



| Poster Session 3 (UST-KAERI) |                                        |
|------------------------------|----------------------------------------|
| Date / Time                  | September 9 (Wed.), 2026 / 09:30~11:30 |
| Place                        | 3F, Foyer                              |

#### [WP\_1]

##### **Particle Flux Enhancement Using In-Vessel Electromagnet in Particle Flux Irradiation Facility at KAERI**

Cheolwan Park<sup>1,2</sup>, Haewon Shin<sup>1</sup>, Dong Won Lee<sup>1</sup>, Kill-Byoung Chai<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>UST-KAERI School

#### [WP\_2]

##### **Probing Material Response under Laser Shockwaves Using Velocity Interferometry**

Malaika Sada<sup>1,2</sup>, Adnan Tariq<sup>1,2</sup>, Hana Kim<sup>3</sup>, Kitae Lee<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology, <sup>3</sup>Institute for Basic Science

#### [WP\_3]

##### **Experimental Investigation of Microwave Sintering of Lunar Regolith Simulant**

Geonwook Park<sup>1,2</sup>, Myungjin Bae<sup>1,2</sup>, Kyu-Ha Jang<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute

#### [WP\_4]

##### **Characterization of the Electron Beam Extracted from a Microtron Accelerator**

Young Uk Jeong<sup>1,2</sup>, Myungjin Bae<sup>1,2</sup>, Sangyoon Bae<sup>3</sup>, Hyun Woo Kim<sup>2</sup>, Kyu-Ha Jang<sup>2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute, <sup>3</sup>Institute for Basic Science

#### [WP\_5]

##### **Preliminary Geant4 Simulation Study on Spatial Resolution of a Light-Guiding Scintillator for Fast Neutron Imaging**

Hanna Lee<sup>1,2</sup>, Pilsoo Lee<sup>1,2</sup>, Soobin Lim<sup>3</sup>, Gyeongjin Choi<sup>4</sup>, Bongki Jung<sup>3</sup>, Kyoung-Jae Chung<sup>4</sup>, Dong Won Lee<sup>2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute, <sup>3</sup>Q-Beam Solution Inc., <sup>4</sup>Seoul National University

#### [WP\_6]

##### **Development of EUV Light Source Using a Pulsed-Power Plasma Experiment**

Dongwan Kim<sup>1,2</sup>, Haewon Shin<sup>1</sup>, Kil-Byoung Chai<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

#### [WP\_7]

##### **Geant4-DNA Simulation of Radiation-Induced DNA Damage in Reduced-Scale Human Fibroblast Cell Model: Quantification of Strand Breaks and Oxidative Base Lesions**

Tu Minh Khuong<sup>1,2</sup>, Jong-Hyun Jung<sup>1</sup>, Sangyong Lim<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

#### [WP\_8]

##### **Radiolabeling and In Vivo SPECT/CT Imaging of an Antiviral Agent for Feline Infectious Peritonitis**

Khurram Shahzad<sup>1,2</sup>, Jeong Ae Kang<sup>3</sup>, Sang Hyun Park<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology, <sup>3</sup>Osong Medical Innovation Foundation



**[WP\_9]**

**Development of a Gas-Based Separation System for Metallic Nuclides**

Min Jae Shin<sup>1,2</sup>, Hye Ran Noh<sup>2</sup>, Sang Ho Lim<sup>1,2</sup>, Jong-Yun Kim<sup>1,2</sup>, Dong Woo Lee<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute

**[WP\_10]**

**Fabrication of Large-Scale UO<sub>2</sub> Blocks by Slip Casting for Enhanced Storage Efficiency**

Daeuk Kang<sup>1,2</sup>, Yunmock Jung<sup>2</sup>, Kweonho Kang<sup>2</sup>, Kyungho Roh<sup>3</sup>, Beomgyu Kim<sup>3</sup>, Eun-Young Choi<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute, <sup>3</sup>Korea Hydro and Nuclear Power Central Research Institute

**[WP\_11]**

**Dehydration and Rehydration Behavior of MSR Candidate Chloride Salts**

Seol Kim<sup>1,2</sup>, Hyeonwoo Kim<sup>3</sup>, Joonha Park<sup>1,2</sup>, Seok Min Yoon<sup>1,2</sup>, Dokyu Kang<sup>1</sup>, Taeho Kim<sup>1,2</sup>, Chang Hwa Lee<sup>1,2</sup>, Sangtae Kim<sup>3</sup>, Eun-Young Choi<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology, <sup>3</sup>Hanyang University

**[WP\_12]**

**Influence of Impurity Moisture Levels on the Degradation of Structural Alloys in Molten KCl-MgCl<sub>2</sub>**

Seok Min Yoon<sup>1,2</sup>, Joonha Park<sup>1,2</sup>, Eun-Young Choi<sup>1,2</sup>, Chang Hwa Lee<sup>1,2</sup>, Taeho Kim<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute

**[WP\_13]**

**Evaluation of Nanofiltration Membranes for Boron Upcycling in a Cross-Flow System**

Dongjae Noh<sup>1,2</sup>, Hee-Man Yang<sup>1,2</sup>, Chan Woo Park<sup>1,2</sup>, Il-Gook Kim<sup>1</sup>, Gi-Rak Lee<sup>1</sup>, Hwan Seo Park<sup>1</sup>, Hyung-Ju Kim<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_14]**

**Development of Photopolymerization Based 3D-Printed Plastic Scintillators with Improved Shape Stability for Beta Detection**

Sujin Kim<sup>1,2</sup>, Sujung Min<sup>2</sup>, Bum Kyoung Seo<sup>2</sup>, Sang Bum Hong<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute

**[WP\_15]**

**Carbonization Temperature-Dependent Xe/Kr Adsorption Behavior of PVDF-Derived Porous Carbons for Molten Salt Reactor Off-Gas Treatment**

Namcheol Kim<sup>1,2</sup>, Seok-Min Hong<sup>1,2</sup>, Chang Hwa Lee<sup>1,2</sup>, Eun-Young Choi<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_16]**

**Selective Melt-Extraction of CsCl from LiCl-Based Ingot**

Chae-Woong Ma, Jung-Hoon Choi

Korea Atomic Energy Research Institute



**[WP\_17]**

**Rehydration-Accelerated Corrosion of SS316H in Molten  $MgCl_2$**

Joonha Park<sup>1,2</sup>, Seol Kim<sup>1,2</sup>, Jae Yun Lee<sup>1,2</sup>, Chang Hwa Lee<sup>1,2</sup>, Eun-Young Choi<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute

**[WP\_18]**

**Preparation of EDTA-Assisted Hydrothermal Corrosion Oxide Film on Inconel 600 for Decontamination of Steam Generator Tube in Nuclear Power Plant**

Muhammad Wasim Ikram<sup>1,2</sup>, Sang-Hun Lee<sup>1</sup>, Yessika Natalia Chelsie<sup>1</sup>, Hafiz Amir Nadeem<sup>1,2</sup>, Seung joo Lim<sup>1,2</sup>, Wangkyu Choi<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_19]**

**Autoclave-Assisted Oxide Layer Formation on Inconel 690**

Hafiz Amir Nadeem<sup>1,2</sup>, Sang-Hun Lee<sup>1,2</sup>, Yessika Natalia Chelsie<sup>1,2</sup>, Muhammad Wasim Ikram<sup>1,2</sup>, Seung joo Lim<sup>1,2</sup>, Wangkyu Choi<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_20]**

**Complexity-Aware Composition and Optimization of Multi-Agent Workflows**

Jaejun Lee<sup>1,2</sup>, Hogeon Seo<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_21]**

**Vision-Based Sensor-Minimal Robotic System for High-Torque Bolt Fastening in Unstructured Industrial Environments**

Hyeokbeom Kwon<sup>1,2</sup>, Jinyi Lee<sup>1,2</sup>, Jongwon Park<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_22]**

**Constructing Citation Knowledge Graph from Nuclear Regulatory Documents for Traceable Evidence Retrieval: A Case Study**

Bokyeong Kim<sup>1,2</sup>, Yonggyun Yu<sup>3</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute, <sup>3</sup>National Research Council of Science & Technology

**[WP\_23]**

**Design of a Versatile Leader-Follower Teleoperation System for Nuclear Disaster Scenarios**

Jaehee Park<sup>1</sup>, Jinyi Lee<sup>2</sup>, Jongwon Park<sup>1,2</sup>

<sup>1</sup>University of Science and Technology, <sup>2</sup>Korea Atomic Energy Research Institute

**[WP\_24]**

**Comparing LLM Agent Architectures for Nuclear Procedural Automation: Where Multi-Agent Coordination Helps and Where It Fails**

Joowon Cha<sup>1,2</sup>, Seung-Geun Kim<sup>1</sup>, Yonggyun Yu<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology



**[WP\_25]**

**A Stage-Gated Workflow for Evidence-Bounded Review of AI-Generated Nuclear Technical Claims: A Reactor Coolant System Pilot**

Byeongha Jo<sup>1,2</sup>, Yonggyun Yu<sup>3</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology, <sup>3</sup>National Research Council of Science and Technology

**[WP\_26]**

**Comparative Analysis of Input Modalities for 3D CAD Generation Using Multimodal Large Language Models**

YeongA Jang<sup>1,2</sup>, Hogeon Seo<sup>1,2</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

**[WP\_27]**

**Whole-Body Collision Avoidance and Haptic Feedback in Vision-Guided VR Teleoperation for Radioactive Waste Management**

GeeGum Lee<sup>1,2</sup>, Seungnam Yu<sup>1</sup>

<sup>1</sup>Korea Atomic Energy Research Institute, <sup>2</sup>University of Science and Technology

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