

P01 09:00–17:30 Radiation for a Better Life and Cleaner EnvironmentVenue: *M-Building*Chair: **Luis M. Ferreira (Portugal)**Chair: **Mohammad Haji-Saeid (USA)**

ID	Presenter		
14	A. Zaouak	Tunisia	Removal of Losartan and Methocarbamol Two Emerging Pollutants From Aqueous Solution Using Gamma Irradiation
62	M. C. Cingolani	Argentina	Alternative Disposal of a Hazardous Waste Using Ionizing Radiation
63	P. Bustamante	Argentina	Evaluation of the Protective Effect of Hydrogels on Irradiated Ciprofloxacin with Gamma Radiation
68	M. N. Ciávaro	Argentina	Effects of Gamma Radiation on a Composite Material for Biomedical Applications
87	Z. Habib	Sudan	Assessment of Radioactivity in Milk and Dairy Products in Sudan
105	S. Masic	Serbia	Use of High-Energy Gamma Radiation for Neutralization of Acrylamide From Waste Sludge Generated in Drinking Water Treatment Plant
115	A. Al Dabbas L. Coretchi	Jordan	Corrosion of ISG Used for High Radioactive Waste Vitrification Influenced by Ankerite: Short Duration at 25 and 90 °C
151	F. C. Nascimento, W. A.	Rep. of Moldova	The Use of Modern Technologies in Indoor Radon Research in the Republic of Moldova
177	P. Calvo D. Chmielewska-	Brazil	Paint the Acrylic Emulsion Base Added With Cellulosic Dispersion Treated by Electron Beam Processing
182	Śmietanko G. E. Lopez	Poland	Application of Electron Beam Irradiation for Inactivation of Invasive Marine Species and Harmful Bacteria in Ballast Water
193	B. J. Barba	Philippines	Ethylenediamine Ligand Assisted Synthesis of Palladium Clusters via Gamma Radiation
194	P. J. Cabalar	Philippines	Grafting of Poly(glycidyl methacrylate) onto Abaca Woven Fabric as Interface Compatibilization for Composite Reinforcement
200	P. M. Munhoz, W. A. P.	Philippines	Electron Beam-Induced Synthesis of Amine and Carboxylic Type Adsorbents From Abaca-Polyester Fabric via Pre-Irradiation Technique for Pb(II), Ni(II), and Cd(II) Ion Adsorption
203	Calvo M. Ghobashy	Brazil	Influence of Electron Beam Irradiation on the Degree of Crystallinity of Polymeric Blend of PBAT/PLA
219	K. Cho Cho	Egypt	Optimal the Mechanical Properties Of algae-(Lactic acid-Starch) Bioplastic Blend with EVA-EPDM using Gamma Irradiation and Their Possibility to
224	M. Suhartini	Myanmar	Isotopic and Hydrochemical Characteristics of Groundwater and Surface Water in Kyaung Gon Area, Ayeyarwaddy Division, Myanmar
247	K. Nasr Ep Kachroudi	Indonesia	Radiation Copolymerization of Cellulose Acetate-Polyethylene Glycol 200: Synthesis and Characterization
256	A. I. H. R. Hassan	Tunisia	Gamma Radiolytic Removal of Some Carbamate Insecticides in Aqueous Solution
275	S. M. A. Sayed	Egypt	Hemostatic and Bactericidal Efficacy of Radiation Synthesized Hydroxyethyl Cellulose-Based Sponge Hydrogels Assisted Some Medicinal Plants Extract
323		India	Application of Hard and Soft Acid Base Theory on Sorption Studies of Radionuclides– ¹³⁷ Cs and ⁶⁰ Co

329	Ž. Knežević Medija	Croatia	Overview of Passive Dosimetry for Environmental Monitoring in the Aftermath of a Nuclear and Radiological Event in the Framework Of EMPIR-16ENV04 PREPAREDNESS Project
351	T. Jurkin	Croatia	Experimental Factors That May Influence the γ -Irradiation Synthesis of Magnetic Iron Oxide Nanomaterials
357	N. Elgendy	Egypt	Using Natural polymer during Irradiation by Electron beam for removing metal ions from wastewater
371	T. Rattanawongwiboon	Thailand	Radiation-Induced Grafting of Glycidyl Methacrylate Onto PE/PP Non-woven Fabric and Its Modification With Iminodiacetic Acid for Removing a Used Solid Catalyst
