



Conference program

2-6 September 2019, Neuchâtel, Switzerland

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Monday

9:00 - 10:00 **Welcome and opening remarks**

10:00 - 10:30 Coffee break

Technical studies / Chair: Katharina Schmidt-Ott

10:30 – 10:55

1. **Akira Fujisawa** (Japan): A Diagnostic Study of the Cast-Bronze Great Buddha Statue in the Kotoku-in Temple, Japan

10:55 – 11:20

2. **Anusha Kasthuri** (Sri Lanka): Technical Study and Conservation of a Large-Scale Metal Buddha Statue

11.20 - 12.30 **Flash poster presentations / Chair: Christian Degriigny**

Technical studies

Jill Saunders (United Kingdom): Conserving Conservation: The Critical Application of Traditional Metalworking Skills and the Importance of Knowledge Transfer to New Generations of Conservators

Irina Marilyn Huller (Austria): Two Iron Age Barrel Bracelets - Investigation, Technology and Conservation

Dominique Robcis (France): Gilding Iron in the 16th Century

Daniela Lira (Mexico): Bells in Use: From Living Heritage to Legend

Maria Labut (Poland): Preliminary Results of Research on 17th–19th-Century Coffin Portraits from the Collection of the National Museum in Krakow

Sarah Barack (USA): All That Glitters: Treatment and Technical Study of an Ormolu *Surtout de Table*

Ineke Joosten (The Netherlands): Marine Precious Metals After Excavation

Analytical investigation

Silvia Russo (Switzerland): Developing a Sustainable Approach for Screening and Studying Functional Metal Objects

Preeti Verma (India): Microstructural Examination of Kaushambi Copper-Alloy Coins

Hazel Hunter (United Kingdom): Examining Metal Corrosion Using Electrochemistry

William Hoffman and **Molly McGath** (USA): A Project with Potential: Evaluating a New Monitoring System for Artifacts Undergoing Electrochemical Treatment

Laura Brambilla (Switzerland): Diagnostics and Monitoring of Historical Vehicle Engines by Acoustic Emission Testing

Mathea Hovind (Norway): Use of the MiCorr Application for the Local Diagnosis of Metal Artefacts: The Conservator's Point of View

Amalia Siatou and **Silvia Russo** (Switzerland): CHANGE - Cultural Heritage Analysis for New Generations

Preventive conservation

Milan Kouril (Czech Republic): Classification of Indoor Air Quality with Respect to Lead Corrosion

Tatiana Russo dos Reis (Brazil): The Patina on Amilcar de Castro's Weathering Steel Sculpture: The Influence of the Museological Environment

Anna Mistewicz (Poland): Display Cases for Metal and Composite Objects at the National Museum in Warsaw, Poland

Eva Menart (Slovenia): Study of a Preventive Conservation Procedure for Paintings on Iron Plates

12:30 - 14:00 Lunch

Technical studies /Chair: Katharina Schmidt-Ott

14:00 – 14:25

3. Ellen van Bork (The Netherlands): Training a Database and Convolutional Neural Network for Automated Recognition of Hallmarks on (Dutch) Silver

14:25 – 14:40

- 4. (YCP) Sandra Savelli** (The Netherlands): Metal Threads in 17th-Century Western European Textiles: Characterization of Metal Threads from the Burgzand North 17 Shipwreck

14:40 – 14:55

- 5. (YCP) Maria Fernanda Gómez Núñez** (Mexico): The Production of Medieval Gilt Silver Threads

14:55 – 15:20

- 6. Marie-Gabrielle Durier** (France): Iron Piano Wire Production at the Beginning of the 19th Century

15:20 – 15:50 Coffee break

15:50 – 16:15

- 7. Julie Schröter** (Switzerland): Transparent Varnishes on Copper Alloys Dating from the 19th Century: Characterisation and Identification Strategies

Analytical investigation / Chair: Edith Joseph

16:15 – 16:40

- 8. Myriam Krieg** (Switzerland): Study of Ancient Metal Artefacts Using Neutron Imaging Techniques, Visual Examination and Chemical Analysis

