

# Laser operator for cultural heritage cleaning

## Presentation

The aim of the course is to present - with theoretical lectures and practical activities - the operating principles and characteristics of the most important laser equipment currently used in cultural heritage, in order that a conservator-restorer could gain a basic understanding on how to use the appropriate equipment for different situations. The variety and complexity of topics related to the use of lasers for cleaning cultural heritage will not allow for an in-depth presentation of all topics. During the course, however, the tools will be provided to introduce an informed use of laser instruments according to the needs of the different types of intervention, with particular attention to cleaning operations.

Through the presentation of significant case studies and the practical exercises on replicas, it will be possible to observe the characteristics and advantages of this operational methodology and to recognise the potential risks for both the works of art and the user. At the end of the course, a theoretical-practical test will verify the level of learning achieved. For Italian professionals, a certificate will be issued for the use of laser equipment according to the regulations in force in Italy.

The course will be taught by an interdisciplinary team of lecturers, scientific experts, technicians and conservators with proven experience in this field.

## Aim

At the end of the course, participants will be able to:

- know the operating principles and characteristics of the main laser instruments;
- understand the criteria for choosing different instruments;
- know the diagnostic procedures for assessing the interaction with the support;
- set application parameters;
- know the correct maintenance of the equipment;
- become aware of the risks when using a laser;
- adopt appropriate personal protection measures.

## Participants

The course is open to professionals working in conservation and restoration.

## Organisers

SKR / SCR

SUPSI-DACD Corso di laurea in conservazione e restauro

El.En. S.p.A.

## Prerequisites

Practical and theoretical knowledge of cultural heritage cleaning techniques.

## Instructors

Laura Bartoli – El.En. S.p.A. – l.bartoli@elen.it

Daniele Ciofini - Istituto di Fisica Applicata “N. Carrara”, CNR - d.ciofini@ifac.cnr.it

M. Guy Devreux – head conservator-restorer Musei Vaticani - guy.devreux@scv.va

Alberto Felici – conservator-restorer - alberto.felici.@supsi.ch

Valentina Trafeli – El.En. S.p.A.- lightforart@elen.it

Alessandro Zanini – El.En. S.p.A.- conservazione@elen.it

**Duration**

24 hours

**Programm**

THURSDAY 16 SEPTEMBER 2021

Principles and fundamentals of lasers and laser-matter interaction

Laser safety

Operational introduction to instrumentation

Instructors: Laura Bartoli / Valentina Trafeli / Alessandro Zanini – El.En. S.p.A.

FRIDAY 17 SEPTEMBER 2021

Laser treatments in conservation-restoration: selection of operating parameters

Case studies of applications on different supports

Practical exercises on mock-ups

Instructors: Daniele Ciofini / Valentina Trafeli

SATURDAY 18 SEPTEMBER

Case studies on interventions on stone surfaces, wall paintings and stucco

Practical exercises on samples

Instructors: Alberto Felici / M. Guy Devreux / Valentina Trafeli

**Dates**

From 16.09.2021 to 18.09.2021

**Hours**

9.00 -13.00 / 13.30-17.30

**Place**

Campus SUPSI Dipartimento ambiente costruzioni e design,

Via Flora Ruchat-Roncati 15

CH – 6850 Mendrisio

**Costs**

CHF 650.- non SKR members

CHF 455.- SKR members

**Inscriptions**

Please use the following link: <https://restaurierung.swiss>

(<https://restaurierung.swiss/de/veranstaltungen/event/23-weiterbildungsangebote/409-laser-operator-for-cultural-heritage-cleaning>)

Inscriptions and payments have to be done before August 10<sup>th</sup>, 2021.

**Comments**

The course may be held in Italian or English, depending on the origin and requests of the participants.

The number of participants is limited to 10.

**Organisation and general information**

Giacinta Jean

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