

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

## **Report of Contributions**

Contribution ID: 13

Type: **Oral**

## Fast Reactor R&D in PIONEER

*Tuesday 30 September 2025 12:35 (30 minutes)*

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**Presenter:** ROELOFS, Ferry (NRG PALLAS)

**Session Classification:** Track 1.2

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

Contribution ID: 15

Type: **Oral**

# Hydraulic Design and Development of Passive Safety Shutdown System of Indian SFR

*Wednesday 1 October 2025 16:00 (30 minutes)*

## Speaker's title

Mr

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India

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**Session Classification:** Track 4.1

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

Contribution ID: 17

Type: **not specified**

# Investigation on the Self-Start-Stop Functionality for Small Sodium Cooled Fast Reactor Nuclear Power Systems

*Tuesday 30 September 2025 16:50 (30 minutes)*

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**Authors:** LI, Yichen (China Institute of Atomic Energy); Mr HOU, Bin (China Institute of Atomic Energy); Mr ZHU, Huanjun (China Institute of Atomic Energy); Mr QIAN, Jundong (China Institute of Atomic Energy); Mr YAN, Xiangyu (China Institute of Atomic Energy); Mr YU, Qi (China Institute of Atomic Energy)

**Presenter:** LI, Yichen (China Institute of Atomic Energy)

**Session Classification:** Track 3

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

Contribution ID: 18

Type: **not specified**

# CONCEPTUAL DESIGN OF A MICRO NUCLEAR ENERGY SYSTEM WITH INTEGRATED HEAT PIPE COOLED REACTOR AND MOLTEN SALT HEAT STORAGE

*Wednesday 1 October 2025 14:30 (30 minutes)*

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**Presenter:** Dr HUANG, dong (Xi'an Jiaotong University)

**Session Classification:** Track 4.1

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

Contribution ID: 22

Type: **Oral**

## **FAST REACTORS ACTIVITIES IN ROMANIA**

*Tuesday 30 September 2025 10:05 (30 minutes)*

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**Session Classification:** Track 1.2

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

Contribution ID: 23

Type: **Oral**

## **EXPERIMENTAL INFRASTRUCTURE IN SUPPORT OF R&D AND LICENSING PROCESS FOR LEAD FAST REACTOR TECHNOLOGY**

*Wednesday 1 October 2025 12:00 (30 minutes)*

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**Session Classification:** Track 6

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

Contribution ID: 25

Type: **Poster**

## DESIGN OPTIMIZATION OF SURGE TANK HYDRAULICS OF SFR

*Thursday 2 October 2025 14:35 (1 hour)*

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**Presenter:** PERIKKENGAL, LIJUKRISHNAN

**Session Classification:** Poster Session

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



Contribution ID: 27

Type: **not specified**

## CFD SIMULATION OF LONG-TERM COOLING OF CORIUM IN ALLEGRO CORE CATCHER

*Thursday 2 October 2025 10:00 (30 minutes)*

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Mr

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**Presenter:** Mr KOMRSKA, Jan (ÚJV)

**Session Classification:** Track 4.2

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

Contribution ID: 29

Type: **not specified**

## **Determination Of Carbide Fuel Maximal Burnup For Allegro Gas Cooled Fast Reactor**

*Monday 29 September 2025 14:30 (30 minutes)*

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**Presenter:** DOSKOČIL, Jan (ÚJV Řež)

**Session Classification:** Track 5

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

Contribution ID: 35

Type: **Poster**

## DESIGN OF COVER GAS PURIFICATION SYSTEM FOR FAST BREEDER REACTOR

*Thursday 2 October 2025 14:35 (1 hour)*

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**Session Classification:** Poster Session

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

Contribution ID: 36

Type: **not specified**

## RECENT DEVELOPMENTS TOWARD A FLEET OF FAST REACTORS IN FRANCE

*Monday 29 September 2025 12:30 (30 minutes)*

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Mr

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**Presenter:** BARBE, Vincent (EDF)

**Session Classification:** Track 1.1

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

Contribution ID: 38

Type: **Oral**

## **EXPERIMENTAL DEMONSTRATION AND PERFORMANCE EVALUATION OF PASSIVE DECAY HEAT REMOVAL SYSTEM OF PFBR**

*Wednesday 1 October 2025 16:30 (30 minutes)*

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**Presenter:** S, SATHISHKUMAR (Indira Gandhi Centre for Atomic Research)

