

Irina Crina Anca Sandu, PhD

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MEMBERSHIPS & HONORS

Professional Associations

- Member of the national reference group 2 (*Culture, Creativity and Inclusive Society*) for HORIZON Europe programme, NRC, Norway (since 2024);
- Member of ICOM-CC Norway (since 2023);
- Member of the Research group NorCol (*Norwegian colours: production, use and trade of dyestuffs and pigments in Norway from Iron Age to modern times*), Oslo, Norway (since 2023);
- Active member of the Romanian Association of Archaeometry (since 2012);
- Honorary associate and member of the Scientific Committee of the Cultural Association *ICONE: Ricerca e Conoscenza*, Biella, Italy (since 2004);
- Founding Member of the Romanian Forum of Inventors and Creators, Iasi, Romania (since 2004);
- Associate member of *BASTIONI Association* for Restoration and Research of Artworks in Florence, Italy (2007-2009);
- Associate Member of the Italian Group of the International Institute for Conservation (IGIIC), Turin, Italy (2003).

Scientific committees

- Member of the scientific committee of the first *International conference on Optoelectronics and Heritage Science*, OptoHS 2024, online;
- Member of the Committee for the MASTER degree in *Conservation Science and Technology for Cultural Heritage*, Ca Foscari University, Venice, Italy (since 2023);
- Member of the Program Committee of the *Colour and Visual Computing Symposium 2022* (<https://www.cvcs.no/>), 8/8/2022 to 9/8/2022, Gjøvik, Norway;
- Member of the Scientific Committee, chair of a session and co-editor of special Issue of COLOUR RESEARCH AND APPLICATION for the international conference *COLOURS2022: Bridging science with Art*, 14-16th September 2022, Evora, Portugal;
- Chair of *Paintings III session 11A/day 10th* of May, the International Conference TECHNART 2019, Bruges, 7-10th of May 2019, Belgium;

- Member of the Scientific Committee of the *2nd International Symposium on Degradation and Conservation of Historical Materials and Structures*, Vila Real (University of Trás-os-Montes and Alto Douro), Portugal, 2018;
- Member of the Scientific Committee of the International Conference: *O Retábulo no espaço Iberoamericano: forma, função e iconografia (The altarpiece in the Ibero-American space: shape, function and iconography)*, 26 - 27 November 2015, Instituto de História da Arte, UNL, Lisbon;
- Member of the Scientific Committee of the International Conference: *COLOURS 2015 - Bridging Science with Art*, 24-26 September 2015, Évora University;
- Member of the Editorial Board of the journal *The Iranian Conservation Science Journal*, published by Iranian Research Center for Conservation of Cultural Relics, 2017;
- Member of the Editorial Board of the online journal *IJCS - International Journal of Conservation Science* (ISSN 2067-533X);
- Member of the scientific committee of the online journal published by CITAR-UCP, *ECR - Estudos de conservação e restauro* (ISSN1647-2098).

TEACHING & TRAINING & MENTORING EXPERIENCE

1. Collaboration with Diversify in Oslo for the *Mentorship programme ZENITH* - 8 sessions of mentorship with a mentee, September - December 2024;
2. Immersive exploration “*Scream Time Machine – a multisensorial and temporal journey*” InArt24 pre-conference workshop *Colour and appearance for cultural heritage - new research approaches from the ApPEARS and PERCEIVE projects*, 3rd June 2024, Oslo and at KHM on 8th June 2024, Oslo;
3. Lecture on “*The Scream, one motif, many colours, many voices*”, 1.5h lecture given to PhD students from the PhD National Program in Heritage Science, 14th May 2024, Ca Foscari Venice, Italy;
4. Workshop «*Advancing your research practice - Research publications, peer-reviewing and citations impact*», MUNCH museum, 2nd March and 15th June 2023;
5. Workshop «*Developing Researchers - Research for cultural heritage in between museum and academia. What & How & Why*», MUNCH museum, 11th January 2023;
6. Lecture on “*Multi-technique and multiscale approaches to the study of old and modern paintings*” in the framework of the summer school “*Diagnosis in Heritage Science: 3. Focus on paintings*”, University of Pisa, Italy, 6-10th September 2021;

7. Workshop “*From raw materials to the final art object*”, 2 groups of kids (aged 8 to 12) at Sommerskolen activities at MUNCH, June 2021;
8. Online seminary to the students from the course of Technical Art History (ARTIS-IHA/FLUL) in the series Heritage talks, “*A contribucao do projecto Gilt-Teller ao conhecimento das tecnicas de douramento na talha portuguesa entre os seculos XVI e XIX*”, 7th May 2021;
9. Online seminary no ambito de “O exame e analises da colecoes: Contributos para o seu Estudo e Gestao”, Master Degree in Museology at the Faculty of Letters of Porto University and the Hercules Centre of Evora University, “A colecao de Edvard Munch: estudo de casos e potencialidades (The collection of Edvard Munch: case studies and potentialities)”, 8th February 2021;
10. Seminars on „Strategies for increasing productivity, writing scientific publications and oral presentations to the public”, University of Evora, IIFA, March-May 2016;
11. Seminary on “Interdisciplinary approaches on gilded carved wood in Portugal” University of Evora, the ARCHMAT Erasmus Mundus Master programme, 31st of October 2014;
12. Seminars on “Optical Microscopy and Staining tests” (2010-2011) and Semestrial BS Course on “Diagnosis of paint layers“ (2008), Department of Conservation and Restoration of Cultural Heritage, Faculty of Sciences and Technology, NOVA University of Lisbon;
13. Course in “Multimedial Technologies for Conservation”, Libera Accademia di Belle Arti, Florence, Italy (2007);
14. Course on “Restoration of Ancient Icons, theoretical and methodological aspects”, Episcopo PhD in Science for Conservation, Bologna University, Ravenna Branch, Italy (2006);
15. Annual course on “Basic Principles of Conservation and Restoration”, Master in Conservation of buildings and monuments, “Gh. Asachi” University, Iasi, Romania (2000/2001);
16. “Al.I. Cuza” University, Iasi, Romania (1997/1998) – teaching activity in the graduation courses in Conservation (Chemistry for conservation, History of Religious Art etc.) and organization of summer workshops and a course at “Al.I.Cuza” University, thought by

