

SCIENTIFIC PROGRAM

Time	Ref.	Wednesday, March 28, 2012
1:00 - 2:30 pm		Registration at CaixaForum Barcelona (Address: Av. de Francesc Ferrer i Guàrdia, 6 - 08038 - Barcelona)
2:30 - 3:00 pm		Welcome Addresses José F. García: Coordinator of IRUG10 and Professor at The Department of Analytical Chemistry, University of Barcelona Marcello Picollo: Board Member of IRUG Jordi Alberch Vié: Vice-Chancellor for Research, University of Barcelona Joan Pluma Vilanova: General Director of Cultural Heritage, Government of Catalonia
3:00 - 3:30 pm		Invited lecture Portable FTIR as a Tool to Monitor Conservation Treatments on Stone Surface: advantages and challenges <u>Monica Galeotti</u> , Opificio delle Pietre Dure, Florence
Session 1		Raman and FTIR Spectroscopy in Art and Archaeology Chair: Marcello Picollo, Marta S. Maier
3:30 - 3:50 pm	13	The Use of Vibrational Spectroscopy in Stone Conservation <u>David Thickett</u> , Caroline Roberts, Boris Pretzel
3:50 - 4:10 pm	30	FTIR and THM-Py-GC/MS Investigation of Archaeological Amber Objects from the JPGM <u>Herant Khanjian</u> , Michael Schilling, Jeff Maish
4:10 - 4:40 pm		COFFEE BREAK / POSTER SESSION 1
4:40 - 5:00 pm	35	Raman Microspectroscopy for the Analysis of Archaeological Heritage of the Iberians <u>José A. Tuñón López</u> , Alberto Sánchez Vizcaíno, Manuel Montejo Gámez, David J. Parras Guijarro
5:00 - 5:20 pm	77	Identification of Pigment-based Photographic Processes: A Technical Study of Pictorialist Works by Steichen, Kühn, Demachy, and Le Begue <u>Anna Vila</u> , Silvia A Centeno, Lisa Barro, Nora W Kennedy
"to be announced"		Board of Directors meeting

Visit to "Museu Nacional d'art de Catalunya", Barcelona

Time	Ref.	Thursday, March 29, 2012
Session 2		Raman and FTIR Spectroscopy for the Study of Painting Materials Chair: Beth Price, Oscar Chiantore
9:00 - 9:20 am	44	A Vibrational Study of Chrome Yellow Pigments (PbCrO₄, PbCr_{1-x}SxO₄) and Their Detection on Paintings by Vincent van Gogh and Contemporaries <u>Letizia Monico</u> , Brunetto G. Brunetti, Koen Janssens, Costanza Miliani
9:20 - 9:40 am	37	Revealing the Painting Technique of Giotto di Bondone by SR-ATR-FTIR: The Mural Paintings in the Bardi and Peruzzi Chapels (Santa Croce, Florence, Italy) <u>A. Lluveras-Tenorio</u> , A. Andreotti, I. Bonaduce, M. Cotte, C. Frosinini, M. P. Colombini
9:40 - 10:00 am	29	Synchrotron-based Mapping FTIR Spectroscopy in the Evaluation of Painting Cross-sections <u>Catherine Schmidt Patterson</u> , Alan Phenix, Herant Khanjian, Karen Trentelman, Jennifer Mass, Michael Nasse, Carol Hirschmugl
10:00 - 10:20 am	24	The Application of ATR-FTIR Spectroscopic Imaging to the Analysis of Red Lake Pigments in Paint Cross-sections <u>Rachel Morrison</u> , Satoko Tanimoto, Marika Spring, Catherine Higgitt, David Peggie, Sergei Kazarian
10:20 - 10:40 am	71	Andean Colonial Art: Identification of Atacamite in a XVI Century Polychrome Sculpture <u>Eugenia Tomasini</u> , Carlos Rúa, Gabriela Siracusano, Marta Maier
10:40- 11:10 am		COFFEE BREAK / POSTER SESSION 2
11:10 - 11:30 am	64	Assessment of Lipid Content in Tempera Binding Media by FT-IR Spectroscopy <u>Jacek Bagniuik</u> , Joanna Łojewska
11:30 - 11:50 am	02	Mixed Media Paintings on Plywood by Jack Chambers: Application of Fourier Transform Infrared Spectroscopy (FTIR), Raman Spectroscopy and Gas Chromatography-Mass Spectrometry (GC-MS) <u>Kate Helwig</u> , Jennifer Poulin, Marie-Eve Thibeault