**Session Classification:** Track 4.1

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

Contribution ID: 40

Type: **Oral**

## **ISIR SIMULATION USING CEA-SPECIFIC ULTRASONIC INSTRUMENTATION: TWO MOCKUP STUDIES**

*Wednesday 1 October 2025 15:00 (30 minutes)*

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**Session Classification:** Track 4.1

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

Contribution ID: 41

Type: **not specified**

## **Research Progress on Metallic Fuel for Integrated Fast Reactors: Characteristics, Challenges, and Future Prospects**

*Monday 29 September 2025 15:00 (30 minutes)*

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**Presenter:** YAPING, Li (CIAE)

**Session Classification:** Track 5

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

Contribution ID: 42

Type: **Oral**

## **ALLEGRO, the Gas Fast Reactor Demonstrator, Advancement and challenges**

*Tuesday 30 September 2025 12:05 (30 minutes)*

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**Presenter:** Mr Kvizda, Boris (VUJE, a.s.)

**Session Classification:** Track 1.2

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



Contribution ID: 44

Type: **Oral**

## **Environmental Degradation Testing of Alloy 709**

*Monday 29 September 2025 16:30 (30 minutes)*

### **Speaker's title**

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**Presenter:** JOKISAARI, Andrea (Idaho National Laboratory)

**Session Classification:** Track 5

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

Contribution ID: 45

Type: **Poster**

## **International Collaboration on Severe Accident Studies for Sodium-Cooled Fast Reactor Development in JAEA**

*Thursday 2 October 2025 14:35 (1 hour)*

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**Presenter:** YAMANO, hidemasa (Japan Atomic Energy Agency)

**Session Classification:** Poster Session

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

Contribution ID: 46

Type: **Oral**

## DEVELOPMENT OF OPTICAL NEUTRON DETECTORS AT CEA: Toward an innovative neutron detector for sodium fast reactors

*Thursday 2 October 2025 10:30 (30 minutes)***Speaker's title**

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Contribution ID: 48

Type: **Oral**

## **BN-1200M New Generation Reactor Plant**

*Monday 29 September 2025 11:00 (30 minutes)*

### **Speaker's title**

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**Session Classification:** Track 1.1

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

Contribution ID: 51

Type: **not specified**

# COMPONENT DEVELOPMENT AND TESTING FOR FUEL HANDLING MACHINES IN SODIUM FAST REACTORS AT ARGONNE NATIONAL LABORATORY

*Thursday 2 October 2025 12:00 (20 minutes)*

## **Speaker's title**

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**Presenter:** Dr GRANNAN, Alexander (Argonne National Laboratory)

**Session Classification:** Track 4.2

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

Contribution ID: 54

Type: **Oral**

## Status of U.S. Fast Reactor Development

*Monday 29 September 2025 12:00 (30 minutes)*

### Speaker's title

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**Session Classification:** Track 1.1

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

Contribution ID: 55

Type: **not specified**

# Bearing Testing in Liquid Sodium for Fast Reactor Technology

*Thursday 2 October 2025 12:20 (20 minutes)*

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**Presenter:** OGREN, Evan (Argonne National Laboratory)

**Session Classification:** Track 4.2

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

Contribution ID: 57

Type: **Oral**

## DEVELOPMENT AND IMPLEMENTATION OF THE COMMERCIAL EAGLES-300 PROGRAM

*Tuesday 30 September 2025 10:35 (30 minutes)*

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**Presenter:** CARAMELLO, Marco (Ansaldo Nucleare)

**Session Classification:** Track 1.2

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



Contribution ID: 58

Type: **Oral**

## **CONCEPTUAL DESIGN FOR THE POOL-TYPE SODIUM-COOLED FAST REACTOR (1) General plan and core design**

*Tuesday 30 September 2025 14:35 (45 minutes)*

### **Speaker's title**

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**Presenter:** KUBO, Shigenobu (Deputy Director Advanced Fast Reactor Cycle System R&D Center, JAEA)

**Session Classification:** Track 1.2

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

Contribution ID: 59

Type: **Oral**

## **PROGRESS OF THE FAST MODULAR REACTOR CONCEPTUAL DESIGN**

*Tuesday 30 September 2025 16:20 (30 minutes)*

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**Session Classification:** Track 3