382	R. Homlok	Hungary	Presence of Antibiotics on the Population Ratio of Resistant/Sensitive Bacterial Cultures in Model Wastewater Matrix
386	M. H. Bui	Viet Nam	Degradation of Enrofloxacin From Aqueous Solution by Electron Beam Irradiation
388	L. Mandić	Croatia	Gamma-Radiolytic Degradation of Rosuvastatin in Aqueous Solution
396	M. M. Zaw	Myanmar	Development of Wound Dressing Crosslink PVP Hydrogels by Using Gamma Radiation
407	G. Tataru , X. Coqueret	France	Radiation-Induced Modification of 3D-Printed Materials
413	M. Nasef	Malaysia	Radiation Induced Grafting of Vinylbenzyl Chloride Onto Polyethylene/Polypropylene Nonwoven Sheets for CO ₂ Adsorbent
422	S. Pillai	USA	Response of Algal Toxin Producing Cyanobacteria (<i>Microcystis aeruginosa</i>) and the Algal Toxin, Microcystin-LR to Electron Beam Irradiation Doses
434	M. Rzepna	Poland	Impact of Electron Beam Treatment on Aliphatic Biodegradable Polyesters for Medical Application
443	A. Genc	Türkiye	The Effect of Gamma Irridation on Efficiency of A2-O MBR Treating Coking Wastewater
447	M. Walo	Poland	Functionalization of Polymers Dedicated to Gas Separation Applications by Radiation-Induced Grafting
463	A. Ponomarev	Russian Federation	Challenges and Features of Large-Scale Radiation Technologies for Environmental Purposes
471	J. Madrid	Philippines	Radiation-Induced Controlled Polymerization Synthesis of Graft Copolymers as Base Material for a Transesterification Catalyst
474	A. Ponomarev	Russian Federation	Radiation-Induced Pathways of Cellulose Degradation
478	H. Abd El-Rehim	Egypt	Improvment the Solubility of Poor Water-Soluble Clarithromycine Drug Using PVP/AAC Nano-Carriers Prepared by Radiation For Topical Acne
482	D. Şolpan Özbay	Türkiye	Toughening of Thermoplastics by Using Radiation-Grafted Waste Rubber Crumbs
483	D. Xiao	China	Sustainable Reactive Electron Treatment for Recycling of Polymer Waste
486	E. Kholodkova, A. Ponomarev	Russian Federation	High-Temperature Conversion of Lignin to Phenols Upon Irradiation
487	E. Kholodkova, A. Ponomarev	Russian Federation	Radiation Degradation of Nitrogen-Containing Dyes and Explosives in Aqueous Solutions
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489	K. Kovács	Hungary	Free Radical-Induced Degradation of Amodiaquine and Propranolol in Aqueous Solutions

494	M. Barsbay	Türkiye	Cellulose-Based Heterogeneous Catalyst Synthesized by Gamma-Induced Grafting Of PVP and Reduction of Pd(II) Ions
498	F.-H. Roegner	Germany	High-Dose Crosslinking of Polycarbosilane-Fibers for Ceramic Fiber Production
501	S. D. Sütekin	Türkiye	Production of Palladium Nanoparticles in PVP Grafted From PE/PP Non-woven Fabric by Gamma Irradiation and Their Use in the Reduction of 4-nitrophenol
506	K. Myo Sett	Myanmar	Radiation Based Technologies for Treatment of Emerging Organic Pollutants: Screening and Occurrence of Antibiotic Residues in Effluents of Pharmaceutical Factory around Mandalay Region in Myanmar
514	T. Alkhurajji	Saudi Arabia	Advanced Oxidation Process Based on Water Radiolysis to Degrade and Mineralize Chloroorganic Pollutants
515	D. Darwis	Indonesia	Effect of Gamma Irradiation on the Production of Chitosan Nano Particle
535	H. Abd El-Rehim	Egypt	Impact of Ionizing Radiation From Different Sources On Some Polymers Properties Used in Medical Purposes