international experts in conservation (Agnes Brokerhof from ICN-Holland among others).

SUPERVISION of TRAINEES & THESES

6 PhD candidates

Nina Eckertz – NTNU, Color Science Lab & MUNCH, 2024-2026, PhD research project, *Spectral Image Processing and Visualization for Paintings Conservation* (co-supervisor);

Ana Margarida Cardoso - University of Evora, Hercules Center, PhD research project, *On the Art of Edvard Munch - multianalytical study of its painting materials and degradation mechanisms*, 2020-2024 (co-supervisor);

Andrea Casini – Università degli Studi di Firenze, PhD research project, *Development and testing of a nano-polysaccharide based consolidant for matt and porous modern artworks*, November 2018-2021 (consultant);

Michal Michalski - University of Science and Technology (AGH), Department of Non-Ferrous Metals, Cracow, Poland, PhD student, ERASMUS Programme, *Reconstruction of gilded structures in the lab accompanied by video-and photo-registration*, April-July 2014;

Donata Magrini - ICVBC-CNR, Florence, Italy, *Analyses of organic proteinaceous binders in polychrome works of art using immuno-chemical methods*, REQUIMTE-FCT/UNL supervision, 3 weeks stage within PhD thesis (June 2011);

Michaela Crhova - Institute of Chemical Technology (ICT) in Prague, PhD student, ERASMUS programme, *Identification of protein additives in mortars using immunochemical methods*, REQUIMTE-FCT/UNL supervision, December 2010/April 2011.

14 Msc candidates

Floor Koistra - University of Amsterdam/Rijksmuseum, Master thesis in *Assessment of greener alternative cleaning methods for conservation of paintings*, November 2024-April 2025, Erasmus Plus and Master programme, Oslo (supervisor);

Arianna Abbafati – Ca Foscari University in Venice, Italy, February-May 2024, Erasmus Plus traineeship, Oslo (supervisor);

Beatrice Boracchi – Ca Foscari University in Venice, Italy, May-October 2023, Master thesis in Conservation Science and technology for CH, *Unraveling Color Transformation and Material Degradation in Munch's Artworks: Ultramarine Blue and Cobalt Blue Industrial Oil Paints* (co-supervisor);

Beatrice Boracchi – Ca' Foscari University in Venice, Italy, February-May 2023, Erasmus Plus traineeship, Oslo (supervisor);

Silvia Giorgi – Università degli Studi di Firenze, *Multi-technique characterization of a palette from Edvard Munch's collection*, December 2018 - April 2019, Oslo (supervisor);

Marius Landsverk - HiOA, NMBU and Munchmuseet co-supervision, Master thesis on *Characterization of organic art materials by GC-MS and complementary techniques – towards a library of reference materials and its analytical validation*, November 2017-December 2018, Oslo (co-supervisor);

Andrea Casini – Università degli Studi di Firenze, *Materials and tools for the conservation of modern art*, Erasmus Plus Programme, March - September 2018, Oslo (supervisor);

Misra Kaya – Koc University, Istanbul, *Sampling and sample preparation from Modern art at Munch Museum*, Erasmus Plus Programme, June - July 2017, Oslo (supervisor);

Andrea Marchetti - Ca' Foscari University in Venice, *Characterization of gilded samples using a multi-technique approach for the detection of compositional markers*, Erasmus Plus Programme, master degree, August - December 2016 (consultant of the project);

Maura Fugazzoto - University of Bologna, Ravenna Branch, *Interdisciplinary study of gilding techniques and materials in painted and sculpted artifacts of cultural heritage*, Erasmus Plus Programme, master degree level, April - July 2015;

Iłona Viliunaite - University of Evora, 3 months stage within the ARCHMAT ERASMUS Mundus master programme, *Sampling and characterization of Portuguese gilded artifacts and of their historical reconstructions on wooden support*, November 2014 - February 2015;

Valentina Valbi - University of Bologna, Ravenna Branch, *Sampling and characterization of gilded artifacts from Portuguese and Italian heritage*, Leonardo da Vinci Programme, June-October 2014;

Catarina Cortes Pereira – DCR/FCT, Nova University in Lisbon, *Application of enzymes and ionic liquids for the removal of proteinaceous layers from polychrome works of art and the evaluation of the cleaning effectiveness*, main supervisor of a master thesis and co-supervision by Dr. Luís Branco and Dr. Tito Busani, 2012;

Filipa Pacheco – DCR/FCT, Nova University in Lisbon, *Diagnosis and Intervention of Conservation-Restoration of a Painting: Pentecost*, Co-supervision, 2008/2009 (Project of Master in Conservation);

Diana Conde – DCR/FCT, Nova University in Lisbon, *Conservation-Restoration of the Painting: Pentecost attributed to Fernão Gomes*, Co-supervision, 2008/2009 (Project of Master in Conservation);

Diana Conde – DCR/FCT, Nova University in Lisbon, *Conservation and Restoration of the Painting “Return from hunting” by Philips Wouwerman*, Museu Nacional de Arte Antiga, Co-supervision, 2008 (Project of Master in Conservation).

