

# **IAEA Technical Meeting on Advances and Innovations in Fast Reactor Design and Technology**

**Monday 29 September 2025 - Thursday 2 October 2025**

**IAEA Headquarters, Vienna, Austria**

## **TM Programme**

## **Track 1: Fast Reactors in National and International Nuclear Energy Programmes**

## **Track 2: Review and comparison of fast reactor designs and technology**

- o Size, power and modularity
- o Breeding and burning
- o Long life reactor cores
- o Thorium cycle as an alternative

## **Track 3: Advanced fast reactor and core designs, including SMRs**

## **Track 4: Innovative systems and components**

- o Plant components (pumps, heat exchangers, fuel handling, etc.)
- o Advanced safety systems (DHR systems, core catchers, passive shutdown systems, etc.)
- o Coolant purification and chemistry control systems
- o Reactivity control
- o Establishing infrastructure and supply chain

## **Track 5: Advanced Fuels and Materials**

- o Development and performance of metallic, oxide, nitride, and other fuels
- o Fuel Fabrication and qualification
- o Cladding, structural, and high-temperature resistant materials

## **Track 6: Experimental facilities and databases**

- o Quality assurance programmes
- o Instrumentation and advanced measurement techniques
- o Knowledge gaps in innovative reactor concepts