

IAEA TECHNICAL MEETING

Developing strategies for safe analysis of paintings and paint materials

Tuesday 27 June 2017

Location: Rijksmuseum Ateliergebouw (Room B), Hobbemastraat 22, Amsterdam

Registration

8.30 - 9.15 Entrance hall

Opening Session

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- 9.15 - 9.30 **Benjamin Rous** *Netherlands Institute for Conservation, Art and Science (NICAS)*
Suzanne Lammers *Cultural Heritage Agency of the Netherlands (RCE)*
- 9.30 - 9.45 **Loic Bertrand** *Integrated Platform for the European Research Infrastructure ON Cultural Heritage (IPERION CH) and European Research Infrastructure for Heritage Science: a new way of approaching Heritage Science (E-RIHS)*
- 9.45 - 10.00 **Aliz Simon** *International Atomic Agency (IAEA)*
Overview of the IAEA activities for Cultural Heritage
Objectives and expected outcomes of the Technical Meeting Introduction of the Participants, Election of the Rapporteurs
- 10.00 - 10.10 **Mathieu Thoury** *IPANEMA*
Report on previous activities
- 10.10 - 10.20 **Ineke Joosten** *Cultural Heritage Agency of the Netherlands (RCE)*
Theme of the meeting
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Coffee break

10.20 - 10.50

Session 1: Impact on pure organic paint. Chair: Loic Bertrand

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- 10.50 - 11.30 **Paul Jonkergouw** *Radboud University Nijmegen (Netherlands)*
The good, the bad and the ugly; how biological systems deal with ionizing radiation
- 11.30 - 11.50 **Zita Szikszai** *ATOMKI (Hungary)*
Systematic investigation on ion beam effects on painted and unpainted parchment
- 11.50 - 12.10 **Branka Mihaljevic** *Radiation Chemistry and Dosimetry Laboratory (RCDL) (Croatia)*
Gamma irradiation of selected fungi on linen textile
- 12.10 - 12.30 **Han Neevel** *Cultural Heritage Agency of the Netherlands (RCE)*
A study of the light degradation of some ink-related dyes on paper using μ -fading
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Lunch

12.30 - 13.30

Session 2A: Methodologies. Chair: Moniek tromp

13.30 - 14.10 **Samuel Webb** *Stanford Synchrotron Radiation Lightsource (SSRL), SLAC National Laboratory (USA)*

Characterization of X-ray Induced Beam Damage of Pigments

14.10 - 14.30 **Raul Freitas** *LNLS (Brazil)*

Mitigating Radiation Damage on the Nanoscale - a Case for the Next Generation of Synchrotron Sources

14.30 - 14.50 **Franco Zanini** *Elettra Sincrotrone Trieste, (Italy)*

Risk vs. danger perception in the analysis of cultural heritage

Coffee break

14.50 - 15.20

Session 2B: Methodologies. Chair: Aliz Simon

15.20 - 16.00 **Sunil Sabharwal** *IAEA, ORG*

Preservation and Consolidation of Cultural Heritage Artefacts Using High Energy Radiation (*video conference*)

16.00 - 16.20 **Salvatore Siano** *Instituto di Fisica Applicata "N. Carrara" - Consiglio Nazionale delle Ricerche (Italy)*

Efficient and Thermally Controlled System for Safe Raman Spectroscopy

16.20 - 16.40 **Lambert van Eyck** *Delft University of Technology (Netherlands)*

Neutrons Imaging: A gently probe to study the interior of art objects

Short break

16.40 - 16.50

Visit the Rijksmuseum Gallery of Honour

16.50 - 18.00

Drinks

18.30

Wednesday 28 June 2017

Location: Rijksmuseum Ateliergebouw (Room B), Hobbemastraat 22, Amsterdam

Session 3: Impact on mixed materials. Chair: Sam Webb

9.00 - 9.40 **Francesca Rosi** *CNR-ISTM (Italy)*

A systematic study on laser-induced damage to define boundary conditions for safe Raman non-invasive investigations

9.40 - 10.00 **Katarina Marusic** *Institute Ruđer Bošković, Radiation Chemistry and Dosimetry Laboratory, (Croatia)*

Biodecontamination by gamma irradiation of cultural heritage object containing nacre

10.00 - 10.20 **Anna Mazzinghi** *INFN sezione di Firenze, (Italy)*

Particle induced damage of Cultural Heritage materials

10.20 - 10.40 **Gihan Kamel Badie Mohamed** *SESAME (Jordan)*

SESAME First Studies on Cultural Heritage Exploration and Preservation in the Middle East

Coffee break

10.40 - 11.10

Session 4A: Impact on pure inorganic materials. Chair: Ineke Joosten

11.10 - 11.50 **Moniek Tromp** *University of Amsterdam, Van t Hoff Institute for Molecular Sciences (Netherlands)*

Characterisation of Inorganic Materials using X-rays – To Damage or not to Damage?

