

## Presentation

After seven editions, the Aplar conference (APplication of LASer in Restoration) will take place in the ancient Neapolitan city at the Court Theater of Palazzo Donn'Anna, hosted by the Ezio De Felice Foundation.

The technological innovation in recent decades in the context of cultural heritage of laser and diagnostic technologies has been nothing short of outstanding.

In particular, it can be observed that laser sources have undergone a significant expansion in the context of the development of semiconductor technologies, optical fibers and microelectronics, which have made it possible to improve, in order, the emission efficiency, sensitivity of detectors and have pushed the miniaturization of components and systems towards an ever smaller and more manageable scale.

This progress has made available on the market new potential in terms of reliability, productivity and portability of laser systems for the conservation of works of art and archaeological finds, such as fiber lasers. The ever-increasing use of laser technologies for the diagnostics, conservation and restoration of practically all materials, inorganic, organic and composite, and finds constituents, stimulates research in the direction of deepening the interaction of laser radiation with matter to arrive at the definition of new standard protocols for safe use, with particular regard to the updating of the damage thresholds and specifically to the mechanisms for the surfaces treatment.

In such a dynamic scenario, which leads to a transformation in restoration practices thanks to the use of new technologies (augmented reality, 3D microscanners), this eighth edition of APLAR aims to once again focus on the discussion and comparison between the figures of restorers, scientists and art historians on the latest experiences and further needs of the world of restoration, in order to reach the goal of an increasingly aware and sustainable conservation, with a back through and an in-depth analysis of the problems encountered.

We therefore want to place the accent on critical analysis and comparisons on the latest technological innovations introduced in conservation, highlighting, through the individual experiences presented, the achievement of a "system" that links method, technique, specific case study, expected results, results achieved.

In this new edition, it was also decided to experiment with a further approach to stimulate the comparison between techniques

and methodologies, introducing a new session dedicated to video contributions for the dissemination and practical demonstration of case studies on the application of laser cleaning.

This conference, inserted in the splendid city of Naples, is particularly aimed at the attention of young people, with discounted fees, and promoting awards and certificates of merit for those that will propose stimulating experiments in the field of conservation.

## Scientific Committee

**Alessia Andreotti** SCIBEC-Università di Pisa  
**Lorenzo Appolonia** Gruppo Italiano-IIC  
**Giorgio Bonsanti** MIC-MIUR insegnamento del Restauro  
**Anna Brunetto** Restauri Brunetto, Vicenza  
**Giancarlo Lanterna** già OPD, Firenze  
**Barbara Mazzei** PCAS, Città del Vaticano  
**Costanza Miliani** ISPC-CNR, Napoli  
**Austin Nevin** The Courtauld Institute of Art, London  
**Roberto Pini** IFAC-CNR, Firenze  
**Paolo Salonia** ISPC-CNR, ICOMOS Italia, Roma  
**Antonio Sansonetti** ISPC-CNR, Milano  
**Ulderico Santamaria** Università della Tuscia, Viterbo

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**Anna Brunetto** Restauri Brunetto, Vicenza  
**Roberto Fedele** Fondazione Ezio De Felice, Napoli  
**Daniela Murphy Corella** Associazione Bastioni, Firenze  
**Monica Martelli** Università Suor Orsola Benincasa, Napoli  
**Barbara Mazzei** PCAS, Città del Vaticano

Website [www.aplar.eu](http://www.aplar.eu)

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## critical analysis and comparisons



**Naples**  
**13-15 december 2023**  
**Palace Donn'Anna**  
**Foundation Ezio de Felice**



## WEDNESDAY 13 DECEMBER

9.30 REGISTRATION

### OPENING and INTRODUCTION

10.00 **Marina Colonna**, *Presidente Fondazione Ezio De Felice*  
**Pasquale Rossi**, *Presidente CCR - UNISOB*  
**Maurizio Di Stefano**, *Presidente ICOMOS Italia*  
**Vera Malkova**, *Socio Associazione Bastioni*  
**Anna Brunetto**, *Fondatrice Convegno APLAR*

### I SESSION – easel and panel painting.

Chairmen: Giorgio Bonsanti e Alessia Andreotti

10.30 **Rimozione di un strato di ossalato di calcio da un dipinto ad olio non verniciato.**