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

Contribution ID: 60

Type: **Oral**

## **MICRO-SIZE MULTI-MODULE MOLTEN SALT AND METAL REACTOR (MSMR) FOR HIGH POWER AND LONG LIFETIME**

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**Presenter:** RYU, JAEHYUN

**Session Classification:** Track 3

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

Contribution ID: 61

Type: **Poster**

## **CONCEPTUAL DESIGN FOR THE POOL-TYPE SODIUM-COOLED FAST REACTOR (3) Basic concept of reactor structure**

*Thursday 2 October 2025 14:35 (1 hour)*

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**Session Classification:** Poster Session

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

Contribution ID: 62

Type: **Poster**

## **CONCEPTUAL DESIGN FOR THE POOL-TYPE SODIUM-COOLED FAST REACTOR (2) General plan for research and development**

*Thursday 2 October 2025 14:35 (1 hour)*

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**Session Classification:** Poster Session

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

Contribution ID: 63

Type: **not specified**

## **INTRODUCTION TO THE OVERALL DESIGN OF METALLIC FAST REACTOR OF THE CiFR1000**

*Monday 29 September 2025 10:30 (30 minutes)*

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**Presenter:** XUE, Fang-yuan

**Session Classification:** Track 1.1

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

Contribution ID: 65

Type: **Oral**

# DESIGN OF A FLOW REDISTRIBUTION DEVICE FOR THE ANNULAR SECTION OF A REFLUX TYPE ELECTROMAGNETIC PUMP USING CFD

*Thursday 2 October 2025 11:00 (30 minutes)***Speaker's title**

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Contribution ID: 66

Type: **Oral**

## **ESFR-LIKE PLUTONIUM BURNERS: DESIGN AND SAFETY STUDIES**

*Tuesday 30 September 2025 15:20 (30 minutes)*

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**Session Classification:** Track 3

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



Contribution ID: 68

Type: **not specified**

## Update on GFR R&D Program in Czechia

*Tuesday 30 September 2025 11:05 (30 minutes)*

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**Session Classification:** Track 1.2

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

Contribution ID: 69

Type: **Oral**

## **TRANSITION FROM FORCED TO NATURAL CIRCULATION ASSESSMENT IN CIRCE-THETIS EXPERIMENTAL FACILITY**

*Wednesday 1 October 2025 10:30 (30 minutes)*

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**Session Classification:** Track 6

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

Contribution ID: 73

Type: **Oral**

## **STATUS OF U.S. FAST REACTOR FUEL RESEARCH DEVELOPMENT AND DEPLOYMENT**

*Monday 29 September 2025 16:00 (30 minutes)*

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**Presenter:** JENSEN, Colby (Idaho National Laboratory)

**Session Classification:** Track 5

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

Contribution ID: 75

Type: **not specified**

## KEY MILESTONES OF NEWCLEO'S THERMAL-HYDRAULIC EXPERIMENTAL PROGRAMME

*Wednesday 1 October 2025 11:30 (30 minutes)*

### **Speaker's title**

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**Presenter:** Dr MORETTI, Fabio (newcleo)

**Session Classification:** Track 6

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

Contribution ID: 76

Type: **Poster**

## Investigation and qualification of Nuclear Materials for Gen-IV Lead Fast Reactor

*Thursday 2 October 2025 14:35 (1 hour)*

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**Presenter:** UTILI, Marco (ENEA)

**Session Classification:** Poster Session

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

Contribution ID: 77

Type: **Oral**

## **EXPERIMENTAL STUDIES ON SEVERE ACCIDENTS IN SFRs**

*Wednesday 1 October 2025 10:00 (30 minutes)*

### **Speaker's title**

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**Presenter:** Dr HEMANTH RAO, Ellapu (IGCAR)

**Session Classification:** Track 6

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

Contribution ID: 79

Type: **Poster**

## FR26 test

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

Contribution ID: **80**

Type: **not specified**

## Panel Discussion

**Session Classification:** Track 6



Contribution ID: **81**

Type: **not specified**

## Track 4 Concluding Discussion

*Thursday 2 October 2025 12:40 (30 minutes)*

**Session Classification:** Track 4.2