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S E M I N A I R E

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“ Virtual reality in multidisciplinary data visualization “

In the last decade, Virtual Reality (VR) has gained a foothold in various fields and, as a result, VR technologies are increasingly used in the world of academic research and industry. In fact, it has been demonstrated [1]–[3] that the process of learning and comprehension is largely encouraged by the fruition of contents inside a virtual environment (that is a tridimensional context in which one person can operate in) rather than a two-dimensional one, like a computer screen. This happens because the human beings manipulate tridimensional objects in their daily life, hence 3D virtual environments extend users' perception and increase their ability to tackle massive amounts of data coming from multiple and different sources, such as static and dynamic molecular simulations [4]–[6] or even the possibility of inspecting archeological excavations through hand-free natural interaction [7].

This seminar will illustrate how these new technologies can be exploited and applied to different fields of study, throughout the activities performed at DreamsLab 3D of Scuola Normale Superiore in Pisa. Furthermore, the implementation of a multiscale and multidisciplinary VR architecture will be discussed. The objective of this software is to create a common environment where chemistry and cultural heritage meet, thus allowing experts of the two fields to share data and ideas, in order to achieve deeper insights into cultural goods from both the scientific and historical points of view, remaining, at the same time, accessible by users without advanced scientific expertise.

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