G. De Cesare, A. Giovagnoli, C. Cardinali

10.55 **Il caso studio di un dipinto su tavola del cinquecento fiorentino: l'uso combinato dei sistemi di pulitura chimici con la strumentazione laser ad Er:YAG.**

A. Fasciani, M. Vento

11.20 **Applicazione laser Er:YAG e Nd:YAG per la pulitura di una croce dipinta del XIII secolo.**

E. Cianca, I. Sinceri, G. Tranquilli, F. Fumelli, M. Ioele, G. Priori, L. Pronti, M. Cestelli Guidi, M. Romani, E. Gorga e G. Viviani

11.45 **The employment of laser cleaning on easel paintings: contributions and overview in LACONA and APLAR conferences.**

I. Pecorelli, G. De Cesare

### II SESSION – different types of material.

Chairman: Lorenzo Appolonia

12.10 **Il restauro dei busti in marmo provenienti da ambienti non confinati. Problematiche di intervento.**

M. Musella, S. Di Giaimo

12.35 **Pulitura laser di stucchi e stucchi policromi di arte del Gandhara (Pakistan, I-V secolo d.C.): applicazione di sistemi laser a confronto.**

G. Galanti, S. Pannuzi

13.00 – 14.40 LUNCH

### III SESSION – organic materials.

Chairmen: Alessia Andreotti e Ulderico Santamaria

14.40 **Experimental SET-UP for the cleaning treatment of an Egyptian blue powdery painted surface: Nd:YAG VS Yb:YAG.**

M. Cremonesi, F. Zenucchini, C. Ricci, T. Cavaleri, A. Re, T. Quirino, P. Buscaglia

15.05 **L'impiego della tecnologia laser per la rimozione di sostanze filmogene non originali da una scultura lignea policroma "angelo annunciante" del XV secolo.**

F.L. Filizzola, P. Fiore

15.30 **video The comparison of different active fibre lasers on non-polychome wooden surfaces of cultural heritage.**

F. Zenucchini, C. Ricci, A. Piccirillo, P. Luciani

15.55 **video Laser cleaning of dirt and maintenance layers on baroque wooden furnishings of the National Library of Austria.**

P. Kopp, V. Pintus, K. Sterflinger

### IV SESSION – metals. Chairman: Roberto Pini

16.20 **Una testa femminile dal Museo Archeologico Nazionale di Firenze: la pulitura laser per il recupero di finiture antiche.**

E. Pucci

16.45 **Using a homogenised Er:YAG laser beam to remove bronze paint from oil gilding.**

G. Alabone

17.10 **Diagnosis and laser cleaning of a gilt bronze buddhist statue.**

Y. Shen

17.35 **GUIDED TOUR OF THE PALACE DONN'ANNA by Arch. Roberto Fedele**



## THURSDAY 14 DECEMBER

### V SESSION – mural paintings.

Chairmen: Antonio Sansonetti e Ulderico Santamaria

9.00 **Laser a fibra sulle pitture murali, risultati a confronto.**

P. Zoroaster, G. Sacco, R. Cavaletti, S. Giudice, M. Valentini

9.25 **Il restauro del cubicolo B35 nella catacomba di sant'Efebo in Napoli. La scoperta di inedite pitture murali del V secolo grazie alla tecnologia laser.**

P. Fiore, C. Ebanista, B. Mazzei, L. D'Angelo

9.50 **A Carolingian detached wall painting from the convent of St. John in Müstair (CH): development of a pilot intervention.**

A. Felici, N. Ellwanger, C. Martinucci, C. Leandri

10.15 **Restauro degli intonaci dipinti e degli stucchi della Tomba dei Pesci e delle spighe nella Necropoli Romana di Tuvixeddu a Cagliari.**

D. Pitzalis, E. Romoli, I. Sanna

10.40 – 11.15 COFFEE BREAK

### V SESSION – mural paintings.

Chairmen: Barbara Mazzei e Roberto Pini

11.15 **Applicazione laser a diversa lunghezza d'onda per la pulitura degli affreschi di Gaudenzio Ferrari.**