537	M. Al-Sheikhly	USA	Radiation Synthesis of Novel Membranes for Capturing CO ₂ from Atmosphere
538	M. Al-Sheikhly	USA	Electron Beam Synthesis of Novel Fabrics for Extraction of Uranium from Seawater
539	M. Al-Sheikhly	USA	Sterilizing Photocurable Materials by Irradiation: Preserving UV-Curing Properties of Photopolymers Following E-beam, Gamma, or X-Ray Exposure
540	M. Al-Sheikhly	USA	On the Synthesis of High-Temperature Anhydrous Fuel Cell Membranes: The Role of Ionic Liquids
542	M. Al-Sheikhly	USA	Radiolytic Synthesis of Magnetic Nanocomposites of Ethyl Hexyl Acrylate (EHA) and Acrylic Acid (AA) Copolymer And 20-nm Fe ₃ O ₄ (Magnetite)
544	M. Al-Sheikhly	USA	Reductive and Oxidative Remediation of Polychlorinated Biphenyls(PCBs) Induced by Electron Beam Irradiation
546	M. Al-Sheikhly	USA	Ionizing Radiation Grafting of N-isopropylacrylamide onto a Poly (Ethylene-Terephthalate) to Synthesis Membrane for Rapid Cell Sheet Detachment
548	S. Selambakkannu	Malaysia	Inactivation of Selective Bacterias in Sewage Sludge by Electron Beam Irradiation and Monitoring of Physico-Chemical Properties
579	A. Obeid	Lebanon	A Comparative Study between Different Nano Size and Bulk Tungsten Oxide/High Density Polyethylene Composites and Pure Lead as Radiation Shielding Materials
581	S. Kotorová	Slovakia	The Presence of PCBs in Canal Sediments During a Decade and Its Radiation Remediation
586	S. Ladjouzi	Algeria	Gamma Irradiation Assisted Synthesis of Gd ₂ Si ₂ O ₇ : Eu ³⁺ Nanophosphors: Preparation and Formation Mechanism
591	I. Vujcic	Serbia	Ionizing-Radiation Treated Sludge from Drinking Water Treatment Plant as Fertilizer: Effects of Aging
597	A. Akhavan Aghghaleh	Iran	Iron and Steel Industry Wastewater Treatment With Electron Beam Irradiation: Removal of Phenol and Cr(VI)
626	E. Pezic	Croatia	The Influence of the Type of Fatty Acid Crosslinked on Copper on Its Protective Properties in Atmospheric Conditions
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649	A. M. E. Mansour	Egypt	The Protective Role of Irradiated Chitosan against Hepatic Inflammation Induced in Rats
656	I. Opoku-Ntim	Ghana	Indoor Radon Concentration and Annual Effective Dose in some Selected Halls at the University of Cape Coast, Ghana using SSNTDs (LR-115)

658	A. Pustak	Croatia	Magnetic and Rheological Properties of Poly(ethylene oxide)/Iron Oxide Nanocomposite Hydrogels Synthesized Using a One-Step γ -Radiolytic
660	Y. Sun	Poland	Computer Simulation of Chloroquine Degradation in Aqueous Solution Under Electron Beam Irradiation
672	B. M. M. Borda	Argentina	Radiation Cross-Linked Hydrogels With Clays for Effluents Treatment
697	N. Nikolić	Serbia	Bi-layered Au-(PNiPAAm/PVA) Hydrogel Nanocomposite Photoactuators for Direct Optical to Mechanical Energy Conversion
707	P. Kongkaoroptham	Thailand	Acrylate Functionalized Star-Shaped poly(L-lactide-co-caprolactone) as an Additive-Assisted Electron Beam Crosslinking of Polylactic Acid: An Approach to Microwavable Bioplastics
723	F. C. Fonseca Camargo	Brazil	Development of Methodologies for Ra-226 and Ra-228 Radiometry to Investigate NORM Formation Processes in Unconventional Gas Exploration
732	B. Rurarz	Poland	Towards Cancer Nanoradiopharmaceuticals– Targeted Radioisotope Carriers Based on Radiation-Synthesised Poly(Acrylic Acid) Nanogels
733	J. Raczowska	Poland	Quest for the Best Radiation-Synthesised Polymer Nanoparticles for Applications in Oncological Theranostics
744	A. Pepperosa	Italy	Drinking Water Real Time Measurements
