



3rd International Congress CHEMISTRY FOR CULTURAL HERITAGE

SCIENTIFIC PROGRAM

July 1st

(Tuesday)

15.00 – 17.00 Registration

July 2nd

(Wednesday)

8.30 Registration

10.00 Welcome Address

Session 1: Analytical Methods in Cultural Heritage I

10.30 Plenary Lecture

ORGANIC ANALYSIS IN ART AND ARCHEOLOGY – FROM THE PAST TO THE FUTURE

Maria Perla Colombini

11.00 ALMA – FROM MATERIALS TO THE PAINTING TECHNIQUE INVESTIGATION

D. Hradil, J. Hradilová

11.20 THE COMBINATION OF FTIR AND X-RAY MICRO-SPECTROSCOPIES FOR THE ANALYSIS OF THIN SECTIONS OF ARTISTIC MATERIALS AT THE ID₂₁ BEAMLINE, EUROPEAN SYNCHROTRON RADIATION FACILITY

E. Pouyet, M. Cotte, B. Fayard, A. Lluveras-Tenorio, F. Meirer, A. Nevin, D. Saviello, Ph. Sciau, M. Salomé

11.40 MODELLING OF INDOOR PARTICULATE MATTER DEPOSITION AND OF ITS DEGRADATIVE EFFECTS

J. Grau-Bové, L. Mazzei, B. Budič, D. Thickett, M. Strlič

12.00 DIRECT ON-TARGET MALDI-TOF MS ANALYSIS – A FAST PROTOCOL FOR LIPID/PEPTIDE IDENTIFICATION IN PAINT SAMPLES

C. D. Calvano, I. D. van der Werf, F. Palmisano, L. Sabbatini

12.20 Lunch Break

Session 2: Analytical Methods in Cultural Heritage II

14.00 Plenary Lecture

SURFACE ENHANCED RAMAN SPECTROSCOPY – A ROBUST NEW TECHNIQUE FOR THE IDENTIFICATION OF ORGANIC COLORANTS IN TEXTILES AND PAINTS

Francesca Casadio

14.30 MeV SIMS VERSUS PY-GC/MS – ANALYSIS OF MODERN PAINT MATERIALS

D. Jembrih-Simbürger, I. Bogdanovic-Radovic, M. Anghelone, N. Markovic, Z. Siketic, M. Schreiner, T. Tadic

14.50 ORIENTAL LACQUERS' HARDENING PROCESS CHARACTERIZATION BY FTIR MICROSPECTROSCOPY AND PY-GC/MS

J. C. Frade, J. C. Rodrigues, A. J. Candeias

15.10 DISCRIMINATING BONE, ANTLERS, IVORIES, HORN, AND TORTOISESHELL USING QUANTITATIVE FTIR

G. Turner-Walker, B.-Y. Xu

15.30 IDENTIFICATION OF MICROBIAL VOLATILE ORGANIC COMPOUNDS EMITTED BY MOULDS INFESTING OBJECTS MADE OF CELLULOSE

T. Sawoszczuk, J. Syguła-Cholewińska

15.50 Coffee Break

Session 3: Chemical Imaging

16.20 Plenary Lecture

X-RAY BASED IMAGING AND SPECTROSCOPY OF PAINTINGS BY V. VAN GOGH FROM THE DM TO THE NM LEVEL

Koen Janssens

16.50 PORTABLE BIOSENSORS FOR IN SITU DETECTION OF PROTEINS IN ARTWORKS BY CHEMILUMINESCENT IMMUNOCHEMICAL CONTACT IMAGING

G. Sciutto, M. Zangheri, M. Guardigli, M. Mirasoli, S. Prati, R. Mazzeo, A. Roda

17.10 XEOM 1 – A NOVEL MICROSCOPY SYSTEM FOR THE CHEMICAL IMAGING OF HERITAGE METAL SURFACES

M. Dowsett, M. Hand, P.-J. Sabbe, A. Adriaens

17.30 UN-DRESSED! CHARACTERIZING DOCUMENTS AND REVEALING THEIR HIDDEN TEXTS WITH TERAHERTZ

T. Bardon, R. K. May, Ph. F. Taday, M. Strlič

17.50 End of Session

Session 4: Degradation / Corrosion:
Study of Chemical Processes and
Interaction of Environment with
Different Materials I