13 Bsc & BI scholarships

Vanda Amaral – University of Evora, 5 months **BI scholarship** (January-May 2015) in the framework of the project entitled: *GILT-Teller: an interdisciplinary multi-scale study of gilding techniques and materials in Portugal, 1500-1800* (PTDC/EAT-EAT/116700/2010), funded by FCT-MCTES;

Francesca Paba – José de Figueiredo Laboratory (DGPC, Lisbon), 17 months **BI scholarship** (January 2014-May 2015) in the framework of the project entitled: *GILT-Teller: an interdisciplinary multi-scale study of gilding techniques and materials in Portugal, 1500-1800* (PTDC/EAT-EAT/116700/2010), funded by FCT-MCTES;

Rita Veiga – DCR/FCT, Nova University in Lisbon, 1-year **BI scholarship** (June 2012-May 2013) in the framework of the project entitled: *GILT-Teller: an interdisciplinary multi-scale study of gilding techniques and materials in Portugal, 1500-1800* (PTDC/EAT-EAT/116700/2010), funded by FCT-MCTES;

Group H made of 4 students in the EPS programme – 5 months project on *Design of an archival cart with shock and vibration damping for transportation of paintings at the Munch Museum*, August – December 2017, Oslo (external supervisor);

Patricia Serrano – University of Evora, 6 months stage within the INICI(AR)3 - Iniciação à Investigação Científica aplicada às ARtes, ARqueologia e ARquitetura project, *Preparation and microscopy study of gilded and polychrome samples from Portuguese altarpieces and wooden sculptures*, bachelor degree in Biotechnology, September 2014-March 2015;

Ana Catarina Almeida – REQUIMTE/FCT, Nova University in Lisbon, *Biochemical study of proteinaceous binders used in polychrome works of art from cultural heritage*, Supervisor (second semester of the academic year 2011/2012, Bachelor in Chemistry, Project of Applied Chemistry – Biotechnology Branch);

Flavia Pires – DCR/FCT, Nova University in Lisbon, voluntary stage between February and July 2012 on topics related with *the biochemical and microscopic analysis of paint samples*, Bachelor degree in Biotechnology from the Evora University;

Joana Robalo – REQUIMTE/FCT, Nova University in Lisbon, *Study on the fluorescence microscopy of proteinaceous binders in polychrome works of art*, supervision, 2010 (Bachelor in Chemistry, Project of Applied Chemistry – Biotechnology Branch);

Joana Fortio Fernandes Pacheco Viana - REQUIMTE/FCT, Nova University in Lisbon, *Biochemistry of Art*, supervision, 2009/2010 (BII project funded by FCT-MCTES);

Catarina Ribeiro Correia - REQUIMTE/FCT, Nova University in Lisbon, *Biochemistry of Art*, supervision, 2009/2010 (BII project funded by FCT-MCTES).

ORGANIZATION OF INTERNATIONAL CONFERENCES, ROUND-TABLES AND WORKSHOPS/SEMINARS

1. Member of **the organizing committee for the ICOM-CC26 conference** in Oslo, September 2026 (coordinator is National Museum in Oslo);
2. Co-organizer of the **Workshop** *Colour and appearance for cultural heritage – new research approaches from the ApPEARS and PERCEIVE projects*, held on 3rd of June 2024 and of **demonstrative sessions** from PERCEIVE project during InArt24 conference in Oslo (4th -7th June 2024) and at KHM (8th of June 2024);
3. Main chair and organizer of the **international conference MUNCH2022**, „*Understanding MUNCH and the art at the turn of the centuries: from the museum to the lab*”, 21st - 23rd March 2022, MUNCH museum, Oslo, Norway;
4. **Sharing Forum** on “*Model samples and modern reference materials collections – their use in conservation research*“, organized by MUNCH museum, Oslo, 15th February 2022;
5. **Sharing Forum** on “*Edvard Munch sketches: an interdisciplinary approach to the study of their materiality and degradation mechanisms*“, organized by MUNCH museum, Oslo, 30th November 2021;
6. Organizer of the **Seminar** entitled „*Interdisciplinary research around the Scream series: diagnosis, characterization and conservation*”, held on 6th of October 2017 on the occasion of the **first week of MOLAB access**, Munch Museum, Oslo, Norway;
7. Co-organizer of the training workshop held by Prof. Richard Wolbers at Munch Museum (Conservation Department) on “**Cleaning painted surfaces and paper at the Munch Museum**”, 16-20th January 2017, Oslo, Norway;
8. Member of the Organizing Committee of the **3rd Luso-Brasilian Meeting of Conservation and Restoration**, HERCULES – Evora University, 11th-14th of November 2015, Evora, Portugal;