746	W. Jahouach-Rabai	Tunisia	Optimization of Pharmaceuticals Removal using Advanced Ionizing Technologies and Estimation of Energy Consumption
747	F. L. Navarro Marques	Brazil	Nanogel Synthesis by E-beam and Labeling using [^{18}F]FDG
751	M. Rogowski	Poland	Electron Accelerator Based Technology for Ballast Water Treatment at Floating Dock
750	M. N. Ciávaro	Argentina	Effects of Gamma Radiation on Polymers Commonly Used in Medical Devices
755	G. Bela	Hungary	A User Requirement Driven Development of a Heliborne Gamma Radiation Spectrometry and Mapping System (Radizcan)
766	J.-P. Jeun	Rep. of Korea	A Study on the Improvement of Heat Resistance/Chemical Resistance of Silicone Sealing Materials
773	Y.-M. Lim	Rep. of Korea	Electron Beam Stabilization and Characterization of Polycarbosilane Fibers
775	J.-S. Park	Rep. of Korea	Development of High Strength, High Flexibility, and Heat Resistance PE/EVA/PU Blends by Radiation Crosslinking
787	L. Kiss	Hungary	Effects of the Irradiation Environment on Ground Tire Rubber Containing Vulcanizates
790	R. Benavides Cantu	Mexico	Effect of Sulfonating Agents on Gamma Irradiated Styrene-co-butyl Acrylate as Alternative Membranes for Fuel Cells

P02 09:00–17:30 Sustainable Development in Industry and NatureVenue: *M-Building*Chair: **María Verónica Vogt (Argentina)**

ID	Presenter		
4	L. Horn	Namibia	Mutation Breeding Study on Six Different Mushrooms Strains Using Gamma Irradiation in Namibia
18	K. N. Myaing	Myanmar	Development of Gamma Column Scanning by Complementary CT Scanning for Structural Inspection of Lab-Scale Column
47	S. Mejri	Tunisia	Comparison of Radiosensitivity of <i>Lens culinaris Medikus</i> subsp. <i>culinaris</i> to Gamma Rays and Electron Beam Irradiation
86	H. Al Hamrashdi	Oman	The Potential of Depicting Nuclear Materials With a Fast and Portable Hybrid Neutron/Gamma-Ray Imager
90	W. Chirume	Zimbabwe	Investigation of Malfunctions in a Laboratory Prototype and Industrial Distillation Columns Using Gamma Column Scanning Technique
122	P. Vasquez	Brazil	Emergency Applications of Radiation Processing for Decontamination of Personal Protective Equipment in the COVID-19 Pandemic– Brazilian experience
124	M. P. Hlaing	Myanmar	Development of Radioisotope Gauge for Measuring the Suspended Sediment in River
127	Y. Bouaichaoui	Algeria	The Application of Computational Fluid Dynamics (CFD) for modelling flow and Experimental Residence Time Distribution (RTD) measurement using
132	T. Chizh	Russian Federation	Impact of Post-harvest Radiation Treatment on Shelf-Life of Potatoes
172	F. N. Shindume	Namibia	Biofortification/Nutritional Quality Evaluation Among Six Putative Pearl Millet (<i>Pennisetum glaucum</i>) Mutants Derived Through Gamma Irradiation in Namibia
176	C. Beogo	Burkina Faso	Complex Spectra Analysis of Peaks Interference Through Gamma-Ray Spectrometry of U-235, Ra-226 and Th-234
181	S. Korraa	Egypt	In Vitro Stimulating Effects of Low Dose Ionizing Radiation on Circulating Endothelial Progenitor Cells of Atherosclerotic Patient with Lower Limb
186	N. BenMiloud EP Ben Yahia	Tunisia	Physiological and Proteomic Remodelling in <i>Salmonella</i> by Gamma Radiation Treatment
198	C. Omondi	Kenya	Application of Radiotracer Techniques for Geothermal Reservoir Management Measurement Investigation in Kenya
201	D. A. Villegas Nassar	Chile	Effect of low doses of gamma radiation on the growth and development of <i>Eucaliptus nitens</i> seeds.