9.00 **Plenary Lecture**

ON DAMAGE, FITNESS-FOR-PURPOSE AND
ISOCHRONES – MATERIAL DEGRADATION
THROUGH THE LENS OF HERITAGE STAKEHOLDERS
Matija Strlic

9.30 ASSESSING THE IMPACT OF NO_x ON
PARCHMENT – SYNERGISTIC EFFECTS OF LIGHT
AND TEMPERATURE
E. Badea, C. Carsote, G. Della Gatta

9.50 IRRAS, SEM AND ToF-SIMS FOR GLASS SURFACE
ANALYSIS – GLASS LEACHING AND PROTECTION
M. De Bardi, H. Hutter, M. Schreiner, R. Bertonecello

10.10 THE SULFIDATION PROCESS OF STERLING
SILVER – CHARACTERIZATION OF SULPHIDE
FILMS AS A RESULT OF DIFFERENT CORROSIVE
ATMOSPHERES
*P. Storme, O. Schalm, R. Wiesinger,
Ch. Kleber, M. Schreiner*

10.30 **Coffee Break**

11.00 ELUCIDATING THE MOLECULAR STRUCTURE OF
METAL SOAPS IN OIL PAINTINGS
*J.J. Hermans, K. Keune, A. van Loon,
R.W. Corkery, P.D. Ledema*

11.20 ELECTROCHEMISTRY AS A FAST METHOD TO
INVESTIGATE PIGMENT DEGRADATION
K. De Wael, W. Anaf, K. Janssens

11.40 **Poster Presentations I**
(each poster 2 min, max. 4 PP slides)

12.40 **Lunch Break**

Session 5: Degradation / Corrosion:
Study of Chemical Processes and
Interaction of Environment with
Different Materials II

14.00 DEGRADATION OF NATURAL RUBBER IN WORKS OF
ART STUDIED BY UNILATERAL NMR AND
HIGH FIELD NMR SPECTROSCOPY
C. Kehlet, A. Catalano, E. Del Federico, J. Dittmer

14.20 THE DEGRADATION OF DAMMAR VARNISHES AS
EFFECT OF ACETIC AND FORMIC ACIDS IN
MUSEUM ENVIRONMENTS
*I. Bonaduce, M.P. Colombini, F. Di Girolamo,
M. Odlyha, S. Rutkowska, M. Scharff, T. Grøntoft*

14.40 FOURIER TRANSFORM IR SPECTROSCOPY – A
NON-INVASIVE TOOL TO MONITOR CHEMICAL
DEGRADATION AND MECHANICAL STRENGTH
IN WOOD
G. Almkvist, S. Norbakhsh, I. Bjurhager

15.00 **Poster Presentations II**
(each poster 2 min, max. 4 PP slides)

16.00 **Coffee Break**

Session 6: Chemometrics in Cultural Heritage

16.30 **Plenary Lecture**

CHEMOMETRICS – A USEFUL TOOL
BUT NOT A MAGIC FLUTE
Kurt Varmuza

17.00 ATMOSPHERIC CORROSION OF WEATHERING
STEEL – A CHEMOMETRIC APPROACH
*S. Raffo, I. Vassura, C. Chiavari, C. Martini,
M. Ch. Bignozzi, E. Bernardi*

17.20 TECHNICAL STUDIES AND AUTHENTICITY OF
A MEDIEVAL ILLUMINATED MANUSCRIPT – A
CHEMOMETRIC APPROACH
C. Miguel, C. Barrocas-Dias, A. Claro, T. Ferreira, A. Conde

Session 7: Chemo-/Nanotechnology

17.40 THE USE OF TiO₂ NANOPARTICLES FOR THE
PROTECTION AND CONSERVATION OF PAINTING
AND STONE SURFACES
*A. Colombo, F. Gherardi, S. Goidanich, C. Beccaria,
R. Simonutti, L. Toniolo*