16:40 – 17:05

- 9. David Watkinson** (United Kingdom): Evidencing Risk to Inform Best Practice: The Limitations of Detecting Tinning Layers by Visual Analysis During the Removal of Corrosion from Archaeological Iron

17:05 - 17:30 **Flash poster presentations / Chair: Edith Joseph**

Corrosion studies

Elena Bernardi (Italy): Appearance and Corrosion of Weathering Steel at an Urban-Coastal Site: Influence of Environmental Conditions during the First Months of Exposure

Aline Petitmangin (France): Atmospheric Alteration of α/δ Bronze Bells: Micro-Infiltrating Corrosion

Rebecca Lang (United Kingdom): Whiskers and Strands: Unexpected Corrosion on Early Medieval Metals on Display at the Museum of London

Alice Gerber (Switzerland): Corroding Lead Comes on Stained Glass Windows: A Case Study of Two 16th-Century Panels in Their Display Case

Aurelia Azema (France): Study of Dark-Red Staining on Lead Rooftops and Sculptures

18:30: **OPENING RECEPTION**, Neuchâtel Town Hall – Rue de l’Hôtel-de-Ville 2, 2000 Neuchâtel.

Tuesday

Analytical investigation / Chair: Laura Brambilla

9:00 – 9:25

- 10. Blanca Ramírez Barat** (Spain): An Overview of the Use of EIS Measurements for the Assessment of Patinas and Coatings in the Conservation of Metallic Cultural Heritage

9:25 – 9:50

- 11. Paola Letardi** (Italy): A Multi-Analytical Approach to Evaluate Surface Treatments on Copper-Alloy Artefacts: A Case Study Applied to the Restoration of the Memorial of Redipuglia

9:50 – 10:15

- 12. Rosie Grayburn** (USA): A Non-Destructive Toolkit for Silver Plate Identification

10:15 – 10:40

- 13. Tamar Davidowitz** (The Netherlands): Conservation and Examination of an Iconic 17th-Century Pewter Object: The Hartog Plate's History Revealed Through Synchrotron Analysis

10:40 – 11:10 Coffee break

11:10 – 12:30 **Flash poster presentations / Chair: Christian Degrigny**

Protection

Jerrad Alexander (USA): The Use of Industrial Vapor-Phase Corrosion Inhibitors on Large and Composite Objects

Dajana Mikić (Croatia): Application of Self-Assembled Monolayers of Long-Chain Organic Acids in the Corrosion Protection of Bronze

Edith Joseph (Switzerland): Assessing the Performance of Protective Treatments on Outdoor Sculptures: To Be or not To Be a Representative Model Sample?

Alice Camoli (Italy): Protection and Meaning: A Reflection on the Role of Painted Surfaces on Outdoor Metal Sculptures and Their Conservation

Development of conservation practices

Helena Kupersmidt (Israel): The Mystery of Ancient Metal Amulets

Patricia Giménez-Barrera (Spain): Non-Destructive Investigation of the Conservation and Restoration of Ductile Metals in Cultural Heritage Artifacts

Sabine Brechbühl (Switzerland): Freshly Excavated Coins: Best Practice for Rapidly Obtaining Numismatic Information

Anna Funke (USA): Comparing Different Deconcretion Strategies for the Ballast Tanks of the *H.L. Hunley* Submarine

Alexander Dittus (Switzerland): Custom-Made Desalination Structures for Iron and Copper-Alloy Composite Objects

Elsa Sangouard (USA): Use of a Heated Rinse to Facilitate the Thorough Removal of Sodium Sesquicarbonate from USS *Monitor's* Copper Alloys After Desalination

Ian MacLeod (Australia): Passive Removal of Silver Sulfide Layers from Metal Threads on Textiles by Storage in an Intercept Bag

Aline Michel (Switzerland): Conservation Strategies for Cans in Collections

Monica Albini (Italy): The INTERFACE Project: Conservation of Painted Metal Artefacts

