

PRESENTATION

The Summer School is designed to comply with the increasing demand for researchers with different and cross-disciplinary backgrounds who are able to manage virtual environments and to exploit the analytical potential of 3D data in a variety of scientific endeavours.

The courses are suitable for undergraduate/graduate students, PhD students, post-doctoral researchers, and professionals in the field of anthropology, archaeology, medicine and dentistry who are interested in developing fundamental skills in **3D data acquisition and post processing**.

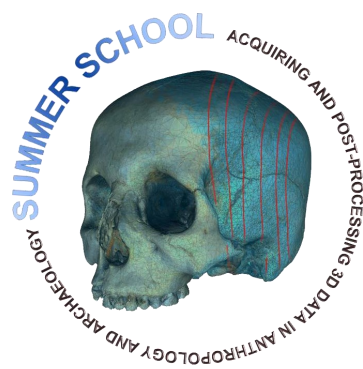
For this purpose, the School is articulated in **two classes**, each of which will address specific subjects and will provide access to complementary skills. The classes can be attended independently or in sequence, and both classes will involve lectures and practical sessions conducted and supervised by experts in the field.

Class 1: 3D MODELS FOR ANTHROPOLOGY, ARCHAEOZOOLOGY AND CULTURAL HERITAGE

The class will experiment and get familiar with the acquisition of 3D data by practicing different techniques and supplies. Participants will be given a detailed overview of the general concept behind CT scanning, while dedicated datasets will be provided by the organisers. Raw models will be post-processed using **Geomagic Design X** to create a final product that can be straightforwardly used for display, morphometric analysis, and more elaborate analyses. CT Data will then be processed using **Avizo Lite**, a multipurpose tool designed for effectively discriminating between internal tissue proportions and for the creation of 3D models starting from computer tomographic datasets.

Class 2: MORPHOSTATS –3D: GEOMETRIC MORPHOMETRIC METHODS FOR THE ANALYSIS OF SHAPE AND FORM VARIABILITY

This course will provide participants with basic concepts and techniques of geometric morphometrics. Viewbox software will be used to capture the geometrical characteristics (shape variables) of 3D surface models (e.g., osteological and archaeological materials). A 3D template of (semi) landmarks will be created in order to create a configuration of homologous points that correspond in all specimens of a data set. Subsequently, the template will be applied to the targets and the sample will be statistically analyzed by means of Generalized Procrustes analysis (GPA) and Principal Component analysis (PCA). Visualization of shape changes along the principal axes will be obtained by Thin Plate Spline (TPS) interpolation. Specific issues will be addressed during the course, such as coping with incomplete osteological/archaeological materials.



ACQUIRING AND POST-PROCESSING 3D DATA IN ANTHROPOLOGY AND ARCHAEOLOGY

DURATION:

Class 1: 10-14 June 2019

Class 2: 17-19 June 2019

STUDENTS/PARTICIPANTS ADMITTED:

The summer school is open to up to 30 students. A minimum of 10 participants is required to start the specific module. Since the available workstations are limited to 30, it is advisable to apply as soon as possible.

REQUIREMENTS:

All teaching is in English. Each participant will be provided with a workstation equipped with dedicated softwares and 3D data for training. Personalised research questions may be addressed, if participants provide their own dataset. Application to CLASS 2 requires previous knowledge of the basic tenets of Geometric morphometrics and a basic understanding of statistical concepts

FEE :

Class 1

350 € undergraduate and graduate, phd students

500 € post doc, researchers and others

Class 2

250 € undergraduate and graduate, phd students

350 € post doc, researchers and others

Application to **both classes** (total reduced fee):

550 € undergraduate and graduate, phd students

800 € post doc, researchers and others.

(The fee includes coffee breaks and insurance premium for injuries and civil liability)

VENUE:

Department of Cultural Heritage
(Via degli Ariani 1, 48121 Ravenna)

CONTACTS:

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SUPERVISOR: Prof. Stefano Benazzi

Prof. Stefano Benazzi



DIPARTIMENTO DI BENI CULTURALI

DEADLINES:

To register to the Summer School and reserve a spot, participants are required to fill out the application form no later than May 10th, 2019. The payment must be transferred exclusively in euros by through bank transfer on IBAN code, after communication by email from the Summer School Board.

For more information please visit our website www.site.unibo.it/summer-school-virtual-anthropology-archaeology/en