18.00 NANOLIME SUSPENSION FOR THE CONSOLIDATION
OF HISTORIC PLASTER
L. Machacko, R. Tislova

18.20 **Introduction Heritage Science Journal – Conference
Proceedings**

18.30 **Poster Discussion & Reception by ChemCH 2014**

Session 8: New Materials and Methods for CH I

9.00 Plenary Lecture

BIOTECHNOLOGY APPROACHES FOR CULTURAL HERITAGE

António Candeias

9.30 THE PROTECTIVE BEHAVIOUR OF ORGANIC COATINGS CONTAINING CARBOXYLIC FUNCTIONAL GROUPS ON LEAD METAL SUBSTRATES

M. De Keersmaecker, O. Van Den Berg, T. Hauffman, D. Depla, K. Verbeken, F. Du Prez, A. Hubin, A. Adriaens

9.50 THE EFFECTS OF LIGHT BLEACHING ON OPTICAL BRIGHTENING AGENTS IN CONTEMPORARY PRINTMAKING PAPERS

Ch. Taylor, R. Ploeger

10.10 A NEW CONSERVATION TREATMENT FOR STRENGTHENING AND DEACIDIFICATION OF PAPER USING POLYSILOXANE NETWORKS

C. Piovesan, A.-L. Dupont, I. Fabre-Francke, O. Fichet, B. Lavédrine, H. Chéradame

10.30 Coffee Break

Session 9: New Materials and Methods for CH II

11.00 XRF ANALYSIS OF METALLIC CULTURAL HERITAGE OBJECTS FROM THE NATIONAL MUSEUM IN KRAKOW

J. M. Del Hoyo-Meléndez, M. Matosz, Ł. Bratasz

11.20 THE APPLICATION OF LOCALISED ELECTROLYTIC CLEANING FOR THE RESTORATION OF MASTERPIECES OF THE TREASURY OF SAINT-MAURICE ABBEY, VALAIS, SWITZERLAND

Ch. Degrigny, R. Jeanneret, D. Witschard, C. Baudin, G. Bussy, H. Carrel

11.40 ORGANIC RESIDUE ANALYSES BY GC/MS AND HPLC/ CAD SHED LIGHT ON HUMAN CHIEF MEANS OF SUBSISTENCE IN ANCIENT TIMES - CASE STUDIES ABOUT POTSDERS COMING FROM EPHESES (TURKEY) AND PUNTA DI ZAMBRONE (SOUTH ITALY)

L. Puchinger, R. Paltram, J. Schrattenecker, S. Feichtinger, J. Schaub

12.00 ASSESSMENT OF CONSOLIDATION EFFECTIVENESS OF NEW TEOS-BASED FORMULATIONS BY A MULTITECHNIQUE APPROACH

C. Maurich, F. Rosi, F. Presciutti, L. Skrlep, A. Sever-Skapin, C. Miliani

12.20 DEVELOPMENT OF A NEW POLYMER GLASS USING INTERPENETRATING POLYMER NETWORKS FOR CULTURAL HERITAGE WITH ENHANCED RESISTANCE TOWARDS SCRATCHES AND SOLVENT

M. Berrebi, I. Fabre-Francke, B. Lavédrine, O. Fichet

12.40 Lunch Break

Session 10: Technical Studies and Authenticity (Case Studies) I

14.00 Plenary Lecture

NON-INVASIVE IN-SITU STUDY OF PAINTINGS

Bruno G. Brunetti

14.30 SCIENTIFIC ANALYSES OF METAL ARTEFACTS FROM SAN PEDRO DE ATACAMA: APPROACHES TO ANCIENT METALLURGY IN NORTHERN CHILE

B. Maldonado, T. Rehren

14.50 GOLDEN PAINTINGS FOR THE GOLDEN ROOM OF THE MAURITSHUIS? THE USE OF SEM-EDX ELEMENTAL MAPPING TO CHARACTERISE THE USE OF METAL LEAF AND ITS DEGRADATION IN SIX FLOWER TONDOS FROM THE GOLDEN ROOM OF THE MAURITSHUIS

S. Meloni, M. Salazar-Walsh, R. Haswell, C. Toussat

15.10 SPECTROSCOPIC CHARACTERIZATION OF NATURAL DYES FOR THEIR NON-INVASIVE IDENTIFICATION ON PRE-COLUMBIAN CODICES: THE MAYA YELLOW

P. Nabais, D. Buti, Ch. Grazia, A. Romani, A. Sgamellotti, C. Miliani

15.30 Coffee Break

Session 11: Technical Studies and Authenticity (Case Studies) II

16.00 NEW INSIGHT ON THE MAKING OF PURPLE CODICES

M. Aceto, A. Arraisa, F. Marsanoa, A. Agostinoc, G. Fenoglio, M. Gulmini, A. Idone, P. Baraldi, Ch. Porter

16.20 AN INVESTIGATION OF THE LEAD-TIN YELLOWS TYPE I AND II AND THEIR USE IN BOHEMIAN PANEL PAINTINGS FROM THE GOTHIC PERIOD