208	Y. Sun	China	Reducing Radiation Dose for Digital Radiography with Convolutional Neural Network
221	A. Tsechanski	Israel	Electronuclear ($e, e'n$) vs Photonuclear (γ, n) Reactions in Thin Targets
230	E. Pajuste	Latvia	Tritium as a Radio Tracer for Water Uptake and Permeation Studies in Polymeric Membranes
271	M. Al-Dahhan	USA	Maldistribution and Dynamic Liquid Holdup Quantification of Quadrilobe Catalyst in a Trickle Bed Reactor Using Gamma-Ray Computed Tomography
272	M. Al-Dahhan	USA	Evaluation of the Radioactive Particle Tracking Using Monte Carlo Simulation for Calibration in Bubble Column with/without Internals

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284	A. Saadaoui	Morocco	Different Practical Configurations of Using The XDP30 Gauge
295	M. Al-Dahhan	USA	Experimental Investigation on the Aggregate Segregation of Fresh Concrete Using Advanced Radioactive Particle Tracking (RPT) Technique
308	T. Muraoka	Brazil	Phosphorus Uptake by Rice and Common Bean From Different Soil Depths Using The ³² P and ³³ P Double-Labeling Method
319	O. Potier	France	Tracing: A Tool to Address New Challenges in Chemical and Environmental Engineering
328	I. Sandeva	North Macedonia	Luminescence Response of Bleached Irradiated Samples
345	W. Puspitasari	Indonesia	Diversity of Drought Resistance in Soybean Mutant Lines Derived from Gamma Rays Irradiation
387	B. Mihaljevic	Croatia	Quality Improvement in Plum Spirit Technology Using Gamma Radiation
400	Q. Nguyen Huu	Viet Nam	Neutron Backscattering Scanning – An Effective Tool for Investigation of Hydrocarbon Contained Materials in Industrial Processing System
402	Y. Yuliasti	Indonesia	Soybean Breeding for Improved Drought Tolerance Using Gamma Irradiation, In Vitro and Evaluation of Yield Under Dry Land
420	S. Pillai	USA	Combination Treatment of Low-Dose Electron Beam Processing and Cold Storage on Quality and Sensory Characteristics of Mandarin Oranges
421	S. Pillai	USA	Accelerators for Agriculture, Medicine, and Environmental Applications: Where Are They?
423	S. Pillai	USA	Metabolically Active yet Non-Culturable State of Ionizing Radiation Inactivated Bacterial Cells - What are its Implications?
424	S. Pillai	USA	Evaluation of Electron beam Pasteurizing Dose on Ingredient Functionality of Shell Eggs
453	M. H. Casimiro	Portugal	Structural and Biological Evaluation of Chitosan-Based Scaffolds Processed by Gamma Radiation for Skin Tissue Engineering
458	M. V. Vogt	Argentina	Indirect Determination of Skin Allografts Surface for Radiation Sterilization
459	M. V. Vogt	Argentina	Microbial Recovery Studies in Medical Device for Radiation Sterilization in Argentina
475	M. Vadrucci	Italy	The TOP-IMPLART Project– Status and Perspective
484	M. Fulop	Slovakia	T(d,n) Neutron Scanner for Inspection of Iron Ore Cargoes
503	I. V. Moise	Romania	In vitro Cytocompatibility Study of Lyophilized Collagens Irradiated With Gamma Radiation
534	M. Mathor , L. Freitas de Freitas	France	The Rationale for the Development of Biomaterials and Medical Devices
550	X. Coqueret	France	Characterization of 4D-Printed Polymers for Bone Tissue Engineering
562	I. M. Fernández Gómez	Cuba	Evaluation of Potentially Hazardous Water Waste Management Systems
575	X. Sánchez	Panama	Nuclear Techniques Applies for Erosion and Sediment Research in Panama Canal
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578	R. Betesho Babrud	Iran	Gamma Irradiation of Honey Bee Wax Infected With Paenabacillus larvae, the Causative Agent of American Foulbrood Disease in Iran

584	A. M. A. Dawood	Ghana	Food Security and Quality of Life in Ghana: The Role of Radiation Science and Technology
616	E. Ogwok	Uganda	Effect of Gamma Irradiation on Regeneration, Growth and Response of Cassava Tissues to Biotic Stresses
