

Technical meeting on "Strategies for Preservation and Consolidation of Cultural Heritage Artefacts through Radiation Processing"

Zagreb, Croatia

4 - 8 June 2018

Organized by

International Atomic Energy Agency (IAEA), Vienna

and

Ruder Bošković Institute, Zagreb, Croatia

Radiation Chemistry and Dosimetry Laboratory

with the help of

Academy of Fine Arts, Zagreb, Croatia

Croatian Conservation Institute, Zagreb, Croatia

Mimara Museum, Zagreb, Croatia

International Council of Museums Croatia

Ruder Bošković Institute, Bijenička 54, HR-10000 Zagreb, Croatia

<http://www.irb.hr>

Monday, 04th June 2018 - Hall 3

9:00 – 9:30	Registration
9:30 – 9:40	Opening Session Branka Mihaljević , Head of Radiation Chemistry and Dosimetry Laboratory and Organizer of the Meeting
9:40 – 9:55	Welcoming address David Matthew Smith , RBI Director General: Overview of the Ruđer Bošković Institute Activities and Achievements Boris Ilijaš , Head of Sector for Radiological Safety at State Office for Nuclear and Radiological Safety: Welcome address
9:55 – 10:10	Sunil Sabharwal International Atomic Agency (IAEA) <i>Introduction to the IAEA projects related to study and protection of CH objects, future</i> <i>Objectives, outcomes of the TM</i>
10:10 – 10:25	<i>Radiation Chemistry and Dosimetry Laboratory(RCDL) presentation</i>
10:25 – 10:30	Election of the Chairperson(s), Adoption of the agenda
10:30 – 11:00	Coffee break
SESSION 1: RADIATION SCIENCE AND ART IN HARMONY	
11:00 – 11:20	Katarina Marušić - CROATIA <i>Ionizing radiation for protection of artworks and cultural heritage in Croatia-an overview</i>
11:20 - 11:40	Iskra Karniš Vidovič - CROATIA <i>Review of the Cooperation between the Croatian Conservation Institute and the Ruder Boskovic Institute</i>
11:40 – 12:00	Andelko Pedišić - CROATIA <i>Conservation of Cultural Heritage using Ionizing Radiation in the Context of Wartime Evacuations and Repairing Damages Caused During the War</i>
12:00-12:20	Tijana-Annar Trputec Strčić - CROATIA <i>Art Residents – Pests and Art</i>
12:20 – 13:30	Lunch
SESSION 2A: IRRADIATION EFFECTS ON COMPONENTS OF CH OBJECTS	
13:30 – 14:10	Introduction lecture 1: Pablo Antonio Vasquez Salvador – BRAZIL <i>From Historical Artifacts to Technology: Ionizing Radiation for Preservation</i>
14:10 - 14:30	Zaki Ajji - SYRIAN ARAB REPUBLIC <i>Current status of radiation processing in Syria (cellulose materials)</i>
14:30 – 14:50	Slobodan Mašić and Ivica Vujčić - SERBIA <i>The Use of Gamma Radiation for the Treatment of Cultural Heritage in Serbia</i>
14:50-15:50	POSTERS + Coffee
15:50-16:00	Ines Krajcar Bronić – CROATIA <i>Brief introduction of C14 method for the cultural heritage dating</i>
16:00 – 18:00	Visit to the RBI laboratories 
~ 18:00	Welcome Reception (sponsored by RCDL)

Tuesday, 05th June – Hall 1

SESSION 2B: IRRADIATION EFFECTS ON COMPONENTS OF THE CH OBJECTS		
9:00 – 9:40	Introduction lecture 2: Maja Šegvić Klarić – CROATIA <i>Gamma-irradiation for cultural heritage – could it prevent fungal growth on paper materials?</i>	
9:40 – 10:00	Irina Pucić–CROATIA <i>Radiation effects on some of the materials constituting CH objects - recent research of the RC DL scientists</i>	
10:00 – 10:20	Enrique Francisco PRIETO MIRANDA – CUBA <i>(TBD)</i>	
10:20 – 10:40	Oleksandr Buhay – UKRAINE <i>Application of nuclear techniques for cultural heritage in Ukraine: Problems and perspectives</i>	
10:40 – 11:00	Coffee break	
SESSION 3: SIDE- AND POST-IRRADIATION EFFECTS STUDIES		
11:00 – 11:40	Introduction lecture 3: Stefania Baccaro - ITALY <i>Characterization of radiation processing effects in Cultural Heritage applications</i>	
11:40 – 12:00	Petya Kovacheva - BULGARIA <i>Some side-effects of gamma-irradiation disinfection on highly contaminated leathers and librarian materials</i>	
12:00 – 12:20	Kumarawadu Ruwan Chandima De Silva - SRI LANKA <i>Application of Radiation Surface Modification Techniques for the Preservation of Achieved Materials in Sri Lanka</i>	
12:20 – 13:30	Lunch	
13:30 – 15:00	Introduction on the working group discussions and formation of the working groups	
	Working group on the Recommendations for safe CH components irradiation	Working group on the Uniform irradiation Procedures
15:00 – 15:30	Coffee break	
17:00 – 18:30	Guided tour of the city center	