R. Šefců, Š. Chlumská, A. Otmarová

16.40 NON-INVASIVE PORTABLE METHODOLOGY APPLIED TO THE CHARACTERIZATION OF JAPANESE INRŌ, SUZURIBAKO, CHESTS, AND BOXES FROM THE BILBAO FINE ARTS MUSEUM "COLECCIÓN PALACIO"

M. Maguregui, S. Fdez-Ortiz de Vallejuelo, H. Morillas, A. Giakoumaki, Á. Pitarch, I. Martínez-Arkarazo, G. Arana, J. L. Merino and J. M. Madariaga

17.00 BROWNISH ALTERATIONS ON THE MARBLE STATUES IN THE CHURCH OF ORSANMICHELE IN FLORENCE: WHAT IS THEIR ORIGIN?

D. Pinna, M. Galeotti, A. Rizzo

17.20 Poster Awards & Final Remarks

18.00 Guided Tour "Gemäldegalerie of the Academy of Fine Arts"

20.00 Reception by the Rector of the Academy of Fine Arts Vienna, Mag. Eva Blimlinger

Poster Session I:

- P01** NEW WATER-SOLUBLE AMINE-REACTIVE REAGENT FOR LABELING MICROBIAL CELLS: APPLICATION TO CULTURAL HERITAGE
A. T. Caldeira, S. Martins, R. Vieira, M. Gonzalez, A. Candeias, A. Pereira
- P03** COMBINED ANALYTICAL TECHNIQUES FOR THE INVESTIGATION OF DYES IN THE COPTIC COLLECTION OF THE EGYPTIAN MUSEUM OF TURIN
M. Gulmini, A. Idone, M. Borla, C. Oliva, D. Gastaldi, F. Dal Bello, M. Aceto
- P05** IDENTIFICATION AND CHARACTERIZATION OF COPPER PHTHALOCYANINE POLYMORPHS IN UNAGED AND AGED PAINTS
M. Anghelone, D. Jembrih-Simbürger, M. Schreiner
- P07** ASSESSING SIDE-EFFECTS OF CONSERVATION TREATMENTS USING HYPERSPECTRAL IMAGING
T. Łojewski, D. Chlebda, W. Zawadzki
- P09** SEC OF SILK: PROBLEMS AND SOLUTIONS
D. Pawcenis, M. A. Koperska, T. Łojewski, J. Łojewska
- P11** THE RESEARCH PROJECT ON THE LAST JUDGEMENT TRIPTYCHON BY HIERONYMUS BOSCH - COLLECTION OF THE GEMÄLDEGALERIE IN VIENNA
D. Colagrande, F. Cappa, A. Lehner, R. Trnek, M. Schreiner
- P13** EXPLOITING REFLECTANCE FTIR SPECTROSCOPY FOR THE IN SITU IDENTIFICATION OF PIGMENTS IN ILLUMINATED MANUSCRIPTS
C. Zaffino, S. Bruni, V. Guglielmi, S. Faraone, A. Vinaccia
- P15** IN SITU MULTI-ANALYTICAL STUDY OF PLASTER SCULPTURES DEGRADATION FOR BETTER DIAGNOSIS OF THEIR STATE OF CONSERVATION
M. Frade, D. Fragoso, A. M. Cardeira, St. Longelin, S. Costa, A. Candeia, M. L. Carvalho, M. Manso
- P17** TEMPERATURE-RELATED DEGRADATION OF PIGMENTS STUDIED BY HIGH TEMPERATURE X-RAY DIFFRACTION
Z. Čermáková, P. Bezdička, A. Lančok, D. Hradil
- P19** DETERIORATION OF VEGETABLE-TANNED LEATHER INVESTIGATED BY UNILATERAL NMR: EFFECTS OF HYDROLYSIS AND THERMAL TREATMENTS
C. Sendrea, E. Badea, H. Iovu
- P21** ARTIFICIALLY AGED PARCHMENT INVESTIGATED BY FTIR
I. Petrović, C. Carsote, W. Vetter, L. Miu, M. Schreiner
- P23** ANALYTICAL STUDY OF A CHROMATIC DETERIORATION: LEAD PIGMENTS FADING IN 18TH CENTURY MURAL PAINTINGS BY SEM-EDS, μ -XRD AND μ -RAMAN
M. Gil, T. Rosado, A. T. Caldeira, M. D. Botto, S. Longelin, M. L. Carvalho, C. Souto, A. Candeias, J. Mirão
- P25** FADED SHINE.... USE AND DEGRADATION OF METAL BRASS POWDER IN TWO 19TH CENTURY PAINTINGS
E. S. B. Ferreira, D. Gros, N. C. Scherrer, St. Zumbühl
