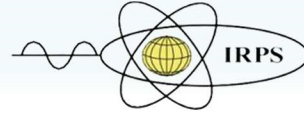




The 12th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-12) 2025

Riyadh – Saudi Arabia
26 – 30 January 2025

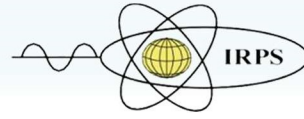




Abstract

Group One Poster Session

26-27/01/2025



Instructions:

1. Poster dimensions: Poster size should be no more than A0 (841 × 1189 mm, width × height (A0 according to ISO 216)).
2. Please note that at least one presenter should be staying in front of your posters during your entire time.
3. Please fix your poster at 8:00 on Sunday 26th Jan and remove it on Monday 27th Jan at 17:00.

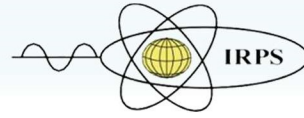
No.	ID Abstract	Name	Title
1	054	Ahmed A. AlGhamdi	Development of a Novel Design of Gamma-Ray Densitometry (GRD) Technique for Multiphase Flow Systems
2	057	Abdullah Ghanem ALQahtani	Estimation of personal dose equivalent and skin doses during interventional radiology imaging
3	063	Junhyeok Kim	Characterization of a graphite calorimeter as a secondary standard dosimetry
4	068	Mohammed Ahmed Saeed	Association of Tc-99m Sestamibi Dose with Perfusion Deficits and Ejection Fraction in Patients Undergoing Myocardial Perfusion Imaging
5	077	Saad A. Alshahri	Enhancing Backscatter X-Ray Imaging: An Advanced AI Algorithm for Material Identification
6	081	Shyma Alkhateeb	Assessment of radiation protection practices in dental clinics in Jeddah, Kingdom of Saudi Arabia
7	085	Mehdi Hassanpour	Advanced Spectroscopic Techniques for Enhanced Detection of Radon Gas in Varied Environments



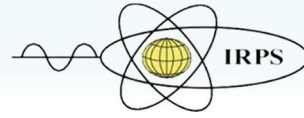
8	086	Milan Stefanik	Neutron activation analysis of palaeontological samples at the VR-1 training reactor
9	087	Mohammad Alsulimane	Investigating the impact of various Nanoparticle materials at different concentrations as radiosensitizers for proton therapy using Geant4 toolkit
10	088	Mohammad Zahirul Islam Mollah	Radiation Processing for Developing PVA-alginate Biomaterials: Properties Evaluation and Characterization
11	096	Yousif Mohamed Yousif Abdallah	Assessment of Radiation Exposure Levels in Patients Undergoing Diagnostic X-ray Procedures
12	0102	Sultan Alhujaili	Standardization and Optimization of Diagnostic Reference Levels for CT Imaging of the Chest, Abdomen, and Pelvis in the Madina Region, Saudi Arabia,
13	0105	Tomas Trojek	Detection and quantification of uranium in solid samples with non-destructive X-ray fluorescence analysis
14	0107	Thanh Tai Duong	Scanning protocol influence on relative electron density-CT number calibrations and radiotherapy dose calculation for a Halcyon Linac
15	0108	Mohamed Abu Al Sayed	Impact of rare earth oxides on the gamma radiation shielding features of borate based glasses
16	0115	Ryan Nabil Hasan ALqawasmi	Study of the influence of micro-and nano-scale ZnO particles on the radiation shielding capability of B2O3-PbO-BaO-ZnO glass syste
17	0116	Mohamed Elsafi abdel salam	The impact of PbO2 in PbO2-BaO-CaO-B2O3-Y2O3 glass: Physical, Mechanical and shielding characterization
18	0118	Mohamed H.A. Ibrahim	Optimizing Radiation Shielding: Superior Performance of Nano-Scale PbO, Bi2O3, and WO3 Composites



