



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

**Monday, 3 November 2025**

**- Nuclear Applications and Radiation Processing: Policy, Regulation, and Public Acceptance of Nuclear Energy**

**(Ground-102 - Lecture Hall (13:00 - 14:00/60**

**Conveners: Tariq Alabdulah; Mohamed Mitwalli-**

time	id] title]	presenter
13:00	Regulatory Overview of the Accelerators Used to Produce [25150] Radioisotopes in Belgium	
13:15	Role of Nuclear Power in the Race to Net Zero Target: A Case Study of [25190] Bangladesh's Upcoming Rooppur Nuclear Power Plant	
13:30	Social Acceptance of Nuclear Power: Insight from Qualitative Interviews [25199] in Bangladesh	
13:45	Optimizing the Medical Cyclotrons in Saudi Arabia: From Installation to [25355] Decommissioning	

**Ground-102 - Lecture Hall/60 - Nuclear Applications and Radiation Processing: Neutron-Based Analytical Techniques**

**(15:15 - 14:15)**

**Conveners: Fatai Liadi; Schmitz Frederic-**

time	id] title]	presenter
14:15	Monte Carlo Simulation of Prompt Gamma Neutron Activation Analysis [25128] PGNAA) for Formation Porosity Measurement in Nuclear Well Logging)	
14:30	Application of Compton Imaging For the Reconstruction Of a Gamma [25243] Source in Nuclear Safeguards Activities	
14:45	Development of MCNP-GA Hybrid Model for Enrichment Evaluation of [25299] Nuclear Material	
15:00	Delayed and Prompt Gamma Neutron Activation Analysis of Vanadium [25306] Soil Sample Using Genie-16 Portable Neutron Generator at KFUPM	

## Tuesday, 4 November 2025

### - Ground-102/60 - Nuclear Applications and Radiation Processing: Advances in Radiobiology and Medical Imaging

(Lecture Hall (10:00 - 11:00

Conveners: Tung Nguyen; Faris Al-Matouq-

time	id] title]	presenter
10:00	Stimulating IFN- $\beta$ Production in Glioblastoma Through Proton [25297] Beam-Induced cGAS–STING Activation: A Monte Carlo Study	
10:15	Imaging of hypoxia in colorectal cancer and gastroesophageal cancer [25356] with positron emission tomography	
10:30	Bulk Hydrogen Analysis of Cyanogenic Food Plants Using Neutrons for [25424] Routine Quality Control	
10:45	Evaluating the Potential of X-Ray Radiation as a Control Method for [25386] Red Palm Weevil ( <i>Rhynchophorus ferrugineus</i> ) Larvae	

### - Ground-102/60 - Nuclear Applications and Radiation Processing: Radiation Safety through Materials and Modeling

(Lecture Hall (11:00 - 12:00

Conveners: Moch Romli; Aznan Fazli Ismail-

time	id] title]	presenter
11:00	Nuclear Radiation attenuation and Elasto-Mechanical Properties of [25204] La <sub>2</sub> O <sub>3</sub> based Boro-Silicate Glasses: Comparative Analysis	
11:15	From Waste to Shield: High-Performance X-ray Protection with [25385] Recycled Electrical Board/LDPE Composites	
11:30	Simulation of hBN/HDPE Composites for 2.5 MeV Neutron Shielding [25422] Using GEANT4	

### - Ground-102/60 - Nuclear Applications and Radiation Processing: Advancing Energy Transition with Nuclear Power

(Lecture Hall (14:45 - 16:00

Conveners: Faris Al-Matouq; Tung Nguyen-

time	id] title]	presenter
14:45	Energy substitution dynamics: a binary logistic model for fossil and [25254] non-fossil competition	
15:00	Heat-only Small Modular Reactors for District Cooling and Water [25337] Desalination: Saudi Arabia Case Study	
15:15	The Contribution of Nuclear Energy to Accelerating Progress towards [25153] Low-Carbon Energy	
15:30	Market Assessment and Cogeneration Potential of High-Temperature [25137] Gas-cooled SMRs for Green Steel Production in Saudi Arabia	
15:45	Nuclear Power Plants as a Sustainable Power Source for Electric [25247] Vehicle Transition in Saudi Arabia: A Comparative Life Cycle Assessment of Environmental Impacts	

## Wednesday, 5 November 2025

### - Nuclear Applications and Radiation Processing: Environmental Radioactivity and Remediation Strategies

(Ground-102 - Lecture Hall (11:15 - 12:30/60

Conveners: Muzahir Ali; Tariq Alabdulah-

time	id] title]	presenter
11:15	Investigating the Potential Use of Different Adsorbents to Mitigate Soil [25123] Contamination	
11:30	New functionalization of –N and –S groups in chitosan/Moringa oleifera [25181] hydrogel beads enhances the complete and selective removal of uranium and .their application in seawater	
11:45	Radon Exhalation Rates and Dose Assessment from Some Marble and [25461] Granite Used in Saudi Arabia	
12:00	Radiological Hazard Assessment and Health Implications due to Soils of [25188] Medicinal Plants in Peninsular Malaysia	

### - Ground-102/60 - Nuclear Applications and Radiation Processing: High-Energy Beams and Material Interactions

(Lecture Hall (13:30 - 14:30

Conveners: Keziah Garba; Schmitz Frederic-

time	id] title]	presenter
13:30	Characterization of Longitudinal electron beam dynamics in a compact [25111] S-band Standing Wave (SW) Radio-Frequency (RF) Photoinjector (1.5 cell (design	
13:45	Thermoluminescence and Structural Characterization of Natural Flake [25201] Graphite Under 6 MV Photon Exposure from Medical LINAC for Dosimetric Applications	
14:00	Defects Creation in Ionic Fluoride Crystals by MeV Heavy Ions [25192]	
14:15	IONOPTICAL CALCULATIONS OF KACST ANALYZING MAGNET [25138] SYSTEM FOR HEAVY MOLECULAR IONS	