- P27** CHEMICAL ANALYSIS AND INNOVATIVE SOLUTION FOR CHALK STONE RESTORATION WITH HYDROXYAPATITE NANOPARTICLES
R.M. Ion, D. Turcanu-Caruțiu, R.-C. Fierascu, I. Fierascu
- P29** BIOACTIVE NANOCOMPOSITES FOR PREVENTIVE CONSERVATION OF STONE MONUMENTS
L. Mondelli, N. Ditaranto, G. Germinario, I. D. van der Werf, A. Mangone, L. Sabbatini
- P31** CALCIUM HYDROXIDE NANOPARTICLES PREPARED BY SOL-GEL METHOD FOR PAPER DEACIDIFICATION
O. Darčanova, M. Bagočiute, A. Beganskiene, A. Kareiva
- P33** ELECTROCHEMICAL AND SURFACE TREATMENT OF MATERIALS IN THE APPLIED ARTS
L. Petkov
- P35** ANTIOXIDANT PROTECTION OF PAPER-BASED HERITAGE OBJECTS
K. Vizárová, S. Kirschnerová, M. Reháková, J. Kazíková, K. Čížová
- P37** PREPARATION OF DIFFERENT DISPERSIONS FORMULATION FOR CONSOLIDATION OF JORDANIAN BASALTIC ARTIFACTS
A. Al Bawab, H. M. Z. Al Hamaty, R. Abd-Allah
- P39** METAL FOIL COATINGS IN ALTARPIECES: A MICROANALYTICAL STUDY OF THE MATERIALS AND THEIR ALTERATIONS
N. Salvadó, S. Butí, G. Cinque, J. Juanhuix, C. Clemente, V. Beltran, T. Pradell
- P41** PLATINUM PRINTS EXAMINED USING VARIABLE PRESSURE HIGH RESOLUTION SCANNING ELECTRON MICROSCOPY
P. Ravines, N. Erdman, R. McElroy
- P43** CONSOLIDATING ADHESIVES: A STUDY OF BEVA® 371
R. Ploeger, Ch. McGlinchey, E. R. De La Rie
- P45** TECHNICAL EXAMINATION OF VIRGIN SURROUNDED BY FLOWERS, BY JAN VAN KESSEL I
C. Barbosa, A. Calvo, J. C. Frade
- P47** CARAVAGGISTI PAINTINGS IN POLISH COLLECTION – TECHNOLOGICAL RESEARCH
M. Jasiński
- P49** NANO-GRAPHENE FOR THE RESTORATION & PRESERVATION OF DAMAGED PAPERS & MANUSCRIPTS: CASES OF STUDY
F. Valentini, I. Ficarella, C. Coletti, A. Rubecchini
- P51** MATERIAL CHARACTERIZATION OF THE 15TH- 20TH CENTURY WALL PAINTINGS FROM SINOP BALATLAR CHURCH COMPLEX IN THE BLACK SEA REGION OF TURKEY
B. Kırmızı, U. Alanyurt, S. İngin, E. Özgül, G. Köroğlu, M. Bakiler

- P53** OLD NUBIAN WALL PAINTINGS ELEMENTAL ANALYSIS BY MEANS OF PORTABLE XRF SPECTROMETRY
O. Syta, K. Rozum, B. Wagner, D. Zielińska
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- P55** A MULTI-SPECTROSCOPIC CHARACTERIZATION OF NUDE PAINTINGS (LATE 19TH CENTURY) BY JOSE VELOSO SALGADO
A. M. Cardeira, St. Longelin, S. Costa, A. Candeias, M. L. Carvalho, M. Manso
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- P57** UNRAVELING GRÃO VASCO WORKSHOP TECHNIQUE
B. Campos-Maia, J. C. Frade, A. Calvo, L. Dias, J. Mirão, A. Cardoso, C. Dias, A. Claro, A. Candeias
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- P59** STUDY OF GANSU WOODEN GRAVE GOODS – CHEMICAL AND BIOLOGICAL INVESTIGATIONS
A. Favaretto, E. Diana, F. Ruffinatto, A. Agostino, M. Aceto
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- P61** CHARACTERIZATION OF 19TH CENTURY PHOTOGRAPHIC PRINTS BY NON-DESTRUCTIVE MULTI-ANALYTICAL TECHNIQUES
M. Peres, T. Ferreira, L. Dias, J. Mirão, M. L. Carvalho, A. Gomes, E. Jardim, F. Costa