Session 3 **Raman and FTIR Spectroscopy for Characterization of Manuscripts**

Chair: Manfred Schreiner, Silvia Centeno

- 11:50 - 12:10 am **82** **Analysis of Sediments on the Writings of Manuscripts Containing Iron Gall Inks**
Nuria Ferrer, M. Carme Sistach
- 12:10 – 12:30 am **49** **Preparation of the Jewish Antique Parchments**
I. Rabin, M. Bicchieri, A. Sodo, R. Schütz, G. Weinberg, E. Kindzorra, A. Kohl
- 12:30 - 12:50 am **48** **Non-invasive and Micro-invasive Raman, XRD and XRF Analysis of a Fifteenth Century Armenian Manuscript**
Lynn B. Brostoff, Yasmeen Khan, Giacomo Chiari
- 12:50 – 2:30 pm **LUNCH / Visit to CaixaForum (1th group)**

Session 4 **Instrumentals Development**

Chair: Marcello Picollo

- 2:30 -2:50 pm **31** **Development and Application of Portable Hyperspectral Imaging Cameras for the Identification and Mapping of Organic Artists' Materials Such As Paint Binders and Textile Fibers**
J.K. Delaney, P. Ricciardi, M. Loew, S. Lomax
- 2:50 - 3:10 pm **68** **Application of Polymorphic Scanner 2D in Non-invasive Investigations of Writing Materials**
Barbara I. Łydźba-Kopczyńska, Mariusz Mrzygłód, Jacek Reiner, Grzegorz Rusek
- 3:10 - 3:30 pm **61** **Seeing Through Walls: Sub-surface Imaging at Çatalhöyük**
Gillian C. Walker, J. Bianca Jackson, Wendy Matthews, John W. Bowen, Julien Labaune, Gerard Mourou, John F. Whitaker, Michel Menu, Ian Hodder
- 3:30 - 4:00 pm **COFFEE BREAK / POSTER SESSION 3**

Session 5 **New Instruments**

Chair: Jose F. García

- 4:00 - 4:20 pm **103** **New Developments in Infrared Imaging**
John Wilson, Agilent Technologies
- 4:20 - 4:40 pm **104** **Contactless non invasive in situ FT-IR analysis**
Diego Sali, Bruker Italia Srl

