

Webinar Invite

Join us on January 25, 2023, 8:30 am EST (UTC-5)

Molten Salt Reactors Taxonomy and Fuel Cycle Performance

As the title says, Molten Salt Reactors (MSR) utilize molten salt in their core. Especially, when it is used as a fuel carrier, it provides enormous designing freedom. Consequently, there are many concepts available in the literature; some more matured than others. Recently there was a common effort at IAEA to classify these concepts and create MSR taxonomy. This taxonomy will be briefly introduced in the seminar together with the reactor physics characterization of the major MSR classes and families. Particular MSR features will be discussed and listed together with the involved families. The fuel cycle performance will be evaluated from neutronics perspective. It will include discussion about cross-section of applicable material for MSR construction. Several MSR families will be classified according to the breeding gain and applicable fuel cycles. Last but not least, salt composition and distribution in the MSR system during its operation will be presented together with an initial assessment of possible radionuclides release during accidental conditions.

Free webcast!



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8:30 am EST (UTC-5)

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Who should attend:
policymakers, managers,
regulators, students, general
public



Dr. Jiri Krepel is a senior scientist in Advanced Nuclear Systems group of Laboratory for Scientific Computing at Paul Scherrer Institut (PSI) in Switzerland. He earned his PhD in 2006 at Czech Technical University (CTU) Prague/Helmholtz-Zentrum-Dresden-Rossendorf for his thesis entitled "Dynamics of Molten Salt Reactors (MSR)." At PSI, he is responsible for fuel cycle analysis and related safety parameters of Gen IV reactors. Dr. Krepel is the coordinator of the PSI MSR research and represents Switzerland at the GIF MSR project. He has experience in the neutronics of liquid-metal and gas-cooled fast reactors and in neutronics and transient analysis of thermal and fast MSRs.

Upcoming Webinars

22 February 2023, Disposal Strategy of Nuclear Waste in Finland, Mr. Mika Pohjonen & Ms. Mari Lahti, Posiva Solution Oy, Finland

March 2023, TBD

April 2023. Overview of Graphite R&D in Support of Advanced Reactor Systems, Dr. Will Windes, ORNL, USA

24 May 2023, Graphite-Molten Salt Interactions, Dr. Nidia Gallego, ORNL, USA