620	H. Wang	China	Study on the Irradiation Processing Dose of Inactivating SARS-CoV-2 on the Surface and Outer Packaging Of Imported Cold-Chain Food
624	C. Mielot	France	Industrial Pulsed Electrons Beam Generator for Integrated Sterilization Process
629	W. Musa	Indonesia	The Reliability of Sc-46 Produced by TRIGA MARK Bandung Reactor For Industrial Application
652	P. Brisset	France	Study of an Engine Jacket Wear Through Thin Layer Activation
666	T. Sener Raman	Germany	Mechanical Behavior of Gelatin/PEGDA Hydrogels with AgNPs by Electron Beam
693	A. Aiboud	Morocco	Development of a Validated Closed System for Microbiological Control of Iodine-131 and Its Role in Reducing Radiation Exposure
699	H. D. Nakayama Nakashima	Paraguay	Nuclear Technology for Plant Breeding in Paraguay
715	Y. Yuliasti	Indonesia	Soybean Breeding for Improved Drought Tolerance Using Gamma Irradiation, In Vitro Selection and Evaluation of Yield Under Dry Land
721	B. Azmi	Indonesia	Gamma Tomography as The Complementary Technique for Pipe Scale Investigation: On Field Experimental at Petrochemical Plant
738	A. Saadaoui	Morocco	Development of Data Treatment Software for Radiotracers Techniques
740	A. Mohamed	Kenya	Efficacy of Electron Beam Irradiation in Reduction of Mycotoxin-Producing Fungi, Aflatoxin, and Fumonisin in Naturally Contaminated Maize Slurry
748	J. Sulistyono	Indonesia	CNFE Low-Cost Industrial CT Scan System
759	M. Medina Solano	Colombia	Evaluation of the Viability and Differentiation Profile of Hematopoietic Progenitors From Umbilical Cord Blood Cultured in Constructs of PLA/COL/HA/Mesenchymal Stromal Cells
780	E. Ioannidou	Greece	²¹⁰ Pb as a Tracer of Air Pollution in Central Helsinki
785	M. A. Etoom	Jordan	Dead Sea Mud Irradiation Dose Determination

P03 09:00–17:30 From Fundamental Interactions to Emerging ApplicationsVenue: *M-Building*Chair: **Pablo Vasquez (Brazil)**

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27	J. George	India	Theoretical Dosimetry of Dry Sludge Irradiation for Agricultural Purpose
29	A. Zaoak , H. Jelassi	Tunisia	Gamma Radiation Induced Colorimetric Properties of Erythrosine, Indigotine and Curcumin Dyes: Routine Dosimetric Use
39	M. Z. Islam Mollah	Bangladesh	Gamma Radiation Sensitivity on Molecular Weight Characterization of Alginate
48	A. Mejri	Tunisia	Developing of Radiation Treatment Methodologies for Preservation of Tunisian Cultural Heritage: Application in the Preservation of Women's Ceremonial Dress in Noble Textile
80	Y. A. C. Fiagan	Togo	Education and Training Needs in Radiation Sciences and Technology: Challenges and Potential Solutions
97	N. Helal	Egypt	Assessment of a Polymeric Composite as a Radiation Attenuator and a Restoration Mortar for Cracking in Biological Shields
101	A. Pavlov	Russian Federation	Practical Application and Calibration of the Gafchromic HD-V2 Film Dosimeter for Radiation Processing of Agricultural Products
114	A. Zaouak	Tunisia	Kinetic Investigations of Graft Copolymerization of α -Methyl Styrene Onto Polyethersulfone Films Using Gamma Irradiation
118	E. Nichelatti	Italy	Radiophotoluminescence of Lithium Fluoride Detectors for Beam Diagnostics in a Proton Therapy Linear Accelerator
131	V. Morgunov	Ukraine	Using GEANT4 Software Toolkit for Validation of Gamma- and X-Ray Treatment of the Wooden Cultural Heritage Artefacts
141	A. Mohamed Amin	Egypt	Synthesis of ^{99m}Tc - Silver / Chitosan Nanocomposite for Tumor Imaging
145	E. Waly	Egypt	Gamma Radiation Shielding Performance and Physico-Chemical Properties of Poly (Vinyl Alcohol)/Cd(NO ₃) ₂ Composite Films
187	U. Gryczka	Poland	Process Control Requirements for Electron Beam Irradiation of Liquids in Flowing Systems
191	M. Mathuthu	South Africa	Application of IAEA Radio-Photoluminescence Glass Dosimeter for Radiation Dose Monitoring
199	M. K. Alam	Bangladesh	Gamma Radiation Treatment for Microbial Disinfection and Preservation of Archived Materials