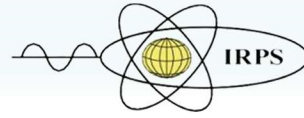
19	0120	Mohammed Albogami	Role of DEXA scan and bone turnover biomarkers clinical assessment of changes in bone density
20	0121	Feda'a Fawaz Mohammad Amro	Assessing the radiation shielding potential of borate glasses enhanced with PbO ₂ , BaO, and Y ₂ O ₃ Additives
21	0122	Zahra Abbas	Evaluating the awareness level among radiographers regarding proper handling and safety concerns of radioactive materials in Salmaniya medical complex
22	0124	M. Alnuaimi	Optimization of Calibration Factors and Recovery Coefficients for Lu-177 SPECT/CT Using Phantoms
23	0125	Faisal A.Rahim Shenawy	Development of a Web-Based Tool for Single Time-Point Absorbed Dosimetry Calculation Using the H _{ans} cheid Approximation
24	0126	Tamer Ibrahim Elsobky	Distribution and Hazards of Radionuclides in Black Shales: A Case Study in El Hommr Area.
25	0127	Thanh-Tai Duong	Dosimetric Impacts on Radiation Beam Numbers in Intensity Modulated Radiotherapy (IMRT) Planning for Head-and-neck, Breast and Pelvis Cancer using Halcyon Linear Accelerator
26	0128	Nguyen Tuong	Application of Volumetric Modulated Arc Therapy (VMAT) for Craniospinal Irradiation Using Elekta Synergy Linear Accelerator at Hue Central Hospital
27	0132	Musaed N. J. AlAwad	Review of Naturally Occurring Radioactive Materials and Applied Radiation-based Technologies Management in the Oil and Gas Industry
28	0136	Fahad Alowead	Machine Learning Analysis of Diagnostic Reference Levels for Radiation Dosage From Routine Computed Tomography Examinations
29	0137	Fang-Yuh Hsu	Dose assessment for workers in the steel industry who discover and handle scrap metal raw materials containing radioactive materials



30	0138	Fang-Yuh Hsu	Dose assessment of the helper in veterinary X-ray room during the X-ray examination
31	0139	Priscila Resmer Castilho	Optimizing pediatric radiography: assessing image quality and reducing radiation dose using a contrast-detail phantom
32	0141	Turki Almatani	Monte Carlo Simulation of Head Scatter and Radiation Leakage of a 6 MV Photon Beam from an Agility Head Using FLUKA
33	0143	Suchart Kothan	Radiation Protective Windows for Industry and Medical Applications
34	0144	Shahad Alrushud	Volumetric Modulated Arc Therapy (VMAT) For Total Body Irradiation (TBI) VS Conventional TBI
35	0150	Kaleem Ahmad	Compliance of International Obligations under Comprehensive Safeguards Agreement for Power and Research Reactors in Saudi Arabia
36	0151	Ashraf Almahwasi	Low Dose Hyper-Radiosensitivity In Normal Human Cells Following Proton Irradiations
37	0154	Mohamed Omer Yousef	Knowledge of Radiation Protection Among Medical Students in Jeddah, Saudi Arabia
38	0155	Abdulkareem Al-Garni	The Impact of Ionizing Radiation on Leukemia Risk
39	0158	Abdullah Almujally	Study of radiation exposure to patients during cardiac catheterization
40	0159	Abdullah Almujally	Pediatric Radiation Effective dose during Computed Tomography
41	0161	Mohammed Yousif Mohammed	Blood Irradiation in Medicine: Ensuring Safe Transfusion
42	0162	Nada Abbas Ahmed	Assessment of Radiation dose Metrics in Nuclear Medicine



43	0163	Khalid Alsafi	Radiation dose and attributed cancer risk in Computed tomography coronary angiography (CTCA) using 256-row detector CT scanner
44	0164	Akemi Yagui	Assessment of Radiation Doses in Interventional Cardiology Procedures in a Pediatric Hospital
45	0165	Ghadeer Naser Alharbi	Evolving the cerebellum: Insight into Age-Related Functional Changes
46	0166	Sawsan Aldusaymani	Rapid and sensitive detection of Gamma rays using Cd-functionalized QTF and MEMS-based microcantilever sensors
47	0174	Hassan Salah Ibrahim Sirajeldien	Challenges Faced by Radiology Department Workers in Dealing with Disabled Patients
48	0176	Mayeen Uddin Khandaker	Studies of natGd(p,x) nuclear reaction cross-sections for optimized production of theranostic ¹⁵⁵ Tb radionuclide via AVF cyclotron
49	0180	Ibrahim I. Suliman	Review of various methods for occupational eye lens dosimetry in X-ray interventional procedures
50	0183	Tafaoul H. Ombada	Effective dose to patients from various X-ray interventional cardiology procedures