9. Main chair and organizer of the international conference **GILT-EnArt2015 Gilding materials and techniques in European Art**, HERCULES – Evora University, 25th-27th of May 2015, Evora, Portugal;
10. Organizer of the first international workshop on **Visualizing Molecular and Conservation Processes for Cultural Heritage with 3D Animation**, lecturer Dr. Janet Iwasa from Utah University, 6-10 October 2014, HERCULES – Evora University, Evora, Portugal;
11. Co-chair and Member of the Organizing Committee of the **InArt'13 - First International Conference on Innovation in Art Research and Technology**, HERCULES – Evora University, 10th-13th of July 2013, Évora, Portugal;
12. Member of the Organizing Committee of the **International Symposium and Workshop on Cultural Property Risk Analysis**, 14th-16th of September 2011, Universidade NOVA de Lisboa, Portugal;
13. **Discussion Panel** on „Review and assessment of existing methods for investigating surface properties of different object typologies to be proposed for treatment documentation and evaluation of objects subject to conservation”, November 2006, organized by OPD and ICVBC-CNR in the framework of the Eu-artech Project, Florence, Italy;
14. **Meeting of the members** of the EPISCON project: European PhD in Science for Conservation at the “Al.I.Cuza” University of Iasi, Romania (June 2006);
15. **Round-table on „Methods and materials for conservation”**, 2003-2004, in the framework of the NA2 activity of the LabSTECH project, Florence, Italy;
16. Member of the organization committee of the **International Colloquium "The Science, the Technique and the Art of Conservation and Restoration of the Cultural Heritage"**, 1995-1998, „TABOR” Metropolitan Research Centre in Iasi, Romania.

RESEARCH CONTRACTS, PROJECTS & COLLABORATIONS (1997-2024)

1. **Collaboration with Ca Foscari University** in Venice for the study of paint tubes from original materials collection housed at Munch museum in Oslo, started in 2023;

2. **Dating Scream**, a research collaboration with AXES group of Antwerpen University and Hirox Europe company, 25th February – 9th March 2024, funded by the Research and Innovation programme of MUNCH;
3. *Characterisation of real paint samples from Edvard MUNCH's collection of paintings by high precision SRFTIR spectroscopic data in the FAR and MID-IR region*, HZB (Helmholtz Zentrum Berlin) proposal **no. 213-12114 of access to Bessy line** (synchrotron facility) in Berlin, March, 2023;
4. **PERCEIVE** (Perceptive Enhanced Realities of Colored CollEctions through artificial Intelligence and Virtual Experiences), HORIZON EU funded R & D project proposal, coordinated by CNR in Italy, 2023-2025; € 3.785.358,75 (348.553,75 € for MUNCH);
5. **MOLAB and FIXLAB Transnational Access (TNA)** for the project: COLOUR CHANGES IN MUNCH PAINTINGS AND STUDY OF THE ARTIST'S PAINTING MATERIALS, August-November 2021 & May 2022-April 2023;
6. **IPERION network - WP 5.1**, IPERION HS joint research activities (2020-2022) – collaborator in 4 projects;
7. **THE SCREAM - Touchstone for Heritage Endangered by Salt Crystallization, a Research Enterprise on the Art of Munch** – 2018 - 2022, Co-Pi with Hercules Centre, University of Evora (funding from FCT-MCTES, Portugal, € 239.588,3);
8. **MOLAB Access Grant** for the project TECH_SCREAM_TECH – TECHNical Study of CoRE Art Materials & TECHniques of SCREAM versions, Munch Museum, Oslo, 1st-6th of October & 12th to 15th of December 2017, H2020-INFRAIA-2014-2015, GA n. 654028;
9. **Archlab Access Grant to OPD, RCE and CATS within CHARISMA project**, approved for 3 persons from the Conservation department of Munch Museum in Oslo, for the project KETONE RESIN VARNISHES ON MUNCH MUSEUM'S PAINTINGS: AN INTERDISCIPLINARY, TRANSNATIONAL RESEARCH, 2017;
10. **INICI(AR)3 - Iniciação à Investigação Científica aplicada às ARtes, ARqueologia e ARquitetura** project, Hercules – Évora University, September 2014-March 2015 (participation and supervision of 1 student stage; bachelor degree);
11. **Portuguese-German Integrated Actions** for THE BIOCHEMISTRY OF ART MATERIALS, a joint project of access between Nova University and the University of Applied Sciences and Arts Hildesheim/Holzminden/Göttingen (2012);
12. **PTDC/EAT-EAT/116700/2010: GILT-TELLER: AN INTERDISCIPLINARY MULTI-SCALE STUDY OF GILDING TECHNIQUES AND MATERIALS IN PORTUGAL, 1500-1800** (2012-2015, funding from FCT-MCTES, Portugal, € 110.000);
13. **Archlab Access Grant to ICN and OPD within CHARISMA project**, approved for 4 persons, 2 from Portugal and 2 from Czech Republic for the project GREEN SOLUTION TO CLEANING POLYCHROME SURFACES: ENZYME AND IONIC LIQUIDS-BASED SYSTEMS, March-May 2011;
14. **Collaboration** with the Institute of Chemical Technology in Prague (Czech Republic) for a 4 months ERASMUS project (December 2010-April 2011) on *the identification of protein additives used in historical mortars through immuno-chemical methods*;