217	S. Jonah	Nigeria	Applications of Am-Be Neutron Sources for Training and Analyses of Industrial Mineral Resources
229	S. Al-Khasswneh	Jordan	Recent Developments in Optical Stimulating Luminescence Dating Techniques for Archaeological Materials
236	K. Ibrahim	Sudan	Synthesis and Characterization of Gum Arabic /Acrylamide Semi-interpenetrating Polymer Net Work
249	J. Al-Tuweity	Yemen	Correlation Matrixes of ISO 4037-1:1996 and ISO 4037-1:2019
252	M. M. Mounja	Mauritania	Design of New Academic Curricula for Experts in Industrial Application of Radiation in Emerging Countries
293	I. Kane	Niger	Simulation, using GAMOS/GEANT4, of the Electrons Impact Ionization on the Water Liquid Molecule

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298	U. Mirsaidov	Tajikistan	Application of Radiation Science and Technology in the Republic of Tajikistan
314	A. H. Lopez Gonzales	Peru	X-Ray Diffraction Microstructural Analysis and Thermoluminescence Properties of Undoped And Tb-Doped Al ₂ O ₃ Prepared by a Proteic Sol-Gel Process
318	F. Boujelbane	Tunisia	Radiolytic Study of the Zectran in Aqueous Solution by Liquid Chromatography
322	A. Khan	India	Adsorption of Radiocesium from Simulated Effluent Systems based on the Principles of Green Chemistry
324	S. Chavan	India	Applications of Solid State Nuclear Track Detection Technique using Polymeric CR-39 Detector
333	N. Romanova	Kazakhstan	Activities of the Institute of Nuclear Physics Related to Training of Radiation Safety Specialists
346	I. Tartaro Bujak	Croatia	Sulfur Centered Radicals in Lipid Modification Processes
365	K. R. C. De Silva	Sri Lanka	Alkyd Resin as a Candidate for Reinforcement of Naturally Aged Paper by Gamma Radiation Induced Graft Copolymerization
368	A. Ioannidou	Greece	The Role of Academic Institutions in Education and Training of Young Students in Radiation Physics and Isotope Applications – A Case Study
376	M. Alcérreca Sanchez	Mexico	Accreditation of Competencies in Irradiation Plants as a Strategy for the Development of Human Capital to Face the Generational Gap
379	L. Cortella	France	Remedial Conservation of Cultural Heritage by Gamma Irradiation: From the Pioneers to the Present Day, Over 50 Years of Experience
392	A. Sagatova	Slovakia	Electron Versus X-Ray Irradiating Field at 5 MeV electron LINAC Used for Wooden Artefact Treatment
393	M. Fulop	Slovakia	Superposition of Electron, Bremsstrahlung and Albedo Radiation Effects Result in Higher Precision of the Cultural Heritage Treatment
411	H. D. Nakayama Nakashima	Paraguay	Nuclear Technology for Plant Breeding in Paraguay
432	I. Padron Diaz	Cuba	Development of National Regulations for the Preservation of Cultural Heritage Documents Using Gamma Radiation Treatment
442	B. Aydin	Türkiye	The Secret Adventure of the Radiation with Papers, Inks, Pigments at the Ottoman Archive
446	H. Lewandowska	Poland	Thermogravimetric Analysis of the Changes in Radiation-Aged Polyethylene Unprotected or Protected by Antioxidants
448	L. M. Ferreira	Portugal	Ion Beam Analysis (IBA) Techniques– CH Meets Functional Materials
450	V. Corregidor	Portugal	What Could Happen Beyond the Use of Radiation on Cultural Heritage
460	A. Cemmi	Italy	Effects of Gamma Radiation on Cultural Heritage Artifacts at Calliope Facility (ENEA Casaccia R. C., Rome, Italy)
470	Y. Karakirova	Bulgaria	A New EPR Dosimetric Material Based On Sucrose
473	M. Vadrucci	Italy	Nuclear Methods for Biodegradation Recovery and Characterization of the Historical and Archival Heritage
476	M. Vadrucci	Italy	Bio-Deterioration of Parchment Historical Artefacts: The Effects of X-Rays Disinfection Treatment on the Collagen Molecule
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479	H. Abd El-Rehim	Egypt	Nano-sized Materials for Consolidation and Preservation of Cultural Heritage Artefacts

