • A Staged Approach to the Design of a Nuclear Reactor | <i>Gary Mays, Panel Moderator</i> David LeBlanc, Terrestrial Energy Jeff Latkowski, TerraPower Andrew Shaw, Hatch | |
| 4:10-4:20 p.m. | Break | All | |

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| Time | Event | Lead | Location |
| 4:20-5:30 p.m. | <p>Emerging Commercial Design Concepts: Session 2</p> <ul style="list-style-type: none"> Flibe Energy ThorCon: Low Cost, Carbon Free Power Now Static Fuel Molten Salt Reactors Simpler, Cheaper, and Safer | <p>Gary Mays, Panel Moderator</p> <p>Kirk Sorensen, Flibe Energy Lars Jorgensen, ThorCon Power</p> <p>Ian Scott, Moltex Energy</p> | ORNL Conference Center, 2 nd floor foyer and TN Rooms 202 A-C |
| 5:30 p.m. | Break | All | |
| 5:45-6:45 p.m. (tours/reception will take place simultaneously) | <p>Tour Liquid Salt Test Loop by group</p> <p>Hors d'oeuvres and networking Reception: MSRE activities</p> <ul style="list-style-type: none"> A Look Back and Recognition of MSRE/MSR Program Pioneers American Nuclear Society Message | <p>5:45 p.m.—1st group (red) 6:05 p.m.—2nd group (blue) 6:25 p.m.—3rd group (yellow)</p> <p>Jim Rushton, ORNL Retiree</p> <p>Andy Klein, ANS Vice President / President Elect and Oregon State</p> | |
| 7:30 p.m. | Adjourn Day 1 | All | |

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| Friday, October 16, 2015 | | | |
| Time | Event | Lead | Location |
| 8:15-8:30 a.m. | Day 2 Overview and Focus | John Wagner | ORNL Conference Center, Building 5200, TN Rooms 202 A-C |
| 8:30-9:15 a.m. | <i>Economics & Market Strategies</i> <ul style="list-style-type: none"> DOE Hybrid Energy Systems Program Renewables, Reactors, and Electric Grid | <i>Per Peterson, UCB, Panel Moderator</i> Lou Qualls for Richard Boardman, INL Charles Forsberg, MIT | |
| 9:15-10:00 a.m. | <ul style="list-style-type: none"> The Path Ahead-Materials Roadmap for FHR/TMSR Development | Weiju Ren | |
| 10:00-10:15 a.m. | Break | All | |
| 10:15 a.m.-12:00 p.m. | <i>Thermal Hydraulics: Challenges and Experimental Facilities</i> <ul style="list-style-type: none"> ORNL Liquid Salt Test Facility UCB Compact Integral Effects Test Loop FHR Thermal Hydraulic Experiments Tritium Management in FHRs | <i>Grady Yoder, Panel Moderator</i> Kevin Robb Mike Laufer, UCB Ed Blandford, UNM Xiaodong Sun, OSU | |
| 12:00-1:15 p.m. | <i>Working lunch:</i> ANS Standard 20.1—FHR Safety | Ed Blandford, UNM | |

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| Time | Event | Lead | Location |
| 1:15-3:00 p.m. | <i>Safety, Security, and Safeguards</i> <ul style="list-style-type: none"> • Status of the TMSR-SF1 Licensing Efforts • Safeguards & Security—Advanced Reactors • Licensing Framework for Advanced Reactors NRC-DOE Joint Initiative and Policy Activities that may Affect Non-Light Water Reactors • Licensing and Safeguards Context for MSRs | <i>Kun Chen, SINAP, Panel Moderator</i> Kun Chen Robert Bari, BNL Jan Mazza, US NRC George Flanagan | ORNL Conference Center, Building 5200, TN Rooms 202 A-C |
| 3:00-3:15 p.m. | Break | All | |
| 3:15-4:15 p.m. | <i>Closing Plenary Brief Summaries by Panel Members</i> <ul style="list-style-type: none"> • Workshop Highlights • Key Technology Areas to Address and Moving Forward for MSRs <ul style="list-style-type: none"> • Discussion • Closing Remarks | John Wagner Nick Irvin, Southern Nuclear Jeff Latkowski, TerraPower David LeBlanc, Terrestrial Energy Per Peterson, UCB Hongjie Xu, SINAP All Alan Icenhour | |
| 4:15 p.m. | Adjourn Day 2 | All | |