Ryma Hatahet (France): Conserving Clocks: Thoughts and Challenges

Nataša Nemeček (Slovenia): Exploring Suitable Parameters for Electrochemical Cleaning/Consolidation of Museum Objects and Practical Use of the Pleco Electrolytic Pencil

Elodie Guilminot (France): Use of Gels for the Treatment of Metals

Sara Creange (The Netherlands): Finding the Way Forward with Atomic Layer Deposited Coatings on Silver Heritage Objects: Moving from the Laboratory to Conservation Practice

12:30 – 14:00 Lunch

Preventive conservation / Chair: David Thickett

14:00 – 14:25

- 14. Sara Goidanich** (Italy): ER-Based Sensors for Monitoring Atmospheric Corrosivity on Corroded or Patinated Copper-Based Objects

14:25 – 14:50

- 15. Gerhard Eggert** (Germany): Metal Conservation, Cellulose Nitrate and the Oddy Test

14:50 – 15:15

- 16. Flora Davidson** (Canada): Propellants and Primers: A Striking History with a Possibly Explosive End

15:15 – 15:40

- 17. Joy Bloser** (USA): El Anatsui: Conservation Concerns Beyond Installation

15:40 – 16:10 Coffee break

Corrosion studies / Chair: Cristina Chiavari

16:10 – 16:35

- 18. Omid Oudbashi** (Iran): Study on the Corrosion Mechanisms and Morphology of Archaeological Bronze Objects from a Bronze Age Graveyard in Southwestern Iran

16:35 – 17:00

- 19. Andrea Fischer** (Germany): When Glass and Metal Corrode Together, VII: Zinc Formates and Further Unknown Zinc Compounds

17:00 – 17:30 **Flash poster presentations / Chair: Régis Bertholon**

Conservation treatments

Emmanuelle Domon Beuret (Switzerland): Conservation and Stabilization of Iron Objects from the Archaeological Site of La Tène (Neuchâtel) in View of New Investigations and a New Exhibition in the Laténium

Florence Lager (Switzerland): Alkaline Sulfite Desalination of Formerly Restored Damascened Merovingian Belt Buckles: A Possible Challenge

Justin Schwebler (USA): Conservation Treatment of the Six-Inch, Thirty-Caliber Mark III Gun and Carriage on the USS *Maine* (ACR-1)

Asta Vasiliauskaite (Lithuania): Backyard Treasures: A Case Study from Kulautuva Cemetery, Lithuania

Saray Naidorf (United Kingdom): Conservation of a Restored Late Iron Age Strainer Bowl

Jan Růžička (Czech Republic): Restoration of a Decorative Baroque Door Lock from circa 1720–40

Sandra Garšvienė (Lithuania): Conservation of 8th–9th-Century Curonian Women's Jewellery

18:15: **VISIT TO THE HE-Arc CR workshops**, Espace de l'Europe 11, 2000 Neuchâtel.

Wednesday

Corrosion studies / Chair: Cristina Chiavari

9:00 – 9:25

- 20. Manuela Toro** (The Netherlands): A Dark Discoloration on Aristide Maillol's Outdoor Lead Sculptures: Identification, Formation, and Further Research

9:25 – 9:50

- 21. Ellen van Bork** (The Netherlands): Pilot Study Examining Tarnishing Caused by Nitrile Glove–Solvent Interaction on Metals

9:50 – 10:15

- 22. Akinobu Yanagida** (Japan): Effect of Reburial Conditions on the Corrosion of Marine Iron Artifacts

10:15 – 10:45 Coffee break

10:45 – 11:00

- 23.** (YCP) **Júlia Tauber** (Germany): Bluing Steel: An Investigation into the Thermal and Chemical Methods of Colouring Mild Steel

11:00 – 11:15

- 24.** (YCP) **Aditi Nagar** (United Kingdom): Behaviour of Lead Coated with Benzotriazole Solution in an Organic Acid Environment