510	S. Vasilca	Romania	A Multi-Analytical Approach to Assess the Effect of Gamma Radiation on Anthraquinone Natural Dyes
531	L. T. T. Nguyen	Viet Nam	Gamma-Irradiation of Fungi on Japanese Traditional Paper to Decontaminate Old Documents Deteriorated by Floods in Japan
541	M. Al-Sheikhly	USA	The Kinetics of the Intra and the Inter Crosslinking Reactions in the Synthesis of Poly(vinyl pyrrolidone), PVP Nano Gels: A Pulse Radiolysis Study
543	M. Al-Sheikhly	USA	On the Mechanism of the Fundamentals of Low Energy Transfer on Polymeric Materials
552	A. Zaouak	Tunisia	Kinetic and Mechanism Investigation on the Gamma Irradiation Induced Degradation of Quizalofop-p-ethyl
574	E Suljovrujić	Serbia	Mechanical Properties and Crystallization Behavior of Irradiated Low-Density Polyethylene and Isotactic Polypropylene: Comparative Study Between
577	R. Betesho Babrud	Iran	Gamma Irradiation of Fungal Contaminated Historical Oil Painting Samples and Evaluation of Different Atmospheres on Post Irradiation Contamination
590	I. Vujcic, S. Masic	Serbia	Possibility of use of YPO4:Pr3+ Nano-Powder as a Dosimeter for Measuring High Irradiation Doses
619	J. Besecke	Germany	Development of Novel Dosimetry Systems for Low Energetic Electron Irradiation
628	S. Khaweerat	Thailand	Ayutthaya Gold Artefacts Characterization for Historical Investigation and Authentication
638	L. Freitas de Freitas	Brazil	Assessment of Cell Death in Consequence Of AuNPs-driven Radiosensitization
665	G. Stankunas	Lithuania	Radiation Fields Estimation of EU WCLL Breeder Blanket Using Variance Reduction Technique in Safety Calculations
681	M. N. Hossain	Bangladesh	Clinical Training Program for Medical Physicists under IAEA RCA Projects in Bangladesh
692	I. Hammami	Tunisia	Investigation of Optimal Cobalt-60 Pencils Positioning for the Tunisian Pilot Source Reload Using FLUKA Monte Carlo Code
695	T. Teichmann	Germany	Monte Carlo Simulations for Non-Thermal Electron Beam Applications
696	S. Dorey	France	Monte Carlo Simulation Benefits to Healthcare Product Manufacturers in Radiation Processing
701	S. Kadlubowski	Poland	Novel System for Pulse Radiolysis With Multiangle Light Scattering Detection (PR-MALLS)
705	T. Bonev	Bulgaria	A Complex of Casting Forms for Sasanian Drachms of 4th Century AD
706	N. Pongsak	Thailand	Drug Complexed Nanoparticles Incorporated Polyvinyl Alcohol/Carboxymethyl Cellulose Hydrogel: A Versatile Gamma Irradiation Process for Sterilized Healthcare Materials
728	L. Kiriinya	Kenya	Education and Training in Radiation Science and Technology in Kenya
729	A. Krleski	North Macedonia	A Protocol for Optically Stimulated Luminescence of NaCl in Retrospective Dosimetry
734	C. Omondi	Kenya	KEBS SSDL Experience in Dosimetry, Standards and Quality Management of Irradiation Facilities
ID	Presenter		
764	Y. R. Uhm	Rep. of Korea	Application of Mössbauer Spectroscopy on the Korean Cultural Heritages: Pigment, Neolithic Tool, and Goryo Celadon
765	H.-J. Park	Rep. of Korea	Preparation of Electron Beam Technology for Preservation of Korean Organic Cultural Heritages

769	D. H. Moon	Rep. of Korea	Non-destructive X-Ray Diffractometry for Investigation of Cultural Heritage Painting: A Case Study of the Sungseonjeon Wall Painting in Royal Tomb of King Suro, Gimhae, Korea
770	D. H. Moon	Rep. of Korea	Characterization of pigmented and slipped archaeological ceramic using X-ray diffraction and Mössbauer spectroscopy
776	H. Kim	Rep. of Korea	10 MeV RF Electron Accelerator Facility Improvements for Low-Dose Research
792	M. L. Nagai	Brazil	Development of a Methodology for the Conservation of Historical Photographic Glass Negatives With Ionizing Radiation Processing
793	A. C. D. Viera	Brazil	More Than Poison: Contaminated Collections at the Museum of Archeology and Ethnology (MAE-USP)