



**University of Pavia**

**Ph.D. School of Electronics, Computer Science and Electrical Engineering**

## **ONLINE SEMINARS**

### **Analysis of the periocular area**

### **Analysis of the pictorial style and fresco reconstruction**

Lucia Cascone and Fabio Narducci, University of Salerno

July 13, 2021 – from 14.30 to 17.30

[Zoom link](#)

Meeting ID:897 7688 8958

Passcode: 479102

#### **Summary:**

These two seminars will discuss some of the research conducted by the BipLab of the University of Salerno about computer vision approaches applied to the extraction and analysis of visual facial features and for digital artworks reconstruction and classification from fragments.

#### **Organizer**

Prof. Virginio Cantoni

#### **Ph.D. Coordinator**

Prof. Paolo Di Barba

Seminar in English

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## Program overview:

**Timeslot:** 14.30 – 16.00

**Title:** Analysis of the periocular area

**Abstract:** Studying the periocular area of the face means analyzing the facial features of the upper part of the human face to solve classification problems (biometric recognition) or to infer information about an individual's behavior. It is a research topic that has been studied for many years but has received a strong boost recently due to the anti-COVID rules adopted in almost all countries worldwide. This talk will illustrate the recent work of the BipLab research group of the University of Salerno on the analysis of the periocular area, with specific reference to:

1. biometric recognition in the presence of masks on mobile devices
2. age / gender classification from pupil dilation
3. study of the gaze for the diagnosis of Parkinson's

In the aforementioned works, standard classification approaches based on machine / deep learning techniques are often used. A comparative analysis, that highlights the strengths and weaknesses of these techniques applied to the problems in question, will be provided.

**Timeslot:** 16.00 – 17.30

**Title:** Analysis of the pictorial style and fresco reconstruction

**Abstract:** The problem of the reconstruction and dating of small fragments of paintings and frescoes is a very delicate issue for archaeologists and art historians. Disruptive phenomena that damage the original appearance of artworks are known. In this scenario, the historical dating of the artwork and the subsequent reconstruction become uncertain and difficult, especially when the recovered fragments are such to prevent the faithful reconstruction of the original appearance of the work. By tackling the problem in a traditional way, application and solution difficulties emerge. It is an intrinsically complex task to carry out and sometimes made even more difficult by the conditions of the artwork. However, the fragments may still contain sufficient information both to classify a work of art in a specific painting style, and to allow for its reconstruction. Aware of this, the BipLab research group of the University of Salerno has studied and analyzed the following problems in recent works:

1. classification of the pictorial style from artwork fragments
2. critical aspects of the blind reconstruction in digital anastylosis