15. **Project 12/2009, BIOCHEMISTRY OF ART**, co-supervisor of 2 scholarships funded by FCT Portugal, 2009-2010, Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa;
16. **Project** at the Department of Conservation and Restoration of NOVA University in Lisbon for the diagnosis and authentication of 23 paintings by Amadeo de Souza Cardoso from the CAM – Gulbenkian Foundation in Lisbon, Portugal, 2008;
17. **EC Contract no. RII3-CT-2004-506171/2004-2009 - EU-ARTECH European project** (Access Research and Technology for the conservation of the European Cultural Heritage), member of the working group for Networking Activity N2 on “METHODS AND MATERIALS IN CONSERVATION”, Florence, Italy;
18. Collaboration with the Cultural Association „*ICONE: Ricerca e Conoscenza*” for the DIAGNOSYS AND AUTHENTICATION OF ANCIENT ICONS, 2005-2007, Florence, Italy;
19. **CNCSIS IDEI PROGRAM, 423/2007-2010, INNOVATIVE SYSTEMS OF SCIENTIFIC INVESTIGATION AND INTEGRATE CONSERVATION FOR THE VALORISING AND TREASURING CULTURAL HERITAGE**, member of the working team, Iasi, Romania;
20. **EC Contract no. HPRI-CT-2000-40018/2001-2004 - LabSTECH European project** (Laboratories on Science and Technology for the Conservation of the European Cultural Heritage) – member of the working group for Joint Activity 2 –Task 1 on MATERIALS AND METHODS FOR THE CONSERVATION OF THE CULTURAL HERITAGE, Florence, Italy;
21. **Research Grant (scholarship no. 219.32/16.07.1999)** in the framework of NATO Outreach Fellowships programme – Fellowships for Technology of Cultural Heritage, financed by CNR- Rome and developed at the Scientific Laboratory of Opificio delle Pietre Dure in Florence, Italy on the topic: CHARACTERIZATION OF PROTEINACEOUS ORGANIC BINDERS IN THE STRUCTURE OF OLD PAINTINGS BY PYROLYSIS – GAS-CHROMATOGRAPHY AND OTHER COMPLEMENTARY ANALYSES, 2001;
22. Collaboration for the development and testing of INNOVATIVE METHODOLOGIES FOR STOPPING THE INSECT ATTACK TO WOODEN ARTIFACTS (icons and iconostasis) from Probota Monastery, within the framework of **UNESCO Japan Trust Fund Project 536 ROM/70/1997-2001** for the restoration of Probota Monastery, Bukovina, Romania;
23. **Contract no. 6155GR/2000-2001, ANSTI/MCT** - director of project for Young researchers (MEC) with the theme: RESEARCHES CONCERNING THE IMPLICATION AND ROLE OF STRATIGRAPHICAL METHODS FOR THE ANALYSIS OF THE CONSERVATION STATE OF OLD PAINTINGS, MADE WITH TRADITIONAL ROMANIAN TECHNIQUES, Annual programme of grants for 2000-2001, Romania;
24. **Contract no. 45223/18.12.2000, CNFIS** - Grant 198/2000 financed by the World Bank, member of the reasearch team, theme: STUDIES AND RESEARCHES CONCERNING THE IMPLEMENTATION OF NEW DIDACTIC AND RESEARCH METHODS USED FOR THE RECOGNITION-IDENTIFICATION AND ELABORATION OF STRUCTURAL DATA AND OF DIRECT AND INVERSE ICONOGRAPHIC PERSPECTIVES, Romania;

25. **Contract no. 1613/1998/V** with Ministry of Research and Technology, Bucharest, Romania, member of the research theme **A.1.:** RESEARCHES CONCERNING THE BIOLOGICAL ATTACK ON POLYCHROME STRUCTURES FROM ORTHODOX CHURCHES. NEW MATERIALS AND METHODS WITH BIOCID E EFFECTS;
26. **Contract no. 1126/1998/III** with Ministry of Research and Technology, Bucharest, Romania, member of the research team dealing with STUDIES CONCERNING THE INFLUENCE OF SOLVENTS ON THE SHIFTING OF THE MOISTURE CONTENT EQUILIBRIUM OF THE ORGANIC SUPPORTS IN THE STRUCTURE OF CULTURAL ASSETS;
27. **Contract no. 1010/1998/III**, with Ministry of Research and Technology, Bucharest, Romania, member of the research team dealing with STUDIES AND RESEARCHES CONCERNING THE SOURCES AND IMPACT OF POLLUTION AND METEO-CLIMATIC AGENTS ON THE DEGRADATION OF CULTURAL HERITAGE ASSETS FROM ROMANIA ORTHODOX ECCLESIASTIC SITES IN MOLDAVIA AND BUKOVINA. STRATEGIES AND METHODS OF MITIGATION;
28. **Contract no. 870/1998/III** with Ministry of Research and Technology, Bucharest, Romania, director of the research theme **A.2.:** RESEARCHES CONCERNING THE REPRESENTATION OF FOUNDERS IN THE MEDIOEVAL ROMANIAN ICONOGRAPHY (XIV-XVII CENTURIES). TYPOLOGICAL ELEMENTS;
29. **Contract no. 870/1998/III**, with Ministry of Research and Technology, Bucharest, Romania, director of the research theme **A.1.:** STUDY OF EASEL-PAINTING CRAQUELURE FOR DETERMINING THE CONSERVATION STATE AND PATRIMONIAL VALUATION;
30. **Contract no. 319/1998/III**, with Ministry of Research and Technology, Bucharest, Romania, member of the research theme **A.1.:** STUDIES AND RESEARCHES CONCERNING THE POLLUTION AND METEO-CLIMATIC AGENTS' EFFECT ON THE DEGRADATION OF CULTURAL HERITAGE ASSETS FROM THE ECCLESIASTIC SITES OF MOLDAVIA AND BUKOVINA. STRATEGIES AND METHODS OF MITIGATION. MICROCLIMATIC STUDY OF THE INDOOR ENVIRONMENT AT THE CHURCH OF FRUMOASA MONASTERY (XVII CENTURY);
31. **Contract no. 1592/1997/II** with Ministry of Research and Technology, Bucharest, Romania, member of the research theme **A.1.:** STUDIES AND RESEARCHES CONCERNING THE POLLUTION AND METEO-CLIMATIC AGENTS' EFFECT ON THE DEGRADATION OF CULTURAL HERITAGE ASSETS FROM THE ECCLESIASTIC SITES OF MOLDAVIA AND BUKOVINA. STRATEGIES AND METHODS OF MITIGATION. STUDY OF THE ACID RAINS AND OF CORROSIVE GAS FROM THE AREA OF TWO ECCLESIASTIC SITES IN IASI;
32. **Contract no. 1126/1997/I** with Ministry of Research and Technology, Bucharest, Romania, director of research theme **A.2.:** STUDY OF CRITERIA USED FOR VALUATING CULTURAL HERITAGE ASSETS FROM ORTHODOX ECCLESIASTIC SITES;
33. **Contract no. 1051/1997/II** with Ministry of Research and Technology, Bucharest, Romania, member of the research theme **A.1.:** STUDIES CONCERNING THE INFLUENCE OF SOLVENTS ON THE SHIFTING OF THE MOISTURE CONTENT EQUILIBRIUM OF THE ORGANIC SUPPORTS IN THE STRUCTURE OF

