

## Conference programme

Monday, September 19<sup>th</sup>, 2016

- 18:00 **Registration** – The Bishop Erasm Ciołek Palace, Kanonicza Street 17  
19:00 **Welcome reception** – The Bishop Erasm Ciołek Palace, Kanonicza Street 17

Tuesday, September 20<sup>th</sup>, 2016

- 8:30 **Registration** – Conference site, Academy of Fine Arts, Plac Matejki 13  
9:00 **Opening**

Session 1: Developments in laser removal of unwanted substances on culturally-important objects and monuments – chair: **Wolfgang Kautek**

- 9:20 **Final endeavor of “Monument Man” – key-note lecture**  
John Asmus, Vadim Parfenov
- 10:00 **Non-linear microscopies for the assessment of photochemical modifications upon laser removal of varnishes used in paintings**  
Marta Castillejo, Mohamed Oujja, Sotiris Psilodimitrakopoulos, Esther Carrasco, George Filippidis, Alexandros Selimis, Aggelos Philippidis, Mikel Sanz, Paraskevi Pouli
- 10:20 **Optimization of the laser cleaning of rough surfaces of granitic stones used in the building heritage of NW Iberian peninsula**  
Ana J. López, Alberto Ramil, José Santiago Pozo-Antonio, Teresa Rivas, Iván De Rosario, María Paula Fiorucci
- 10:40 **Wavelength-dependent absorption and scattering effects on laser cleaning of a corroded iron alloy European scale armor**  
Marlene April Yandrisevits, Pablo Londero, Federico Caró
- 11:00 **Coffee break**

- 11:30 **Comparison between Er:YAG and Nd:YAG laser for the laser assisted removal of degraded protective from stone**  
Alessia Andreotti, Susanna Bracci, Anna Brunetto, Adele DeCruz, Antonio Sansonetti, Barbara Sacchi, Silvia Vettori, Alessandro Zanini, Maria Perla Colombini
- 11:50 **From underground to outer space: new applications for laser cleaning in mineralogy**  
Rebecca Kaczowski, Bartosz Dajnowski, Edward Vicenzi
- 12:10 **Laser cleaning of historical postage stamps and stationery**  
Saira Arif, Wolfgang Kautek
- 12:30 **Laser ablation on polychrome stone surface: a protocol for risk evaluation**  
Ana Laborde Marqueze, Marta Gómez Ubierna, José Vicente Navarro Gascón, María Antonia García Rodríguez, Pedro Pablo Pérez García, Livio Ferrazza
- 12:50 **Lunch break**
- Session 1 continued – chair: **John Asmus**
- 14:00 **The main Polish conservation projects with the use of laser techniques – key-note lecture**  
Roman Ostrowski, Jan Marczak†, Andrzej Koss, Halina Garbacz, Karol Jach, Wojciech Skrzeczanowski, Antoni Rycyk, Antoni Sarzyński, Marek Strzelec, Krzysztof Czyż
- 14:40 **Laser yellowing effect: study of the nanophases created by laser irradiation of natural and model gypsum crusts using transmission electron microscopy (TEM) and electron paramagnetic resonance (EPR) spectroscopy.**  
Marie Godet, Véronique Vergès-Belmin, Christine Andraud, Mandana Saheb, Judith Monnier, Eric Leroy, Julie Bourgon, Laurent Binet
- 15:00 **Laser cleaning of a Navajo wool blanket by Nd:Yag**  
Pablo Londero, Daniele Ciofini, Christine Giuntini, Ludovica Corda, Marco Leona
- 15:20 **Wavelength effects on the laser removal of lichens on heritage stone**  
Mikel Sanz, Mohamed Oujja, Carmen Ascaso, Sergio Pérez-Ortega, Virginia Souza-Egipsy, Rafael Fort, Asunción de los Ríos, Jacek Wierzchos, Maria Vega Cañamares, Marta Castillejo
- 15:40 **Towards the understanding of the two wavelength laser cleaning in avoiding yellowing on stonework**  
Athanasia Papanikolaou, Kristalia Melessanaki, Aggelos Philippidis, Panagiotis Siozos, Kostas Hatzigiannakis, Paraskevi Pouli
- 16:00 **Coffee break**