Abstract

Group Two Poster Session

28-29/01/2025



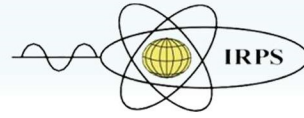
Instructions:

1. Poster dimensions: Poster size should be no more than A0 (841 × 1189 mm, width × height (A0 according to ISO 216).
2. Please note that at least one presenter should be staying in front of your posters during your entire time.
3. Please fix your poster at 8:00 on Tuesday 28th Jan and remove it on Wednesday 29th Jan at 15:00.

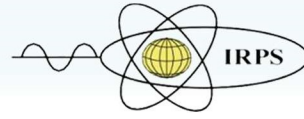
No.	ID Abstract	Name	Title
1	052	Thaar Aljuwaya	Enhancing Calibration in Radioactive Particle Tracking (RPT) Using GEANT4 Simulations Combined with a Semi-Empirical Model
2	053	Mohammed Alotaibi	Simulation of Radiation Attenuation Properties of C ₂ H ₄ -Sb ₂ O ₃ Polymer composites using GEANT4 Monte Carlo Code and XCOM
3	058	Abdullah S. Alomari	Recent Advancements in Neutron Imaging and Its Applications
4	064	Liangdeng Yu	Low-energy ion beam irradiation modification of rice seeds to induce brown-plantopper resistant mutants
5	065	Liangdeng Yu	X-ray emissions and production cross sections from thick silver induced by multiply-charged MeV He- and C-ion irradiations
6	066	Mashaal Alotaibi	Using of Cytokinesis Block Micronucleus Assay to monitor the risk of excessive radiation exposure in lymphocytes
7	070	Musaed Alie Almalki	A National Survey of Shielding Adequacy in Diagnostic Imaging Rooms in Major Public Hospitals in Ministry of Health Across Saudi Arabia
8	071	Naif S. Almuqati	Remediation of Uranium-Contaminated Groundwater Utilising Adsorption via Fe-Metal Organic Frameworks adsorbent
9	095	Mala Das	Study of the higher frequency response of superheated emulsion detector to neutrons from (p,n) reaction



No.	ID Abstract	Name	Title
10	0106	Yousif Hassan ALmalki	Radioisotopes Produced at King Faisal Specialist Hospital and Research Centre.
11	0134	Anees Ahmad	Engineering and Optimization of Thermoluminescent Materials for High-Sensitivity Radiation Therapy
12	0135	Hadi AlQahtani	Enhanced Sensitivity for Ethanol and Acetone using Gamma Irradiated TiO ₂ Chemoresistors
13	0140	Salam Rahma	Air Monitoring System at King Faisal Specialist Hospital and Research Centre
14	0153	Kholoud.S.Al-Mogren	Exploring the Efficacy of High Dose Rate (HDR) Brachytherapy Based on Ultrasound-Guided for Prostate Cancer Treatment: A Novel Approach at KFMC (Saudi Arabia)
15	0156	Nissren Tamam	Recurrent radiation exposure from Estimation the effective dose and cancer risk for patients underwent high resolution chest CT examination
16	0157	Ahmad Otainy	Radiation exposure for patients with speech impairment
17	0160	Ali Aamry	Evaluation of patients and staff during Nuclear Medicine examinations in Saudi Arabia
18	0167	Reem Alanazi	Monte carlo simulation with Geant4 for designing an accelerator-based neutron source for boron neutron capture therapy (BNCT)
19	0168	Paula Vosiak	Evaluating Radiation Dose Variability in Pediatric Abdominal and Pelvic Radiography
20	0169	Naima Zahar	Development of a Geant4 Monte Carlo Simulation for Mammographic X-Ray Tube
21	0170	Nissren Tamam	Assessment of Effective Doses in Male and Female Patients Undergoing Mammography
22	0171	Rasha Jaafar	Radiation dosimetry during CT angiography examinations
23	0172	Fatimah Alsaheed	Radiological Interpretation of Hemorrhagic Posterior Reversible Encephalopathy Syndrome (PRES) with Breast Cancer Patient on Chemotherapy: Case Report.