Visit to Picasso Museum
Conference Dinner

Time	Ref.	Friday, March 30, 2012
Session 6		
Non-invasive Analysis of Artworks		
Chair: Herant Khanjian, Anna Vila		
9:00 – 9:20 am	25	Mid-IR FORS and Chemometric: Capabilities and Limitations in the Characterization of Artistic Materials <u>Clarimma Sessa</u> , Héctor Bagán, Romà Tauler, Alfonso Rodriguez, Jose F. García
9:20 – 9:40 am	88	Infrared Total Reflection Measurements in an Enlarged MIR-NIR Spectral Range: Pigments Characterization <u>Tommaso Poli</u> , Oscar Chiantore, Marco Nervo, Anna Piccirillo, Chiara Riedo
9:40 – 10:00 am	23	Non-destructive Identification of 19th Century Watercolor Pigments by Use of Complementary Reflection-FTIR-, Reflection-UV/Vis- and XRF-Spectroscopy <u>Wilfried Vetter</u> , Manfred Schreiner
10:00 – 10:20 am	01	In Situ and Laboratory Micro-Raman Spectroscopic Studies of Prehistoric Paintings from the Iberian Peninsula <u>Antonio Hernanz</u> , Jose M. Gavira-Vallejo, Juan F. Ruiz-López, Ramiro Alloza-Izquierdo, Ramón Viñas-Vallverdú, Albert Rubio Mora, Vicente Baldellou-Martínez
10:20 - 10:40 am	47	The Identification of Plastics in Modern and Contemporary Art Objects Using Fibre Optics Raman Spectroscopy <u>S. de Groot</u> , Th. B. van Oosten, B. te Nijenhuis
10:40 - 11:00 am	27	The Use of FTIR Microscopy and Non-invasive Portable ATR-FTIR to Characterize the Diverse Synthetic Materials Used by Los Angeles Artists in the 1960s and 70s <u>Rachel Rivenc</u> , Emma Richardson, Tom Learner
11:00 - 11:30 am	COFFEE BREAK / POSTER SESSION 4	
Session 7		
Degradation analysis by Vibrational Spectroscopy		
Chair: Boris Pretzel, Stefan Simon		
11:30 - 11:50 am	53	Degradation Phenomena of Polymeric Design Objects: A FTIR and Fluorescence Spectroscopic Study <u>L. Toniolo</u> , F.Toja, A. Nevin, D. Comelli, D. Saviello
11:50 - 12:10 am	67	Following the Degradation of Magnetic Tapes' Materials with ATR-FTIR <u>Elena Gómez Sánchez</u> , Simon Kunz, Katrin Abromeit, Stefan Simon
12:10 – 12:30 am	21	Rapid Identification of 'Sticky Shed Syndrome' in Magnetic Tape Using ATR-FTIR and Multivariate Statistics <u>Eric Breitung</u> , Samantha Skelton, Stephen Morgan

- 12: 30 - 12:50 am **91** **Spectroscopic Techniques for Damage Assessment of Organic-based Heritage Materials**
M. Odlyha, L. Bozec, O. Marcinas, M. P. Colombini, I. Bonaduce, F. Di Girolamo R. Larsen, K. Mühlen Axelsson, D. Vestergaard Poulsen, M. Scharff, P. Vandenabeele, A. Potthast, K. Ahn, T. Gronthoft, E. Dahlin
- 12:50 - 13:10 am **09** **Non-invasive Investigation of Colour Layers and Monitoring of the Chemical Cleaning of Two Paintings by Vittore Carpaccio**
Polonca Ropret, Barbka Gosar Hirci, Costanza Miliani, Francesca Rosi, Paola Rocchi, Laura Cartechini, Klara Retko, Lea Legan
- 13:10 - 13:30 am **26** **Infrared and Raman Spectroscopy of Biodegraded Historical Textiles Made of Cotton**
Katja Kavkler, Andrej Demšar
- 13:30 - 13:50 am **100** **Non-invasive Investigation on the Formation of Metal Carboxylates by Reflection Infrared Spectroscopy**
Costanza Miliani, Francesca Rosi, Manuela Vagnini, B. Brunetti
- 13:50 - 3:20 pm **LUNCH / Visit to CaixaForum (2nd group)**
- 3:20 - 3:40 pm **36** **Infrared Reflection Absorption Spectroscopy (IRRAS) and Raman Spectroscopy to Study Early Stages of Atmospheric Corrosion of Silver**
R. Wiesinger, I. Martina, M. Schreiner
- 3:40 - 4:00 pm **45** **Evolution of Surface Chemistry and Colour in Photo-irradiated Wood**
Claudia Pelosi, Giorgia Agresti, Luca Calienno, Angela Lo Monaco, Rodolfo Picchio
- 4:00 - 4:20 pm **50** **The Use of FT-IR and 2D IR Correlation Spectroscopy for the Evaluation of Tilia Cordata Wood Decay**
Carmen-Mihaela Popescu, Maria-Cristina Popescu, Bogdan C. Simionescu
- 4:20 - 4:40 pm **51** **The Evaluation of Degradation Degree of Naturally Aged Wood by FT-IR and 2D IR Correlation Spectroscopy**
Carmen-Mihaela Popescu, Bogdan C. Simionescu
- 4:40 - 4:50 pm **105** **The IRUG Raman Spectral Web Database Application: A Preview**
Beth A. Price, Suzanne Quillen Lomax, Boris Pretzel, Charles Davis, Andrew Lins, Gabriel Richards and Steve Rice
- 4:50 - 5:20 pm **FINAL REMARKS ON IRUG CONFERENCE**
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Saturday, March 31, 2012