## Session 2: Case studies I – chair: **Johann Nimmrichter**

- 16:30 **The removal of intractable materials with an Erbium:YAG laser at 2.94 mm from ancient tempera painting on panel .**  
William P. Brown, Adele DeCruz, Alessia Andreotti, Mara Camaiti, Maria Perla Colombini
- 16:50 **Using the new G.C. Laser Cleaning System for cleaning and surface preparation for re-gilding of a large outdoor bronze monument of Alexander Hamilton**  
Andrzej Dajnowski, Bartosz Dajnowski
- 17:10 **Experiences at the Academy of Fine Arts of Brera: the application of laser-cleaning technology on three case studies of the historical heritage**  
Elisa Isella, Donatella Bonelli, Silvia Cerea, Francesca Mancini, Veronica Ruppen, Antonio Sansonetti
- 17:30 **Decontamination of biocidal loaded wooden artworks by means of laser and plasma processing**  
Birgit Angelika Schmidt, Simone Pentzien, Andrea Conradi, Jörg Krüger, Constanze Roth, Oliver Beyer, Annett Hartmann, Bernd Grünler

## Wednesday, September 21<sup>st</sup>, 2016

- 7:50 meeting at Wawel Castle Hill in front of the Cathedral
- 8:00 **exclusive sightseeing of the Cathedral** including conservation visit to Zygmuntowska and Batory Chappels (laser cleaned) and more
- 10:30 **Breakfast and coffee** at conference site

## Session 3: Miscellaneous topics – chair: **Manfred Schreiner**

- 11:00 **Investigation of parchment alteration by correlative nonlinear optical microscopy and infrared nanoscopy – key-note lecture**  
Gaël Latour, Laurianne Robinet, Alexandre Dazzi, François Portier, Ariane Deniset-Besseau, Marie-Claire Schanne-Klein
- 11:40 **Laser-induced particle desorption and adhesion force investigations**  
Wolfgang Kautek, Ignacio Falcón Casas, Oskar Armbruster
- 12:00 **LIF-Raman-LIBS analysis of heritage stones with a single set-up using UV pulsed laser excitation**  
Mohamed Oujja, Mikel Sanz, Esther Carrasco, Marta Castillejo

- 12:20 **Spectral imaging of Dutch gilt leather for improved conservation strategies**  
Roger M. Groves, Vassilis M. Papadakis, Martine Posthuma de Boer, Tigran Mkhoyan, Bianca van Velzen, Kate Seymour
- 12:40 **Building comprehensive management systems for handling and disseminating information recorded upon laser analysis, diagnosis and conservation**  
Paraskevi Pouli, Demetrios Anglos, Martin Doerr, Chryssoula Bekiari
- 13:00 **Lunch break**

Session 4: Instrument presentations and announcements – chair: **Martin Cooper**

- 14:00 **Using a new laser cleaning technology in the USA on works of art and architecture: introducing the GC-1 Laser Cleaning System**  
Bartosz Dajnowski
- 14:20 **MicroLIBS analysis of archaeological objects: elements analysis and fingerprinting**  
Lee Drake
- 14:40 **El.En. laser systems for restoration of CH objects**  
Laura Bartoli
- 15:00 **European Research Infrastructure for Heritage Science (E-RIHS)**  
Piotr Targowski, Luca Pezzati
- 15:20 **break**
- 15:30 **Introduction to a visit to the Mariacki Church – present conservation project of Veit Stoss altarpiece**  
Jarosław Adamowicz
- 16:00 **Departure for the Conservation sightseeing of Kraków – part II**  
including Mariacki Church, Collegium Maius, and Rynek Underground Permanent Exhibition

Thursday, September 22<sup>nd</sup>, 2016

Session 5: Coherent light-based methods for imaging, documentation and examination of objects and structures – chair: **Marta Castilleo**

- 9:00 **An examination of the complementary use of optical coherence tomography (OCT) and non-linear microscopy – *key-note lecture***  
Haida Liang, Meropi Mari, George Filippidis, Chi Shing Cheung, Sotiria Kogou, Matthew Hine
- 9:40 **A study in the use of optical coherence tomography to examine depth of penetration into varnish layers ablated by the Er:YAG laser pulse at 2.94  $\mu\text{m}$**   
Adele DeCruz, Joseph Izatt, Derek Nankivil, Eva Kielczewski
- 10:00 **Optical coherence tomography and reflection FTIR as complementary tools for examination of varnish layers in Vincent van Gogh's Sunflowers– preliminary results**  
Magdalena Iwanicka, Costanza Miliani, Ella Hendriks, Marcin Sylwestrzak, Patrizia Moretti, Letizia Monico, Piotr Targowski
- 10:20 **Non-invasive multi-modal analysis of Cave 465 murals in Dunhuang, China**  
Sotiria Kogou, Haida Liang, Chi Shing Cheung, Andrei Lucian, Bomin Su
- 10:40 **Laser conoscopic holography for the assessment of the effects of traditional and innovative cleaning treatments of silver**  
Claudia Daffara, Nicola Gaburro, Giacomo Marchioro, Alessandro Romeo, Giulia Basillisi, Andrea Cagnini, Monica Galeotti
- 11:00 **Coffee break**
- 11:30 **Effect of aging in starch based adhesives, studied using second harmonic generation imaging microscopy**  
Sotiris Psilodimitrakopoulos, Evaggelia Gavgiotaki, Kristalia Melessanaki, Vassilis Tsafas, Demetrios Anglos, George Filippidis
- 11:50 **Nonlinear imaging techniques (NLO) for painting investigation**  
Alice Dal Fovo, Raffaella Fontana, Jana Striova, Enrico Pampaloni, Marco Barucci, Marco Raffaelli, Luca Pezzati, Riccardo Cicchi

