GIF Education and Training series
Webinar #96

GEN IV International Forum
Expertise | Collaboration | Excellence

LFR Development – Status & Perspectives
Hosted by the GIF Education and Training Working Group

Join us on December 05, 2024, 14:30 CEST (UTC+2)

Lead-cooled Fast Reactor (LFR) Development – Status & Perspectives

The LFRs (lead-cooled fast reactors) are considered one of the most promising technologies to meet the requirements introduced for GEN IV nuclear plants and they are being studied worldwide.

Sustainability - fast-neutron spectrum make possible an efficient utilization of fuel with a reduction of the high radiotoxic waste thanks to a close fuel cycle.

Safety and Reliability - primary loop operating at atmospheric pressure, high shielding capability against gamma radiation of lead, core with low pressure drops, capability to remove the decay power in natural circulation regime with a consequent reduction of the active safety systems. No risk of fuel compaction and subsequent achievement of critical conditions in case of core melting.

Resistance to the Proliferation and Physical Protection - The MOX (Mixed Oxide Fuel) used contains actinides and it makes these systems unattractive for the extraction of weapon-usable materials. After all, the nuclear properties of the coolant can allow the realization of cores with a long life and not useful for the production of weapon-grade plutonium.

Economy - The simple design reduces the building time, the capital cost and the operation and maintenance cost in order to offer a competitive price of the electricity generated.

Research activities related to the lead technology development are ongoing worldwide. Industries are involved boosting the technological development of LFRs targeting the market in next years.

The webinar aims at highlighting the status and perspectives of LFR development worldwide, the strong involvement of the industries, the contribution of the GIF LFR pSSC, which plays a relevant role to create a unique and international community on the LFR development.

Dr. Patricia Paviet from PNNL, USA, chair of GIF Education and Training Working Group (ETWG), will facilitate this webinar.

The GIF ETWG webinar series started in 2016 and more than 90 webinars have been streamed since then. People from more than 80 countries have attended these webinars over the years. You can learn more about previous webinars and ETWG activities on the GIF website.

Free webcast!

Register NOW at:

https://us02web.zoom.us/webinar/register/WN_Wdh3Wq0DR9uRghSOKld9_A

Or scan the code

When:

December 05 – 2024
14:30 CEST (UTC+2)

Who should attend:

policymakers, industry professionals, regulators, researchers, students, general public

Speaker

Dr Mariano Tarantino

Dr. Tarantino graduated in **Nuclear Engineering at the University of Pisa** in 2004. **Ph.D. in Nuclear and Industrial Safety** in 2008. Since 2008 he has been a **researcher at the Italian National Agency for New Technologies, Energy and Sustainable Economic Development – ENEA** in the field of **liquid metal technologies for nuclear applications**, mainly related to Generation IV - LFR. Currently he is the **head of the Nuclear Energy Systems Division of the ENEA Nuclear Department**, member of the Executive Board of FALCON Consortium devoted to ALFRED DEMO LFR construction, and member of the *newcleo* R&D steering committee, aiming at supporting the development of LFR-AS-30 and LFR-AS-200.
With a background in thermo-fluid dynamics, expert in nuclear technology and lead cooled fast reactors, with an experimental vocation, he coordinates various projects at a national and international level. Among those international efforts
Dr. Tarantino is the Co-Chair of the Generation IV International Forum provisional Lead Fast Reactors System Steering Committee (GIF LFR pSSC).