11.50 - 12.10 **Joseph Tandoh** *Ghana Atomic Energy Commission*

PIXE-RBS preliminary investigations of ancient glass beads excavated from "Ladoku" archaeological site

12.10 - 12.30 **Josiane Kaddissy** *IPANEMA, CNRS, (France)*

Radiation Damage Mechanisms in Oxides and Historical Materials

12.30 - 12.50 **Emeline Pouyet** *Center for Scientific Research in the Art (USA)*

Characterizing radiation damage effects on ultramarine pigment at the S K-edge using synchrotron macro/ μ X-Ray Absorption Near-Edge Spectroscopy (XANES)

12.50 - 13.00 **Hilde de Clerq** *International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM)*

Introducing ICCROM

Lunch

12.50 - 13.50

Working groups

13.50 - 14.10 **Introduction to the working group discussions**

Formulation of the working groups

14.10 - 16.00	Working group on the Damage Prevention Wizard	Working group on the Irradiation History Passport	Working group on the Design of the Round-robin
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Room B

Room C

Masterclass Room -1

Coffee break

16.00 - 16.20

Session 4B: Impact on pure inorganic materials. Chair: Francesca Rosi

16.20 - 17.00 **Lucile Beck** *Laboratoire de Mesure du Carbone 14 (LMC14) (France)*

Investigation of lead white and zinc white after ion beam irradiation

17.00 - 17.20 **Thomas Calligaro** *Centre de Recherche et de Restauration des Musées de France (C2RMF) (France)*

Probing the effect of analytical proton beam in lead-white pigment by EPR spectroscopy

17.20 - 17.40 **Laurent Cortella** *ARC-Nucleart / CEA (France)*

Behavior of Polychromic Layers When Irradiated for Gamma Biocide Treatments

17.40 - 18.00 **Greta Vitoanu** *National Commission for Nuclear Activities Control (CNCAN) (Romania)*

Irradiation practices of paintings and paint materials over the time seen through the eyes of an materials engineer

Conference dinner (Stedelijk Museum)

18.30

Thursday 29 June 2017

Location: Van Gogh Museum, Group entrance Paulus Potterstraat 7, Amsterdam

Coffee

9.30 - 10.00 Auditorium Van Gogh Museum

10.00 - 11.30 **General Conference – ‘Safety for investigation in museo’**

Extended to a broader audience (curators, conservators, students, scientists etc.)

Agnes Brokerhof *Cultural Heritage Agency of the Netherlands*

Valuating Van Gogh – from research to exhibition lighting

Annelies van Loon *Rijksmuseum, Mauritshuis, Delft University of Technology*

Macro X-ray fluorescence (MA-XRF) scanning in the Rijksmuseum in-situ, considerations regarding safety

Ella Hendriks *University of Amsterdam*

Van Gogh Illuminated

11.30 – 12.00 *Move to Ateliergebouw (Hobbemastraat 22)*

Lunch

12.00 - 13.00

Session 3B: Impact on mixed materials. Chair: Lucile Beck

13.00 - 13.20 **Victoria Corregidor** *IPFN, IST-UL, Campus Tecnológico e Nuclear, (Portugal)*

Ion beam techniques to study paintings on copper and polymers used as consolidates

13.20 - 13.40 **Letitia Monico** *University of Perugia and SMAArt Centre (Italy)*

Study of the reduction mechanism of chrome yellows by synchrotron radiation based X-ray methods: considerations on X-ray beam-induced damage

13.40 - 14.00 **Loic Bertrand** *IPANEMA (France)*

Radiation damage of historical samples: some lessons learned

14.00 - 16.00	Working group on the Damage Prevention Wizard	Working group on the Irradiation History Passport	Working group on the Design of the Round-robin
	Room B	Room C	Masterclass Room -1

Coffee break

16.00 - 16.30

16.30 - 18.00 Presentations of the discussions and outcomes of the working groups

Friday 30 June 2017

Location: Rijksmuseum Ateliergebouw (zaal B), Hobbemastraat 22, Amsterdam

9.00 - 10.30 Drafting the meeting report

Coffee break

10.30 - 11.00

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

Lunch

12.30 - 13.30

Guided tour in Ateliergebouw

13.30 - 16.00