



# THE SECOND SAUDI INTERNATIONAL CONFERENCE ON (NUCLEAR POWER ENGINEERING (SCOPE-2

**Tuesday, 4 November 2025**

**- Ground-104 - Lecture Hall (13:00/60 - Fuel Cycle and Waste Management: Waste to Power: Next-Gen Nuclear Paths (14:30**

**Conveners: Francois Foulon; Muhammad Yusuf-**

time	id] title]	presenter
13:00	Harnessing Energy Potential from High-Level Nuclear Waste [25131]	
13:15	Irradiation History Reconstruction for Pebble-Bed HTGR Based on [25167] Generalized Reinforcement Policy Optimization	
13:30	:Multiphase Fluid Flow In Nuclear systems (MULTIForm) Facility [25228] Current research in the hydrotransport loop	
13:45	Life Cycle Assessment of the Barakah Nuclear Energy Plant: Nuclear [25307] Contribution to UAE Net-Zero Goal	
14:00	Neutronic Evaluation of Reprocessed GANEX/UREX+ Fuels Spiked [25342] with Depleted Uranium in SMART Reactor	PEREIRA, Claubia
14:15	Tunable Sulfur Vacancies in Amorphous-crystalline AC-Bi <sub>2</sub> Si <sub>3</sub> -x@C [25454] Derived from CAU-17 for Efficient Capture of Radioiodine: Comparison of Sulfur Vacancies in Amorphous and Crystalline Structures	

**Ground-104 - Lecture/60 - Fuel Cycle and Waste Management: Chemical Process on Fuel Cycle and Waste Management (Hall (14:45 - 16:00**

**Conveners: Timothy Hunter; Muhammad Yusuf-**

time	id] title]	presenter
14:45	Optimizing COFs Properties for Uranium Uptake: The Role of Alcohol in [25117] Aqueous Precipitation	
15:00	Engineering Amidoxime-Grafted MOF-808 for Rapid and Efficient [25161] Uranium Extraction from Seawater	
15:15	Process Intensification for Radioactive Wastewater Treatment: Efficient [25216] Pb <sup>2+</sup> and Cu <sup>2+</sup> Removal Using an Agitated Tubular Reactor	
15:30	Developing polyamide nanofiltration membranes for treating radioactive [25248] waste effluents: a review	

## Wednesday, 5 November 2025

### (Ground-102 - Lecture Hall (09:30 - 11:00/60 - Fuel Cycle and Waste Management: Fuel and Waste Development

Conveners: Lewis Blackburn; Belal Al Momani-

time	id] title]	presenter
09:30	Leak Prevention Strategies for Spent Fuel Pools: A Comparison-Based [25141] Study of Pool Design Technologies	
09:45	Microbiology in nuclear waste disposal: Microbiologically influenced [25160] corrosion of nuclear waste canister materials	
10:00	Understanding Microbial Corrosion in Spent Fuel Pools through [25260] Bibliometric Trends and Microbiological Evidence	PAMUNGKAS, Niken Siwi
10:15	Dissolution Behavior of Unirradiated MOX Fuel in the Presence of [25200] Metallic Iron and Its Corrosion Products Magnetite and Chukanovite	
10:30	A Ten-Year Self-Review of Safety Assessment Framework for Dry [25163] Systems under Impact Loadings: Methods and Research Prospects	
10:45	Development of Advanced Ceramics in Support of Radioactive Waste [25451] Management	

### - Ground-104 - Lecture Hall (13:30/60 - Fuel Cycle and Waste Management: Radioactive Waste Disposal Strategy (14:30

Conveners: Aznan Fazli Ismail; Pieter Boom-

time	id] title]	presenter
13:30	Numerical study of $^3\text{He}$ , $\text{BF}_3$ , and NaI Detectors using compensated [25129] neutron log method for porosity measurements at the abandoned well of limestone formation for potential deep borehole disposal candidate	
13:45	Why Artificial Intelligence Is Beneficial For Low Intermediate Level [25149] :Waste Management for Long-Term Sustainable Near Surface Disposal Design Enhancing Groundwater Monitoring Using Time Series Forecasting	PAMUNGKAS, Niken Siwi
14:00	The challenges, opportunities and future outlooks of current [25252] underground research facilities for deep geological nuclear waste disposal: A review study	
14:15	Site Study for Long-term Storage and Integrated Disposal Facility in the [25265] Jawa Island Indonesia	