Protection: Corrosion inhibitors / Chair: Emilio Cano Díaz

11:15 – 11:40

- 25. Ahmad N. Abu-Baker** (Jordan): From Mono-oxime to Tri-oxime: The Development of a New Group of Corrosion Inhibitors for Copper Alloys

11:40 – 12:05

- 26. Erika Ferrari** (France): Assessing the Interaction Between Corrosion Inhibitors and the Historical Corrosion Layer on Copper Claddings Based on Global and Micrometric-Scale Analysis

12:05 – 12:30 **Flash poster presentations / Chair: Régis Bertholon**

Technical studies

Carla Martini (Italy): Two Bronze Statuettes from the Estense Gallery: Materials, Casting Technology and Conservation Intervention

Conservation treatments

Christine Gessler (USA): Just When You Thought You Knew How to Polish Silver: An Analysis of Silver Polish Applicators

Zoran Kirchhoffer (Croatia): Restoration and Conservation in Unfavorable Working Conditions: A Case Study

Composite objects

Paul Mardikian (USA): Treatment of a Composite Sock-Knitting Machine Using Dry-Ice Cleaning

Andrea Fischer (Germany): Spectacular Spectacles: Corrosion Cases

12:30 – 14:00 Lunch

14:00 – 17:00 **Off-site sessions**

19:00pm: **POSTER SESSION**, Neuchâtel Town Hall – Rue de l’Hôtel-de-Ville 2, 2000 Neuchâtel. Authors in attendance.

Thursday

Protection: Coatings / Chair: Emilio Cano Díaz

9:00 – 9:25

- 27. Cristina Chiavari** (Italy): Protection of Outdoor Bronzes with Eco-Friendly and Non-Hazardous Coatings Based on Silane and Fluoropolymers: Results from the B-IMPACT Project

9:25 – 9:50

- 28. David Thickett** (United Kingdom): The Use and Mis-use of Renaissance Wax

Development of conservation practices / Chair: David Watkinson

9:50 – 10:15

- 29. Lucrezia Comensoli** (Switzerland): The Potential of Microorganisms for the Conservation-Restoration of Iron Artworks

10:15 -10:40

- 30. Britta Schmutzler** (Germany): Desalination of Archaeological Iron Objects: Comparing the Effectiveness of Sodium Hydroxide Treatments

10:40 – 11:10 Coffee break

11:10 – 11:25

- 31. (YCP) Naima Gutknecht** (Switzerland): Stabilisation of Archaeological Copper-Alloy Objects from Chloride-Induced Active Corrosion with *Beauveria bassiana*

11:25 – 11:40

- 32. (YCP) Nicola Ricotta** (Italy): Design of a Suitable Cleaning Procedure for the Tarnished Silver Elements of the Reliquary Bust of Santa Vittoria, Diocesan Museum of Agrigento, Sicily

11:40 – 12:05

- 33. William Hoffman and Laurie King** (USA): Equipment Identification and the Development of Dry-Ice Blasting Parameters for Cleaning Archaeological Wrought Iron, Copper Alloys, and Gray Cast Iron

12:05 – 12:30

- 34. Monica Galeotti** (Italy): Does Dry-Ice Blasting Allow Safe and Effective Cleaning of Either Coated or Corroded Bronze Surfaces?

12:30 – 14:00: Lunch

Development of conservation practices / Chair: Ian MacLeod

14:00 – 14:25

- 35. Nicola Emmerson** (United Kingdom): Flame Cleaning of Historic Wrought Iron: Practitioner Methods and Their Impact on Oxide Morphologies and Post-Treatment Corrosion Rates

14:25 – 14:40

- 36.** (YCP) **Clara Huynh** (France): Burnishable and Conductive: A New Filling Possibility for Losses in Gilded or Metallised Surfaces

14:40 – 14:55

- 37.** (YCP) **Abdelaziz Elmarazky** (Egypt): Gap Fillers for Brittle Metal Artifacts and Their Suitability in High Temperature and High Relative Humidity Conditions

