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TMS 2025
154th Annual Meeting & Exhibition



March 23–27, 2025
MGM Grand Las Vegas
Hotel & Casino
Las Vegas, Nevada, USA
#TMSAnnualMeeting



SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2025 SYMPOSIUM:

NUCLEAR MATERIALS

Materials Corrosion Behavior in Advanced Nuclear Reactor Environments II

Advanced nuclear reactors are a promising addition to expand the domestic and worldwide sustainable energy portfolio in the wake of climate change. However, qualification of materials suitable to meet the operational needs of different reactor technologies has not matured, especially concerning corrosion performance in sodium-cooled fast reactors (SFRs), lead-cooled fast reactors (LFRs) and fusion reactors concepts. The aim of this symposium is to provide a space to discuss current progress in elucidating interfacial corrosion phenomena of structural materials subjected in the extreme operating environments of SFRs, LFRs, and fusion reactor concepts.

Topic areas for this symposium include but are not limited to:

- Corrosion behavior of fusion breeder materials (lithium ceramics, PbLi, Li, FLiBe, etc.) with fusion structural materials.
- Interfacial corrosion effects relating to liquid plasma-facing components (Li, FLiBe, etc.) for fusion.
- Corrosion mechanisms between structural materials and liquid metals (e.g. lead, sodium, etc.) containing fission by-products (e.g. tellurium, iodine, actinide products, etc.).
- Embrittlement of first-wall blanket structural materials with hydrogen and/or helium.
- Design of corrosion-resistant structural material candidates for sodium-cooled/lead-cooled fast reactors and fusion reactor concepts

ORGANIZERS

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TMS Structural Materials Division, TMS Corrosion and Environmental Effects Committee

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QUESTIONS?

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