**Poster session – chair: Vincent Detalle**

- 12:10 **Poster pitch** (all posters)  
12:50 **Lunch break**  
14:00 **Poster session** (all posters) and **coffee** (with posters) – until 16:00  
17:00 **Departure to Wieliczka Salt Mine** (from J. Matejko square)

Friday, September 23<sup>rd</sup>, 2016

**Session 6: Case studies II – chair: Véronique Vergès-Belmin**

- 9:00 **Laser based techniques for a multidisciplinary action aimed at the restitutive restoration of S.Costanzo church in Ronciglione (Italy) – keynote lecture**  
Valeria Spizzichino, Luisa Caneve, Massimiliano Ciaffi, Roberta Fantoni, Massimo Francucci, Massimiliano Guarneri, Franca Persia, Maria Fernanda Falcón Martínez, Chiara Giuffrida, Francesca Scirpa, Bartoli Laura, Alessandro Zanini
- 9:40 **Shapes of degradation - Raman spectroscopy for identification of polymers in the cast sculptures from museum collection**  
Anna Klisińska-Kopacz, Barbara Łydźba-Kopczyńska, Anna Kłosowska-Klechowska, Piotr Frączek, Michał Obarzanowski
- 10:00 **Analytical studies to investigate the safeguarding of the original surfaces upon laser cleaning interventions at the Athens Acropolis monuments**  
Giasemi Frantzj, Katerina Frantzikinaki, Anastasia Panou, Evi Papakonstantinou, Anastasia Maridaki, Paraskevi Pouli, Costas Fotakis
- 10:20 **Laser ablation: a moderate micro-sampling of cultural heritage objects for ICP-MS detailed elemental analysis**  
Barbara Wagner, Olga Syta, Luiza Kępa, Mikołaj Donten, Zofia Żukowska
- 10:40 **Use of 3D laser scanning for replication and digital restoration of sculptures: most important recent cases studies in St. Petersburg, Russia**  
Vadim Parfenov
- 11:00 **Coffee break**

- 11:30 **Archeometric investigations of medieval stained glass panels from Grodziec in Poland**  
Dariusz Wilk, Marta Kamińska, Małgorzata Walczak, Ewa Bulska
- 11:50 **Easel paintings on canvas and panel: application of Nd:YAG laser at 355 nm, at 1064 nm and UV, IR and visible light for the development of new methodologies in conservation**  
Joakim Striber, Vanja Jovanović, Maja Jovanović, Maja Vasilić, Bojan Nikolić
- 12:10 **White, yellow and green pigments on Polish artist's palettes in the period 1838-1938.**  
Mirosław Wachowiak, Iwona Żmuda - Trzebiatowska, Grzegorz Trykowski

Session 7: Laser-based spectroscopic techniques for analysis and monitoring –  
chair: **Praskevi Pouli**

- 12:30 **Analysis and documentation of historical artifacts using advanced imaging and spectroscopic techniques**  
Dina Atwa, Nehal Aboufotouh, Gianluca Valentini, Yehia Badr
- 12:50 **Simultaneous LIBS and LA-ICP-MS analysis of wall-paintings cross-sections**  
Olga Syta, Barbara Wagner, Jhanis Gonzalez, Richard Russo
- 13:10 **Lunch break**
- 14:20 **Identification of contemporary binders by time resolved laser induced fluorescence (TR-LIF) spectroscopy**  
Martina Romani, Marco Marinelli, Alessandra Pasqualucci, Gianluca Verona Rinati
- 14:40 **Assessment of elemental heterogeneity by means of LA-ICP-MS imaging approach in artwork studies**  
Luiza Kepea, Barbara Wagner, Marcin Wagner, Anna Lewandowska
- 15:00 **PLEAF spectroscopy of black inks and red seal inks on Chinese paintings**  
Bruno Yue Cai, Vincent Motto-Ros, Vincent Detalle, Nai Ho Cheung
- 15:20 **Raman, chromatography and microscopy studies for wax-sealed documents from some old Romanian pulp and paper factories**  
Rodica-Mariana Ion, Adrian Radu, Sofia Teodorescu, Alin Bucurică, Raluca-Maria Știrbescu, Nicolae-Mihail Știrbescu, Maria Geba
- 15:40 **LIBS, optical and multivariate analyses of selected 17th century oil paintings from Museum of King Jan III's Palace at Wilanów**  
Agnieszka Pawlak, Wojciech Skrzeczanowski
- 16:00 **Closing remarks: presentation of best poster award & farewell, coffee**