CULTURAL ASSETS. THE INFLUENCE OF BIOLOGICAL AGENTS ON THE SHIFTING OF THE MOISTURE CONTENT EQUILIBRIUM OF ORGANIC SUPPORTS;

34. **Contract no. 381/1997/IV** with Ministry of Research and Technology, Bucharest, Romania, member of the research theme **A.2.:** RESEARCHES CONCERNING NEW MATERIALS AND METHODS FOR CONSERVING CULTURAL HERITAGE ARTIFACTS (ICONOGRAPHY, FRESCOES, OLD BOOKS) FROM CHURCHES AND MONASTERIES IN MOLDAVIA AND BUKOVINA. STUDY OF TRADITIONAL BINDERS AND ADHESIVES USED FOR CREATING, CONSOLIDATING AND REMAKING ARTIFACTS AND THE EFFECT OF BIOLOGICAL ATTACK ON THEM;
 35. **Contract no. 122/1997/IV** with Ministry of Research and Technology, Bucharest, Romania, member of the research theme **A.1.:** RESEARCHES CONCERNING NEW MATERIALS AND METHODS FOR CONSERVING CULTURAL HERITAGE ARTIFACTS (ICONOGRAPHY, FRESCOES, OLD BOOKS) FROM CHURCHES AND MONASTERIES IN MOLDAVIA AND BUKOVINA. STRATEGIES FOR CONSERVING THE TREASURES OF MANUSCRIPTS AND OLD BOOKS FROM TWO ECCLESIASTIC SITES IN MOLDAVIA.
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INVITED OR KEYNOTE SPEAKER

- 1) **I.C.A SANDU**, *Complementary imaging and spectroscopic approaches to the study of colors and their changes in Munch's art*, **first online International conference on Optoelectronics and Heritage Science, OptoHS**, 21st November 2024;
- 2) **I.C.A SANDU**, *ARCHLAB access for the project Ketone resin varnishes from Munchmuseum paintings collection (KV-MUM-P)*, **The E-RHIS public event Celebrating 20 years of Access**, Manifattura Tabacchi, 24th September 2024, Firenze, Italy;
- 3) **I.C.A SANDU**, *PERCEIVE project. What, who, how*, **InArt24 pre-conference workshop Colour and appearance for cultural heritage - new research approaches from the ApPEARS and PERCEIVE projects**, 3rd June 2024, Oslo;
- 4) **I.C.A SANDU**, *Perceiving Scream through space and time, while changing its colors*, **PINT of SCIENCE** festival, Oslo, 15th May 2024;
- 5) **B.C. AGA & ICA SANDU**, *MUNCH and AI: AI use in Conservation, Collection Management, and Audience Experiences at MUNCH*, **online webinar** organized by Balboa Park Online Collaborative, 29th January 2024;
- 6) **I.C.A SANDU**, *Study of Edvard Munch's collection of art objects*, oral communication in the **first meeting of The Norwegian Chemical Society (NKS)**, 18 January 2023, MUNCH museum, Oslo;
- 7) **I.C.A. SANDU**, *Synergies at MUNCH: a research collaborative approach between the museum and academia*, oral communication at the **second Global Summit of Research Museums**, organized by Deutsches Museum in Munich, Germany, October 17-19, 2022;
- 8) **I.C.A. SANDU**, *Colour changes in Munch paintings and study of the artist's painting materials (CH_MPPM) – MOLAB and FIXLAB transnational access*, presentation at **the Iperion HS Academy webinar**, 5th April 2022, online;

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Editorial experience (Book chapters, Book of abstracts, Special Issues from international conferences)

1. Co-Editor of the first volume of the book *Chromatic Visions: Exploring Colour in Art, Archaeology and Digital Realities, Vol. 1 "Preserving, Predicting, Simulating, Reconstructing Coloured Collections: an overview of Perceive project theory*, Springer, 2024;
2. Guest Editor of 1 Special issue of COLOUR RESEARCH AND APPLICATION for the international conference **COLOURS2022: Bridging science with Art**, 14-16th September 2022, Evora, Portugal;
3. Guest Editor of 1 Special Issue of the journal INTERNATIONAL JOURNAL OF CONSERVATION SCIENCE for the 1st international conference **MUNCH2022**, Volume 13, Special Issue 1, December 2022;
4. Book of Abstracts of the International Conference **MUNCH2022**, 21st to 23rd March 2022, MUNCH, Oslo, Norway, edited by Irina Crina Anca Sandu;

