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**COLLOQUIA DI DOTTORATO, A.A. 2022/2023**

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Dipartimento di Fisica, A101  
**Giovedì 16 Febbraio 2023 ore 16:00**

# ***Nuclear Physics Technologies for Cultural Heritage and Environment***

**Speranza Falciano**  
(*Gran Sasso Science Institute*)

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The lecture will address applications of nuclear and subnuclear physics technologies to Cultural Heritage and Environment.

Nuclear techniques for Cultural Heritage are oriented to diagnostics, conservation and restoration of artworks. They also include their non-destructive compositional analysis which is of great interest both to art historians and restorers. These techniques, and in particular those based on the use of accelerated ion beams to probe the composition of materials, are multi-elemental, quantitative, very sensitive and fast to perform. They can provide stratigraphic and fine spatially resolved information.

The same techniques are very useful to study the composition of the particulate matter (aerosol) which has natural or anthropic source, thus giving clues on the quality of the air, pollution and possible impacts on climate change.

Examples of specific applications performed at LABEC, the INFN and University of Florence laboratory, will be presented during the seminar.

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*The seminar is in presence up to the maximum occupancy of the lecture hall.*