14:55 – 15:20

- 38. Cátia Viegas Wesolowska** (Poland): Conservation of *Saint George Killing the Dragon*, a 16th-Century Gilt Copper Statue from Gdansk: A Collaborative Approach

15:20 – 15:50 Coffee break

Conservation treatments / Chair: Cátia Viegas Wesolowska

15:50 – 16:15

- 39. Jean-Francois de Laperouse** (USA): Redressing the Past: The Examination and Treatment of an Ancient South Arabian Censer

16:15 – 16:40

- 40. Claudia Chemello** (USA) and **Emilio Cano** (Spain): Conservation and Investigation of *Cometh the Sun*: A Monumental Weathering Steel Sculpture

16:40 – 17:05

- 41. Jannen Contreras-Vargas** (Mexico): The Metal Patina and Surface Layer of *El Caballito*: Calling Things by Their Name

19:00pm: **CONFERENCE DINNER**, Hôtel DuPeyrou – Avenue DuPeyrou 1, 2000 Neuchâtel.

Friday

Conservation treatments / Chair: Cátia Viegas Wesolowska

9:00 – 9:25

- 42. Elodie Guilminot and Loretta Rossetti** (France): Study and Conservation of Lead Curse Tablets

9:25 – 9:50

- 43. Paul Mardikian and Johanna Rivera** (USA): Revealing the *H.L. Hunley*: The Strategic Planning and Deconcretion Process of an American Civil War Submarine

Composite objects / Chair: Paul Mardikian

9:50 – 10:15

- 44. Paul Mardikian** (USA): Challenges and Solutions for Conserving Non-Separable Marine Archaeological Composite Objects

10:15 – 10:40

- 45. Vasilike Argyropoulos** (Greece): Conservation Treatment and Stabilization of Marine Composite Medieval Swords from Rhodes, Greece, Using Ammonium Hydroxide Solutions

10:40 – 11:10 Coffee break

11:10 – 11:25

- 46. (YCP) Trine Wiinblad** (Denmark): Stabilization of Archaeological Composites: A Complex Challenge Requiring Compromise

11:25 – 11:40

- 47. (YCP) Maria Holzleitner** (Austria): Glass-Induced Metal Corrosion: Study and Conservation of an Enamelled Altarpiece (1954–56) from the Collection of the University of Applied Arts Vienna

11:40 – 12:05

- 48. Julie Gordon** (France): New Strategies for the Conservation of Paintings on Metal

12:05 -12:30

- 49. Susan Maltby** (Canada): Preserving Fort Erie's CN 6218. A Case Study

12:30 – 14:00 Lunch

Composite objects / Chair: Vasilike Argyropoulos

14:00 – 14:25

- 50. Ian MacLeod** (Australia): Metal Textile Composites and Improved Treatment Outcomes Through Application of In-Situ Corrosion Data

14:25 - 14:50

- 51. Fatmaa El-Zahraa Sadat** (Egypt): Cloth of Metal (Indian *Shamiana*): Scientific Characterisation of Metal Thread Corrosion

14:50 - 15:15

- 52. Marie-Anne Loeper-Attia** (France): Physical and Chemical Interactions Between Metallic Instruments and Plastic Threads

15:15 – 15:45 Coffee break

Modern metals / Chair: Claudia Chemello

15:45 – 16:10

- 53. Christian Degriigny** (Switzerland): Aluminium Alloys in Swiss Public Collections: Identification and Development of Diagnostic Tools to Assess Their Condition

16:10 – 16:35

- 54. Michaela Florescu** (France): Aluminium Surfaces in Heritage Collections: Evaluating Surface Appearance Modifications

16:35 – 17:00

- 55. Magali Brunet** (France): Preserving Aviation Heritage: The Need for an Approach Based on Materials Analysis

17:00 – 17:30

Proposals for METAL2022

19:30pm: **FAREWELL RECEPTION**, Abattoirs – Rue du Commerce 122, 2300 La Chaux-de-Fonds.