5. Guest editor of 2 Special Issues of the following Journals: INTERNATIONAL JOURNAL OF CONSERVATION SCIENCE, vol 6, 2015 (11 papers) and ESTUDOS DE CONSERVAÇÃO E RESTAURO (5 papers) for the conference **GILT-EnArt2015**, 25-27th of May 2015, University of Évora, Portugal;
6. Book of Abstracts of the First International Conference on Gilding Materials and Techniques in European Art, **GILT-EnArt2015**, 25-27th of May 2015, University of Évora, Portugal, edited by Irina Crina Anca Sandu (108 pages);
7. Guest editor of the special Issue of the conference **InArt 2013**, IJCS, vol 4, 2013 (23 papers);
8. Book of Abstracts of the *First International Conference on Innovation in Art Research and Technology*, **InArt 2013**, 10-13th of July 2013, University of Évora, Portugal, edited by Antonio Estevão Candeias and Irina Crina Anca Sandu (198 pages).

Prototype proof-of-concept demonstrations

- **I.C.A SANDU & B. BORACCHI**, **Scream Time Machine – a multisensorial and temporal journey**, **InArt24 pre-conference workshop** *Colour and appearance for cultural heritage - new research approaches from the ApPEARS and PERCEIVE projects*, 3rd June 2024, Oslo and at KHM on 8th June 2024, Oslo.

Patents (7 as main author)

- 1) SANDU I; VASILACHE V; **SANDU I C A.**, *Chromatic reintegration process for paintings, involves editing polychromatic image in chromatic system, preparing surface to be printed by finishing with putty and compatible preparation layers, and printing on testing surface*, Brevet RO127086-A2 (owner UNIV IASI CUZA ALEXANDRU IOAN);
- 2) **I.C.A. SANDU**, V. VASILACHE; I. SANDU; N. VRINCEANU; I.G. SANDU, A.C. CIOCAN, A.V. SANDU, *Process for actively preserving old water-soaked wood*, Brevet RO126102 (A2)/2011-03-30 , RO126102-B1 (owner Al.I. Cuza University, Romania);
- 3) DIMA A; ROIBU L; ROIBU L O; et al., *Process for obtaining artistic patina by chemical passivation of iron parts surfaces*, Brevet RO122303-B1(owners DIMA A; SANDU I; ROIBU L; SANDU I C A; SANDU I G; ROIBU L O; SANDU A V);
- 4) SANDU I G; NEACSU I; STOLERU S; et al., *Process for the repatination of areas restored by surface passivation of old bronze and brass pieces*, Brevet RO123077-B1 (owner FORUMUL INVENTATORILOR ROMANI);
- 5) GRIEROSU P; SANDU I; COVATARIU D; et al, *Wood non distorting fire, fungus and insect proofing mix consists of a solution penetrating into the wood, and a solution forming a protective film on the wood*, Brevet RO120975-B1 (owners GRIEROSU P; SANDU I; COVATARIU D; SANDU I G; GRIEROSU D; SANDU A V; GRIEROSU G; SANDU I C A);
- 6) **I.C.A. SANDU**, I. SANDU, T. BOUNEGRU, I.G. SANDU, A.V. SANDU, *Method of dating the old cellulose textile materials*, Brevet MD 3325(F)/31.05.2007 (owner the State University of Moldova, Kisinev);

7) **I.C.A. SANDU**, I. SANDU, I.G. SANDU, A.V. SANDU, *Cellulose textile materials age testing comprises polymerization monitoring via cuproxan alkaline solution*, Brevet RO121151-B1/29.12.2006 (owners the authors);

8) ROMAN G I; SANDU I G; **SANDU I C A**, *Cleaning of industrial and household waste water comprises application of aqueous suspensions to remove soluble inorganic and organic and insoluble impurities*, Brevet RO119536-B1 (owners the authors);

9) **I.C.A. SANDU**, I.G. SANDU, D.T. CUDELUCU, *Production of chrome yellow pigment comprises mixing lead nitrate, zinc nitrate and other solutions to give uniform granulometry*, Brevet RO118960 (B1)/2004-01-30 (owners the authors);

10) MORARU V; SANDU I; MORARU C; **SANDU I C A**; SANDU I G, *Fabrication of multi colored wall mosaic elements consists of sandwiching between glass sheets, of mineral pigments and noble metal powders for heat treatment*, Brevet RO118415-B (owners the authors);

11) **I.C.A. SANDU**, I.G. SANDU, D.T. CUDELUCU, S. NICULA, *Determination of the age of cellulose material type supports consists of sampling, to establish the discoloration and degradation of documents*, Brevet RO116.844(B)/2001-06-29 (owner Mitropolia Moldovei si Bucovinei);

12) SANDU I; CAEA N; VASILACHE V; et al., *Organic dispersion for conservation of parchment documents by greasing and aseptic treatment, comprises lanolin, neat's foot oil, bee glue and a saline tampon system*, Brevet RO113746-B (owner MITROPOLIA MOLDOVEI BUCOVINEI);

13) **I.C.A. SANDU**, N. VORNICU, I.G. SANDU, C. VORNICU, *Method for "in situ" disinfection of book warehouses*, Brevet RO115.126/1999-11-30 (owner Mitropolia Moldovei si Bucovinei);

14) **I.C.A. SANDU**, I. SANDU, G. NICA, I.G. SANDU, *Organic solutions for the preservation and antiseptization of the supports which are made of old polychrome wood*, Brevet RO111667(B1)/1996-12-30 (owner the authors).

