

NURETH-21 Plenary Session (II)

- **Time: Sept. 1 (Mon.) Morning (Duration: 80")**
- **Format: Three talks (20" each) followed by Q&A (20")**
- **Chairs: TBA**
- **Topic: Innovation to Disrupt and Stimulate Thermal Hydraulics R&D**
 - Keywords: Disruptive technologies; Advanced transformative technologies; Novel concepts; AI, machine learning, and related tools, ...
- **Topical Areas for Inviting Speakers: with Suggested Keywords**
 - Disruptive technologies for advanced thermal hydraulics (Application to new reactors, New cooling devices, ...)
 - Transformative technologies for safety and reliability; Enhanced demonstration for advanced nuclear systems (Boron-free, Passive features, ...)
 - Challenges/opportunities of next generation SMRs addressing technology maturity, SMR-specific TH, licensing challenges, deployment strategies, ...)
 - Role of AI, Machine Learning, Big Data, IoT and related technologies in TH and safety research...

Description

This Plenary Session aims at gathering highly renowned experts who will share their vision for innovation to stimulate and enhance thermal hydraulics research and development through disruptive technologies, focusing on performance, reliability in nuclear thermal hydraulics and safety system with the aim to drive innovation capable of expanding their applications.

Discussion will center around the latest advancements in TH technologies and their critical role in the development of new and advanced reactor technologies. Topics will include emerging disruptive TH technologies, the integration of novel algorithms for improved TH modeling and simulation, and the performance and safety demonstrations required to ensure the reliability of these advanced systems.

The speakers of international technical reputation will be encouraged to address the challenges and opportunities presented by short-term SMRs and Gen-IV Reactors. Emphasis will be given to how these innovations can enhance the overall safety and performance of nuclear systems to meet with clean energy mandates.

The session participants will have a unique opportunity to engage with the speakers of global technical stature as they explore the impact of innovative TH technologies on the future of nuclear energy. A comprehensive dialogue on these topics in the session leads to outline actionable strategies and collaborative efforts that will accelerate the deployment of advanced nuclear technologies and reinforce the sustainability of nuclear energy.

- **Current Status: Candidates/volunteers to seek to form a pool of potential speakers** (As of Sept. 2024)