Trip to Figueres / Visit to Gala-Salvador Dalí Foundation

POSTER SESSION 1 / 2 - March 28 and 29, 2012

Database of Cultural Materials / Degradation Analysis by Vibrational Spectroscopy / Instrumental Development on IR and Raman Spectroscopy / Non-Invasive Analysis of Works of Art and Archaeology

Ref.	Title
11	Physico-chemical Studies of Manuscripts in Grabar Art Conservation Center I.V.Burtseva, A.Y. Mazina
41	Raman Database of the 19th and 20th Centuries Pigment Collection of the Academy of Fine Arts Vienna D. Jembrih-Simbürger, M. Schreiner
93	Study of Greying Phenomena on Buddhist Mural Paintings - Cave 8, Kizil, Xinjiang, China Ellen Egel, Stefan Simon, Volker Wachtendorf, Guido Grundmeier
90	Metal Soaps Formation in the Presence of Natural Resins Anna Piccirillo, Tommaso Poli, Claudia Conti, Oscar Chiantore, Annamaria Giovagnoli
62	Which Light Source for Cultural Heritage? A. Macchia, S. Nunziante Cesaro, M. Rocchia, G. Roscioli, L. Campanella
63	Problem of Early Plastics Degradation: Study of the Aspects of Celluloid Degradation by Means of Infrared Spectroscopy Alena Otmarova
39	Study of Gamma Irradiated Oil Painting Samples by FT-IR, FT-Raman and Reflectance Spectroscopy Maria-Mihaela Manea, Constantin-Daniel Negut, Ioana-Rodica Stanculescu, Marian Virgolici, Cristina Mandravel, Corneliu-Catalin Ponta
52	Evaluating Silk Degradation in Cultural Heritage Objects by Infrared and Raman Spectroscopy Monika A. Koperska, Joanna Łojewska
73	FTIR of Deteriorating Glass on Ndebele Beaded Aprons Jennifer Giaccai, Maria Fusco
16	Assessment of Lightfastness Declarations of Commercial Acrylic Paints Valentina Pintus, Shuya Wei, Manfred Schreiner

- 15 **Infrared Reflection Absorption Spectroscopy (IRRAS) for the Study of Glass Corrosion**
Monica De Bardi, Rita Wiesinger, Manfred Schreiner
- 14 **Micro-Raman Characterization of Silver Corrosion Products Occurring in the Early Stages of Atmospheric Corrosion**
I. Martina, R. Wiesinger, D. Jembrih-Simbürger, M. Schreiner
- 80 **Potential and Limits of Single-point FTIR-spectroscopy in Conservation Science**
Christoph Herm
- 03 **Hydrofluoric Acid Pretreatment of Matte Artists' Paints for Binding Medium Analysis by FTIR Microspectroscopy**
Gregory Dale Smith, Lisa Altherr and Kwame Newton
- 95 **Pigments Study by Non-destructive Micro-Raman Spectroscopy on a New Version of the Madonna of Foligno by Rafael de Urbino**
L. R. Rodriguez-Simon, M. R. Lopez-Ramirez, N. Navas, E. Manzano
- 42 **FTIR Spectroscopy for Measuring of Penetration Depth of Consolidants and the Comparing with Colour Reactions - Method of Iodine Vapours**
Monika Slavíková, Alena Otmarová, Petr Kotlík
- 06 **Spectroscopic Analysis of an Aztec Deerskin Picture Map**
Ted Stanley
- 40 **FT-IR and FT-Raman Spectroscopic Analysis of Three Paintings Attributed to Nicolae Grigorescu: An Authentication Chance for Roumanian Paintings**
Maria-Mihaela Manea, Marian Virgolici, Constantin-Daniel Negut, Ioana-Rodica Stanculescu, Cristina Mandravel, Corneliu-Catalin Ponta
- 07 **Non-invasive FT-IR Analysis of Polymeric Materials**
V. Marchiafava, G. Bartolozzi, C. Cucci, M. Galeotti, M. Picollo, B. Pizzo
- 32 **An FTIR-based Exploration of Surfactants' Phase-Separation in Murals Painted with Waterborne Emulsion Paints**
Marta Melchiorre Di Crescenzo, Elisabetta Zendri, Francesca Rosi, Costanza Miliani
- 19 **Characterization of the Stone Materials from a XVII Century Tabernacle Monstrance by Raman Spectroscopy**
A. C. Prieto, M. Avella, O. Martínez, S. Neto, J. L. Alonso, MM. Rufo, M. Barrera, C. Escudero
- 96 **A Pochoir Colored Facsimile Analyzed by Raman Microscopy**
Dalva L. A de Faria and Thiago S. Puglieri