PRIZES & AWARDS

- Certificate of Outstanding contribution in Reviewing awarded in November 2017 from **Microchemical Journal**, Elsevier (2017);
- Certificate for **Highly cited research** given by **Journal of Cultural Heritage**, Elsevier for the paper „Protein identification and localization using mass spectroscopy and staining tests in cross-sections of polychrome samples” (2016);
- **Excellence Diploma** for „Innovative multimedia online tool for the study of gilded carved wood in Portugal”, EUROINVENT 2014, Iasi, Romania (2014);

- **Gold Prize of the International Engineering Invention & Innovation Exhibition (i-ENVEX)** 2014, Malaysia Perlis University for the invention „Procedure for chromatic reintegration of paintings” (2014);
- **Gold Medal and Diploma** for the study on „new formulations for cleaning painted artefacts”, EUROINVENT 2012, Iasi, Romania (2012);
- **Special Award**, EUROINVENT 2010, Iasi, Romania (2010);
- **Prize** of the Harkov University, IIIrd International Exhibiton of Inventions and New Technologies NEW TIME, Sevastopol, Ukraine (2007);
- **CHARTÉ pour la contribution à la stimulation au développement et á la promotion de la créativité á „Brussels Eureka” Bruxelles**, Bureau do Delegue Officiale du Salon des Innovations, des Recherches et des Nouvelles Technologies pour la Bosnie-Herzegovine (2006);
- **Merit de l'invention - Diplome de Commandeur**, Commision Supérieure des Récompenses do Salon des Inventions „Brussels Eureka” Bruxelles (2005);
- **Special Prize** of the Superior School Pricinosti, Ukraine-Estonia-Belgium, International Exhibition of Inventions and New Technologies NEW TIME, Sevastopol, Ukraine (2005);
- **ANCS-MCT Prize**, National exhibition of inventions, research and new technologies, with international participation, INVENTIKA 2005, IXth edition, București, Romania (2005);
- **Silver trophy GENIUS-EUROPA**, International Exhibition of Inventions and Fine Arts, GENIUS-EUROPA 2004, Budapest, Hungary (2004);
- **Merit de l'invention - Diplome de Officier**, Commision Supérieure des Récompenses do Salon des Inventions „Brussels Eureka” Bruxelles (2004);
- **Excellency Diploma** and „**M. Eminescu**”**Cultural Merit** for the monograph „*Colorimety in art*”, Ed. Corson, Iași, delivered by the National Institute for Romanian Culture and Society, International Exhibition of Books, Palace of Culture in Iași, Romania (2003);
- **Excellency Diploma of the International Workshop R.U.R.A.L.I.A** - “De Ruralibus Locis” 2003, Accademia dei Georgofili, Florence, Italy (2003);
- **Merit de l'invention - Diplome de Chevalier**, Commision Supérieure des Récompenses do Salon des Inventions „Brussels Eureka” Bruxelles (2003);
- **Special Prize ALMA MATER IASSYENSIS** for the monograph „*Chemistry for conservation and restorationi*”, vol. I-II, Ed. Corson, Iași, delivered by the National Institute

for Romanian Culture and Society, International Exhibition of Books, Palace of Culture in Iași, Romania (2002);

- **Special Prize ALMA MATER IASSYENSIS** for the monograph „*Compendium of Biochemistry – Structural biochemistry*”, *vol I*, Ed. Corson, delivered by the National Institute for Romanian Culture and Society, International Exhibition of Books, Palace of Culture in Iași, Romania (2000);
- **Diploma/Master in Beni Culturali e Ambientali**, Università Popolare Subalpina, Biella, Italy (1998);
- **Special Mention** at the Contest of Creation, Interpretation and Theory of Byzantine Art, “G. Enescu”, Fine Arts Academy in Iași, Romania (1996);
- **Attaché de Recherche (Art/Patrimoine Artistique)**, Haute Ecole de Recherche AUPAC/UNESCO, Paris, France (1995).

Evaluation expertise and peer-reviewing

- Expert evaluator for FP7/Horizon 2020/HORIZON EUROPE calls (since 2011);
- Expert evaluator of the Polish Academy of Sciences (since 2013);
- Review panel member for a PhD thesis from University of Bari/Italy (2015);
- Reviewer of *Analytical Methods* (since 2020);
- Reviewer of *Microchemical Journal* (since 2016);
- Reviewer of *Color Research and Application* (since 2015);
- Reviewer of *Conservar Patrimonio* (since 2015);
- Reviewer of *Microscopy and Microanalysis* (since 2015);
- Reviewer of *Heritage Science* (since 2014);
- Reviewer of *Archaeometry* (since 2014);
- Reviewer of *Spectrochimica Acta A* (since 2013);
- Reviewer of *Cellulose* (since 2013);
- Reviewer of *Journal of Cultural Heritage* (since 2013);
- Reviewer of *Egyptian Journal of Archaeological and Restoration Studies* (since 2012);
- Reviewer of *Journal of Scientific Research and Reports* (since 2012);
- Reviewer of *Surface and Interface Analysis* (since 2011);
- Reviewer of *IJCS - International Journal of Conservation Science* (ISSN 2067-533X);
- Reviewer of *ECR - Estudos de conservação e restauro* (ISSN1647-2098).