## List of Posters

Developments in laser removal of unwanted substances on culturally-important objects and monuments

- P1 **Cleaning performance of femtosecond and nanosecond laser pulses for artificially soiled papers with sizing**  
Selçuk Aktürk, Canan Yagmur Boynukara, Tansu Ersoy, Mehmet Uguryol, Gurcan Mavili, Havva Yagci
- P2 **Laser cleaning of archaeological artefacts using 1064 nm and 532 nm pulsed laser radiation**  
Saira Arif
- P3 **Optical coherence tomography for monitoring of the laser cleaning of ceramic tiles**  
Magdalena Iwanicka, Jędrzej Musiela, Jadwiga Łukaszewicz, Henryk Stoksik, Marcin Sylwestrzak
- P4 **Thinning of oxalate patina with Er:YAG laser stand-alone and in combination with Agar and Carbogel systems**  
Alice Dal Fovo, Jana Striova, Raffaella Fontana, Alberto Felici, Enrico Pampaloni, Marco Barucci, Marco Raffaelli, Eleonora Marconi

Coherent light-based methods for imaging, documentation and examination of objects and structures

- P5 **The application of optical coherence tomography in a technical study of The Mellow Pad by Stuart Davis**  
Haida Liang, Jessica Ford, Chi Shing Cheung
- P6 **A study of illuminated manuscripts using optical coherence tomography and non-invasive spectroscopic techniques**  
Sotiria Kogou, Chi Shing Cheung, Paola Ricciardi, Haida Liang

Laser-based spectroscopic techniques for analysis and monitoring

- P7 **SERS analysis of Fuchsine and Diamond Green G on Ag nanoparticles prepared by photoreduction**  
María Vega Cañamares Arribas, Francesca Gallazzi, Irene Bonacini, Silvia Prati, Santiago Sanchez-Cortes
- P8 **Stratigraphy by multiple wavelength laser-induced breakdown spectroscopy**  
Wolfgang Kautek, Tristan O. Nagy, Ulrich Pacher, Monica Dinu, Roxana Radvan



- P9 **Raman spectroscopy and associated techniques used in the pre-screening stage of radiocarbon dating process**  
Maria-Mihaela Manea, Corina-Anca Simion, Oana Gaza, Gabriela-Odilia Sava, Tiberiu-Bogdan Sava, Silvana Vasilca, Corneliu-Catalin Ponta, Livius-Marian Trache
- P10 **Guanine - an unexpected organic pigment identified in the polychrome of the wood sculpture using the method of Raman microspectroscopy**  
Václava Antušková, Radka Šefců, Anna Třeštíková, Helena Dáňová
- P11 **The forgotten Baroque Master - authentication investigations of the painting attributed to J.J. Knechtel**  
Anna Rogulska, Katarzyna Wantuch-Jarkiewicz, Monika Czarnecka, Barbara Łydźba-Kopczyńska
- P12 **Investigation of techniques of gilding and tin-relief decoration in Bohemian panel paintings from the gothic period**  
Kateřina Tomšová, Radka Šefců, Štěpánka Chlumská, Václav Pitthard
- P13 **Terahertz time-domain reflection spectroscopy for moisture tomography in gypsum**  
Paraskevi Pouli, Christina Daskalaki, Anastasios D. Koulouklidis, Christina Anastasia Alexandridi, Vladimir Yu. Fedorov, Stelios Tzortzakis
- P14 **Materials analyses of pyrotechnological objects from late bronze age Tiryns, Greece, by means of laser-induced breakdown spectroscopy: results and a critical assessment of the method**  
Paraskevi Pouli, Panayiotis Siozos, Ann Brysbaert, Melissa Vettters, Aggelos Philippidis, Demetrios Anglos

## Other topics

- P15 **Multispectral imaging to unveil the drawings and colours of a burnt Minoan wall painting showing a "Female figure in sanctuary/shrine"**  
Athanasia Papanikolaou, Kostas Hatzigiannakis, Kristalia Melessanaki, Michalis Andrianakis, Eleni Papadaki, Efthimia Tsitsa, Stella Mandalaki