No.	ID Abstract	Name	Title
24	0173	Mohammed Alkhorayef	Evaluation of triple photon-positron annihilation using ¹⁸ F and ¹²⁴ I in positron emission tomography for hypoxia detection
25	0175	Layal Jambi	Establishing Diagnostic Reference Levels for Cardiac Interventional Procedures
26	0177	Abdo Mansour	Generation of Electrical Power using Siphon Effect
27	0179	Elmubarak Mohamed Ahmed	Development of an algorithm for assessment of Mobile X ray and C-arm quality control
28	0181	Yehia Hassan Johary	Occupational exposure during Cardiac Cathlab
29	0184	Salman Bilal	Measurement of Staff radiation dose at radiology and nuclear medicine department



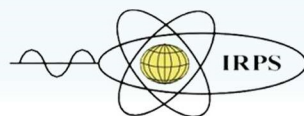
Virtual Session
Wednesday 29th Jan 2025
Time 12:30 – 15:00



Instructions:

1. **Oral presentation: 15 minutes presentation (recorded only)**
2. **Poster presentation: 3 minutes presentation (recorded only)**
3. **Presenters (oral/poster) can make a video using Zoom and send the link by email. Please, name the video using the same ID given to your abstract and the presenter's family name. Please share the link with us at RPCKSU@gmail.com**
4. **For further information, please visit the following website : <https://rpc.ksu.edu.sa/ar/node/2876>**

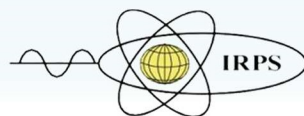
No.	ID Abstract	Name	Title	Presentation Type
1	091	Norhayati Abdullah	The use of fabricated Ge-doped optical fibres and TLD-100 in the preliminary small field photon dosimetry audits	Oral
2	061	Javed Hussain	Photon activation and production cross sections from nat Ti, nat Fe, nat Ni, nat Cu, nat Ag, nat Mo, nat Au and Pb induced by proton H + and heavy ions C q+ , Cu q+	Oral
3	062	Javed Hussain	Environmental Investigation of Radioactive Building Material and Lithological Rock on Main Boundaries Thrust (MBT)	Oral
4	072	Rajesh Kumar	SHI and Gamma Irradiation Induced Modifications of Engineering Polymers/ SSNTDs and Their Potential Applications	Oral
5	079	Sabifna Yasmin	TeO 2 : as a key component in improving radiation shielding of B 2 O 3 - based glass systems	Oral
6	083	Syyed Asad Ali	Radon and Thoron Concentrations in Rural Aligarh Homes: Insights into Exposure Risks and Environmental Health	Oral
7	084	Hao Ding	Microscopic evaluation of nanoparticle dose enhancement by inverse Compton scattering source using Monte Carlo simulation	Oral