- 12 **Raman Spectroscopy of Nineteenth Century Synthetic Textile Dyes**
Rosemary M. Baker
- 89 **MIR-NIR Imaging Identification of Pigments**
Oscar Chiantore, Paola Croveri, Anna Piccirillo, Tommaso Poli
- 87 **The Degradation and Color Stability of the Color Motion Pictures: The Case of Study**
Alena Otmarova, Michal Ďurovič
- 74 **The Use of Portable FTIR Spectrometers for Conservation Applications and Collections Surveys**
Jennifer Giaccai, Kate Moomaw, Jia-sun Tsang, HaeMin Park, Allison Martin
- 60 **Reflection micro-FTIR and Raman Spectroscopic Studies of 19th Century Romanian Manuscripts**
Marta Ursescu, Adeline-Camelia Ciocan, Laura Ursu, Ion Sandu
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POSTER SESSION 3 / 4 - March 29 and 30, 2012

Vibrational Spectroscopy for Characterization of Materials in Art and Archaeology

Ref.	Title
84	The Lemon Shade of Chrome Yellow: Probing the Influence of Sulphur in Mixed-crystals of Lead Chromate and Lead Sulphate Vanessa Otero, Maria João Melo, Márcia Vilarigues
99	FTIR and Micro-FTIR Structural Analysis of the Skin Proteins of Ancient Egyptian Mummies from the Museum of Anthropology and Ethnography of the University of Turin Maria Grazia Bridelli, Rosangela Cinquetti, Chiara Stani, Alida Dell'Anna, Rosa Boano
98	Surface-enhanced Raman Spectroscopy (SERS) Study of a Commercial Polycarboxylate Cement Superplasticizer M. V. Cañamares, S. Martinez-Ramirez, S. Sanchez-Cortes
76	Analysis of Artistic Materials by FTIR and X-ray Microspectroscopy at the ID21 Beamline, European Synchrotron Radiation Facility E. Pouyet, M. Cotte, V. A. Solé
78	FTIR and Raman Spectroscopic Study of Selected Reconstructed Pigments in the 19th Century Anna Schönemann, Howell Edwards, Lisanne Fischer, Johannes Jacob, Hartmut Kutzke
94	Colours of the Earth: The Use of Ochres by 19th Century Portuguese Painters Cristina Montagner, Diogo Sanches, Joana Pedroso, Maria João Melo, Márcia Vilarigues
79	Attenuated Total Reflectance Analysis of Cement Pure Phases: Comparison with FTIR Technique D. Torréns-Martín, L. M. Morales, Lucia Fernández-Carrasco
43	Waterproofing Materials Used in Betic, Italic and Tarraconensian Archaeological Amphorae Zornoza-Indart A., López-Arce P., San Andrés M., De la Roja J.M., Vivar G., Alvarez de Buergo M., Fort R.