A. Borzomati, B. Brison, E. Ozino Caligaris

11.40 **L'intervento di pulitura delle superfici della Loggia di Raffaello: il laser sulla pellicola pittorica e sugli stucchi.**

A. Cerreta, U. Santamaria, L. Baldelli, F. Persegati, F. Morresi

12.05 **LASERING-PH: Sustainable cleaning of Pictorial Heritage: optimization of laser ablation processes.**

L. Andrés-Herguedas, D. Jiménez-Desmond, J. Santiago Pozo-Antonio

12.30 **Analytical Evaluation of the Laser Cleaning Effectiveness in the Context of Contemporary Muralism.**

Y. Zhang, F. Zenucchini, C. Ricci, P. Croveri, D. Scalalone

13.00 – 14.40 LUNCH

### VI SESSION - Different types of material, experimentations and processes. Chairmen: Antonio Sansonetti e Alessia Andreotti

14.40 **Manomissioni e restauri domestici. Due casi di recupero di opere di Maria Lai e Lucio Fontana.**

Luisa Mensi

15.10 **Materiali sintetici dell'arte: ricerca di assorbanza e resistenza.**

G. De Cesare, E. Dimitroulaki, K. Melessanaki, P. Pouli

15.35 **MOXY project: pulitura di materiali di interesse artistico con ossigeno atomico.**

S. Pizzimenti, A. Andreotti, I. Degano, I. Bonaduce, T. Markevicius, A. Nikiforov, R. Morent, K. Leus, N. Olsson, J. Markeviciene, A. Suliga, G. Pastorelli, G. Van der Snickt, N. Yang, M. Cremonesi, K. Jan van den Berg, E. Froment, C. Rocha Pires, D. Schrijvers, A. Sobota, M. Poupouzas, M. Florescu, A. Norton, S. Šakirzanovas, M. Viliunas, G. Morkvenas

16.00 **SR Scanned reality: un ambiente digitale per il dialogo tecnico-umanistico nel restauro.**

E.P. Canevese

### 16.30 / 18.00 ROUND TABLE and DISCUSSION

Chairman: Roberto Pini

**What research and industry are doing in developing new laser solutions in restoration processes.**

Paolo Salvadeo, Paolo Salonia, Cristiano Riminesi, Ulderico Santamaria



## FRIDAY 15 DECEMBER

### VII SESSION – Stone materials and derivatives.

Chairmen: Antonio Sansonetti e Lorenzo Appolonia

9.30 **Valutazioni nel lungo periodo tra la pulitura laser Nd:YAG QS con quella microaerabrasivo nel restauro sugli stemmi araldici in Nanto del Cortile Antico del Palazzo del BO' nel 1985.**

G. Calcagno, S. Cattazzo, F. Rizzi, R. Giorio

9.55 **Removal of non-original coatings from a plaster statue with active fibre laser 300W.**

M. Polizzi, F. Zenucchini, C. Ricci, A. Segimiro

10.20 **L'utilizzo del laser per la rimozione di malte cementizie: il caso del cratere marmoreo neoattico di Pisa.**

A. Rovazzani, R. Bevilacqua, A. Sutter

10.45 – 11.15 COFFEE BREAK

### VII SESSION – Stone materials and derivatives.

Chairmen: Ulderico Santamaria e Roberto Pini

11.15 **Pulitura laser con intermediazione di gel di Agar: restauro di un calco in gesso proveniente dalla gipsoteca provinciale di Bari raffigurante l'architrave figurato della chiesa di San Benedetto a Brindisi.**

C. Carpato, M. L. De Toma, F. Barile, L. Schiavulli

11.40 **video Applicazioni laser a Santa Marta al Collegio Romano su superfici decorate, dipinti murali, antichi disegni rinvenuti sugli stucchi.**

C. Giovannone, C. Balsi, C. Guizzardi, E. Panella

12.05 **Una pulitura chimico-fisica: sinergia tra emulsione e tecnologia laser nel recupero di due rilievi in terracotta acroma di Giovan Battista Foggini e Carlo Marcellini.**

S. Afra, C. Fornari, C. Gabbriellini

12.30 **Lunch break and demonstration in groups of novelties of laser technology.** By El.En. Spa

16.30 **FINAL REMARKS, CONFERENCE CLOSE AND FAREWELL**