No.	ID Abstract	Name	Title	Presentation Type
8	089	Mohd Zulfadli	Feasibility of a Silver Chloride-Infused Polyvinyl Alcohol (PVA) Dosimeter Enhanced with Zinc Oxide Nanoparticles for Therapeutic Dose Range Applications in Radiotherapy	Oral
9	0103	Suraj Ali	Measurement of Neutrons on a Solar Eclipse Day using Superheated Emulsion Detector	Poster
10	0107	Thanh Tai Duong	Scanning protocol influence on relative electron density-CT number calibrations and radiotherapy dose calculation for a Halcyon Linac	Poster
11	0108	Mohamed Abu Al Sayed	Impact of rare earth oxides on the gamma radiation shielding features of borate based glasses	Poster
12	0109	Ebtihal Jamil	Effect of ZnO particle size on the gamma-ray shielding ability of the 45B ₂ O ₃ -30BaO-25ZnO glass system	Poster
13	0111	Moamen Hasan	Experimental Study on Borotellurite Glasses: Unveiling the Radiation Attenuation Effects of BaO and Er ₂ O ₃	Poster
14	0112	Mawada Ali	Gamma radiation shielding effectiveness of PbO ₂ -doped borosilicate glasses: transmission factor and attenuation analysis	Poster
15	0113	Doaa Adel	Radiation Shielding and Waste Recycling: CRT Glass in Polyester Resin Composites	Poster
16	0114	Esraa H. Abdel-Gawad	Borate glasses for radiation protection: efficiency boost through Nd ₂ O ₃ and BaO inclusion	Poster
17	0117	Eslam M.M Shaaban	Radioactivity and Attenuation Efficiency of different Ceramic Samples Selected from Different Countries	Poster
18	0119	Mai Thi Thao	Implementation and Validation of Beam Models for the Elekta Synergy Linear Accelerator	Poster



No.	ID Abstract	Name	Title	Presentation Type
19	0123	Nandlal Singh	Study of (n,2n) reaction cross section for ⁹⁶ Ru isotope within the neutron energy range of 8-20 MeV	Poster
20	0127	Thanh-Tai Duong	Dosimetric Impacts on Radiation Beam Numbers in Intensity Modulated Radiotherapy (IMRT) Planning for Head-and-neck, Breast and Pelvis Cancer using Halcyon Linear Accelerator	Poster
21	0128	Nguyen Tuong	Application of Volumetric Modulated Arc Therapy (VMAT) for Craniospinal Irradiation Using Elekta Synergy Linear Accelerator at Hue Central Hospital	Poster
22	0129	Jiashen Zhou	Research, innovation, and manufacturing of radiological devices and radiation detectors	Poster
23	0130	Shivani Sharma	Measurement of reaction cross-section of Yttrium and Zinc at neutron energy of 14.96 MeV	Poster
24	0131	Vandana	Estimated of fast neutron induced reaction cross section on Indium and Tellurium at 14.96 ± 0.03 MeV	Poster
25	0145	Noramaliza Mohd Noor	Quantitative Assessment of 3D-Printed Vials as Cost-Effective Alternatives to Standardized ACR Vials for PET/CT Quality Assurance	Poster
26	0146	Wan Nur Ain Wan Ghazali	Skin dose assessment using direct and indirect measurement for pregnant patient undergoing abdominal fluoroscopy procedure	Poster
27	0147	Rilwan Usman	Microstructural, Thermal Analysis, And Gamma-Ray Shielding Properties of Bricks Made of Various Local Natural Materials (an Approach to Repurpose Nigerian and African Local Materials for Application in Technology)	Poster



No.	ID Abstract	Name	Title	Presentation Type
28	0148	Adeyeba Oluwatobi Adewale	Evaluation of radiation shielding and mechanical properties of Palm Nut Shell Ash modernized concrete: a comparative analysis	Poster
29	0149	Siti Fairus Abdul Sani	Raman Structural Fingerprints of Amyloid in Human Tissues	Poster
30	0152	Nandlal Singh	Study of Nuclear Reaction Cross-sections for Reactor and Astrophysical Applications	Poster
31	073	Rajesh Kumar	Exploring the 100 MeV Titanium Ion Beam Irradiation Effects on the Structural, Optical and Chemical Properties of PTFE Polymer Films	Poster
30	074	Rajesh Kumar	Impact of High Energy (MeV) Titanium Ion Beam Irradiation on the Physico-Chemical Properties of PMMA Films: A Comprehensive Analysis	Poster
31	075	Rajesh Kumar	Influence of Low Energy Ion Beam on WO ₃ -SnO ₂ Nanocomposite Thin Films for NO ₂ Gas Sensing Properties	Poster
32	076	Rajesh Kumar	Ion Beam Engineering of WO ₃ -TiO ₂ Nanostructured Thin Films Grown by RF Sputtering	Poster