- 83 **A Closer Look at Brazilwood and Its Lake Pigments**
Tatiana Vitorino, Vanessa Otero, Maria João Melo, Leslie Carlyle
- 75 **Characterization of Polymorphic Modifications of Copper Phthalocyanine (CuPc) Used As Artistic Pigments by XRD, μ -FTIR and μ -Raman**
C. Defeyt, P. Vandenabeele, B. Gilbert, L. Wijnberg, D. Strivay
- 10 **Raman Identification of Dolomite and Calcite in the Grounds of Russian Painters of XVIII Century**
Victor Soloviev, Boris Zhadanov
- 08 **Characterization of Synthetic Organic Pigments by Raman Spectroscopy and LDI/MS**
Joseph F. Lomax, Amadeo deLuca Westrade, Suzanne Quillen Lomax
- 86 **Conservation of Ceroplastics Damaged by Unsuitable Climatic Conditions**
Klára Drábková, Jitka Neoralová
- 05 **Spectroscopic Analysis of Wall Paintings from the Tomb of Thutemheb (TT194), El-Qurna Necropolis (Luxor, Egypt)**
Hussein Hassan, Marey Mahmoud
- 66 **ATR-FTIR and UV-Vis Study of Vegetable Tanning Materials Extracted from 19th Century Upholstery Morocco Leathers**
Lina Falcão, Maria Eduarda M. Araújo
- 55 **Micro-Raman Mapping of Polyenic Pigments in Marine Shells and Corals**
S. Mantovan, L. Bergamonti, D. Bersani, P. Lottici
- 46 **Mural Paintings in Cappadocia (Turkey): Characterization of the Constitutive Materials and Chronological Overview**
Giorgia Agresti, Maria Andaloro, Pietro Baraldi, Claudia Pelosi, Paola Pogliani, Ulderico Santamaria
- 56 **Copper Resinate: Contribution from Raman Spectroscopy**
Irene Aliatis, Chiara Colombo, Claudia Conti, Tommaso Poli, Elena Possenti, Marco Realini, Giuseppe Zerbi
- 57 **Synthetic Polymers as Conservation Materials – Analytical Identification with FTIR and FTIR-Imaging**
Christine Fuchs, Steffen Laue, Katja Schmeikal, Sandra Schorbach

- 58 **Forensic Investigations of Imitated Expressionist Paintings**
Stefan Röhrs, Andreas Schwabe, Stefan Simon
- 101 **Black Pigments Identification on Alabaster Painting “Maja y Celestina” by Francisco de Goya by In-situ mRS and SEM-EDX Analysis**
L.R. Rodriguez-Simon, M.R. Lopez-Ramirez, N. Navas, E. Manzano
- 33 **Performance of a Fungal Treatment for Bronze Artefacts Evaluated and Optimised By Means of Vibrational Microscopies**
Edith Joseph, Anaële Simon, Giorgia Scitutto, Paola Letardi, Rocco Mazzeo, Daniel Job, Marie Wörle
- 102 **Spectroscopic Characterization of Sardinian Pottery from the Excavation at Geridu (Sorso, Sardinia) and Borgo Stretto: A Comparison with Local Clay**
M. L. Ganadu, E. Lampis, M. Milanese, S. Scognamillo, S.Enzo, S.Ginesu
- 69 **Characterization and Conservation Suitability of Vegetable Tanning Materials in Leathers by ATR-FTIR**
Lina Falcão, Maria Eduarda M. Araújo
- 20 **Micro-Raman in the Studies of Pigments and Binders in Gdańsk Paintings of the 17th Century**
Justyna Olszewska-Świetlik, Bożena Szmelter-Fausek, Edyta Proniewicz
- 70 **Characterization of Carbon-Based Black Pigments**
Eugenia Tomasini, Gabriela Siracusano, Marta Maier
- 18 **ATR-FTIR Spectroscopy in the Region of 550-230 cm^{-1} for Identification of Inorganic Compounds**
Signe Vahur, Anu Teearu, Ivo Leito
- 72 **Gilding Techniques in 17th Century Portuguese Mural Paintings: Characterization and Diagnosis**
M.Gil, L.Carvalho, S.Longelin, J.Frade, S. Valadas, J.Mirão, A. Candeias
- 54 **A Fast FTIR Analysis for the Identification of Natural Asphalts and Bitumen**
Alessandra Broggi, Maria Paola Bracciale, Maria Laura Santarelli
- 38 **Spectroscopic Techniques Applied to the Characterization of the Palette of 16th Century Wall Paintings from Galicia (NW Spain)**
Pereira-Pardo, L; Prieto, B; Silva, B.

Local Organizing Committee

José F. García *(Coordinator)

Anna Vila**

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***Department of Scientific Research, The Metropolitan Museum of Art, New York.*

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