Wednesday, 06th June – Hall 1

SESSION 4A: CURRENT PRACTICES IN RADIATION CONSERVATION OF CH OBJECTS	
9:30 – 10:10	Introduction lecture 4: Celina Horak - ARGENTINA <i>Radiation processing and nuclear techniques capabilities related to cultural heritage in Argentina</i>
10:10 – 10:30	Hassan Abd El-Rehim - EGYPT <i>Use of Radiation Technology for Preservation of Some Egyptian Cultural Heritage Artifacts</i>
10:30 – 10:50	Hae-Jun Park – KOREA <i>Application of irradiation technology for conservation of cultural heritage in Korea: Control of fungi and insect in wood cultural heritages</i>
10:50 – 11:20	Coffee break
SESSION 4B: CURRENT PRACTICES IN RADIATION CONSERVATION OF CH OBJECTS	
11:20 – 11:40	Dagmara Chmielewska-Śmietanko - POLAND <i>Electron Beam for Preservation of Biodeteriorated Cultural Heritage Paper-Based Objects</i>
11:40 – 12:00	Arbi Mejri - TUNISIA <i>Developing of Radiation Treatment Methodologies for Preservation of Tunisian Cultural Heritage: Application in the preservation of women's ceremonial dress in noble textile</i>
12:00 – 13:00	Lunch
13:00	<p>Visit to chapels in the Sisak region</p> 
Conference Dinner (sponsored by IAEA)	

Thursday, 07th June

SESSION 5: PROCEDURES FOR IRRADIATION OF CH OBJECTS (incl. dose mapping, dose limit ratio, simulation techniques)			
9:00 – 9:40	Introduction lecture 5: Constantin Daniel Negut - ROMANIA <i>Disinfestation of artefacts by gamma irradiation in Romania</i>		
9:40 – 10:00	Volodymyr Morgunov – UKRAINE <i>Numerical Simulation of the Radiation Treatment of Cultural Heritage by Bremsstrahlung X-Rays</i>		
10:00 – 10:20	Coffee break		
SESSION 6: CONSOLIDATION: New radiation curable resins			
10:20 – 11:00	Introduction lecture 6: Laurent Cortella - FRANCE <i>Uses and Prospects in Gamma Biocide Treatments and Radiocurable Resin-Based Consolidation Treatments for Cultural Heritage Artefacts</i>		
11:00 – 11:20	Luis M. Ferreira - PORTUGAL <i>Hybrid materials (gel/solid) by ionizing radiation for conservation of non-metallic inorganic historical materials</i>		
11:20 – 11:40	Maria Helena Casimiro - PORTUGAL <i>Gels for cleaning artworks</i>		
11:40 – 12:00	Alexandra Rodrigues - PORTUGAL <i>A case study of consolidation in Conimbriga: The House of Trident and Sword</i>		
12:00 – 13:00	Lunch		
13:00 – 14:30	Working group discussions		
	Working group on the Recommendations for safe CH components irradiation	Working group on the Uniform irradiation procedures	Working group on the Analytical tools for safe irradiation of CH
14:30 – 15:00	Coffee break		
15:00 – 16:30	Presentations of the discussions and outcomes of the Working groups		
18:00 – 19:00	Guided tour of the Cathedral and Treasury		
			
~ 19:30	Joint Dinner (Optional at the participants' expense)		

Friday, 08th June

9:00 – 10:30	Drafting the meeting report
10:30 – 11:00	Coffee break
11:00 – 12:00	Formulation of Action Plan and Recommendations Finalization and approval of the meeting report
12:00 – 12:30	Conclusions and closing remarks

Visit to the RBI Laboratories:

1. Radiocarbon Laboratory
2. Laboratory for Ion Beam Interactions (LIBI, Accelerator)
3. Radiation Chemistry and Dosimetry Laboratory (RCDL):
visit to gamma irradiation facility used for radiation treatment of cultural artifacts