- P63** STUDY OF THE IMPACT OF CHLORINE IN THE DEGRADATION OF A MEDIEVAL GILDED SPUR
M. Veneranda, J. Aramendia, S. Fdez-Ortiz de Vallejuelo, L. García, I. García, K. Castro, M. Maguregui, J. M. Madariaga
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- P65** STUDY OF THERMOOXIDATIVE STABILITY OF HERITAGE MATERIALS
A. Peller, M. Reháková, K. Vizárová, P. Šimon
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- P67** METHODOLOGY FOR NON-INVASIVE RESEARCH
D. Stepien
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- P69** A SCIENTIFIC STUDY OF THE PIGMENTS IN THE WALL PAINTINGS AT JOKHANG MONASTERY IN LHASA, TIBET, CHINA
Z. Li, L. Wang, Q. Ma, J. Mei

Poster Session II:

- Po2** ATR-RAS: AN INNOVATIVE METHOD FOR THE ANALYSES OF COLORANTS IN MICRO EXTRACTS
S. Prati, G. Sciutto, I. Bonacini, R. Mazzeo
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- Po4** MICRO-DESTRUCTIVE ELEMENTAL ANALYSIS OF CULTURAL HERITAGE OBJECTS BY LA-ICPMS
B. Wagner, K. Malinowska, M. Donten, I. Fuks, B. Szelegejd
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- Po6** MEASUREMENT OF pH IN IRON-BASED INKS BY MEANS OF MICRO-RAMAN SPECTROSCOPY
G. Piantanida, E. Menart, M. Bicchieri, M. Strlič
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- Po8** TESTING ACID DIGESTION METHOD FOR THE ANALYSIS OF LIME MORTARS: A CASE STUDY
R. Ševčík, P. Šašek, M. Neuwirthová, R. Fabeš, M. Pérez-Estébanez, A. Viani
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- P10** MACRO-XRF SCANNING AND OPTICAL COHERENCE TOMOGRAPHY (OCT) TECHNIQUES FOR THE AUTHENTICATION OF SELECTED ARTWORKS
B. Łydzba-Kopczyńska, P. Targowski, M. Iwanicka
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- P12** THE USE OF NON-DESTRUCTIVE METHODS AS A TOOL FOR THE IDENTIFICATION OF HIDDEN DEFECTS OF SANDSTONE BLOCKS FROM PRAGUE'S CHARLES BRIDGE (CZECH REPUBLIC)
K. Bayer, J. Havlín
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- P14** EXAMINATION OF HISTORIC PARCHMENT MANUSCRIPTS BY NON-INVASIVE REFLECTION-FTIR – POSSIBILITIES AND LIMITATIONS
W. Vetter, G. Pöllnitz, M. Schreiner
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- P16** USE OF PORTABLE XRF FOR QUANTITATIVE ANALYSIS ON CORRODED METALLIC ARTEFACTS
D. Šatović, V. Desnica, S. Fazinić

- P18** A TIME-LAPSE SYNCHROTRON X-RAY DIFFRACTION (SR-XRD) STUDY OF THE CORROSION OF SILVER BY H₂S AND O₃
R. Grayburn, R. Wiesinger, M. Dowsett, P. Thompson, A. Adriaens
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- P20** DIFFERENTIAL SCANNING CALORIMETRY FOR QUANTIFYING DAMAGE IN ARTIFICIAL AGED LEATHER
C. Carsote, E. Badea, L. Miu, G. Della Gatta, P. Budrugaec
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- P22** ANALYTICAL RESEARCH ON ILLUMINATED FORAL CHARTER OF MURÇA (1512-PORTUGAL): PARCHMENT, INKS AND MATERIALS
S. Pessanha, C. Mortari, M. Manso, St. Longelin, M. Guerra, A. Le Gac, S. Pé-Leve Santos, M. L. Carvalho
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- P24** FTIR ANALYSIS OF BINDING MEDIA DEGRADATION AND PIGMENT-BINDER INTERACTION OF AGED PAINT (REVEALING HIDDEN INFORMATION ON THE IR SPECTRA)
A. Ceriotti, M. Pinto, A. Poliszuk
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- P26** NON-INVASIVE IDENTIFICATION OF PIGMENTS, TECHNOLOGY AND PAINTING TECHNIQUE USED BY MAKSYMILIAN GIERYMSKI, THE REPRESENTATIVE OF THE MUNICH ARTISTIC CENTER IN THE SECOND HALF OF THE NINETEENTH CENTURY
A. Klisińska-Kopacz, P. Frączek, E. Zygiel, A. Krypczyk
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- P28** SELF-HEALING NANOSTRUCTURED COATINGS FOR CORROSION INHIBITION OF COPPER-BASED ARTIFACTS
M. P. Casaletto, A. Mazzaglia, A. Scala, G. Lazzara, R. Schimmenti
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- P30** MIXTURES OF SILICIC ACID ESTERS WITH NANOPARTICLES – THE POSSIBILITIES OF THEIR BEHAVIOR MONITORING
P. Kotlík, M. Slavikova, B. Benetkova

- P32** STUDY OF ACCELERATED AGING OF ARTISTIC MATERIALS BY INFRARED SPECTROSCOPY
A. Ceriotti, M. Pinto, A. Poliszuk, G. Ybarra
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- P34** MICROEMULSIONS AS A NEW STRATEGY FOR CORROSION INHIBITION COATINGS FOR LEAD AND IRON
V. Flexer, E. Ahmed, M. G. Dowsett, A. Adriaens
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- P36** MICRO-EMULSIONS FOR REMOVAL OF WAXES AND OILS FROM ARTEFACT SURFACES
M. Skrdlantova, K. Drabkova, P. Kotlik
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- P38** FROM ANALYSIS TO A SUITABLE RECIPE – RECONSTRUCTION OF THE AUTHENTIC MATERIAL AND TECHNOLOGY OF HISTORIC RENAISSANCE STUCCO DECORATIONS IN CASTLE OF TELC (CZECH REPUBLIC)
J. Havlin, R. Tislova, K. Bayer
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- P40** CHARACTERIZATION OF ARCHAEOLOGICAL IRON SLAGS OF 12TH, 13TH, 16TH AND 19TH CENTURY BY RAMAN AND X-RAY FLUORESCENCE SPECTROSCOPY FROM DIFFERENT SETTLEMENTS OF NORTHERN SPAIN
L. Gomez-Nubla, J. Aramendia, S. Fdez-Ortiz de Vallejuelo, K. Castro, L. García, J. Á. G. Carvajal, I. García, J. F. Ruiz, J. M. Madariaga
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- P42** A MULTI-ANALYTICAL APPROACH FOR THE STUDY OF NEOLITHIC POTTERY FROM THE GREAT DOLMEN OF ZAMBUJEIRO (ÉVORA, PORTUGAL)
A. Manhita, S. Martins, J. Costa, L. Rocha, C. Dias, J. Mirão, D. Teixeira
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- P44** THE WIENER NEUSTADT HOARD – MATERIAL ANALYSIS AND CLARIFICATION OF THE EXCAVATION SITE
I. Martina, R. Wiesinger, K. Hradil, M. Melcher, M. Mehofer, N. Hofer, M. Schreiner
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- P46** IDENTIFICATION OF BINDERS FROM MURAL PAINTING OF „GEORGE RADU MELIDON” PUBLIC LIBRARY, ROMAN CITY, NEAMT COUNTY, ROMANIA
A.M. Baciú, Z. Moldovan, C. Marutoiu, I. Bratu, O.F. Marutoiu
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- P48** ANALYSIS OF THE CONSERVATION STATE OF A PANEL PAINTING ICON FROM THE XIXTH CENTURY
R. A. Cristache, V. Vasilache, I. Sandu, A. Budu
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- P50** SCIENTIFIC INVESTIGATIONS OF HISTORIC ASIAN LACQUER WORKS OF ART
V. Pitthard, S. Stanek, M. Griesser, S. Miklin-Kniefacz
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- P52** DISCLOSING THE TECHNOLOGIES OF THE QING DYNASTY PAINTERS IN CIVIL BUILDINGS: THE MURAL PAINTINGS IN THE FIVE NORTHERN PROVINCES’ ASSEMBLY HALL (ZIYANG, CHINA)
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