Recovering the Past through Computation  
- New Techniques for Cultural Heritage Informatics –

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Computation has provided new means for researchers and scholars in the humanities, fine arts and social sciences to successfully address questions long considered to be too difficult to approach using conventional methods. The subject of this presentation will be to discuss emerging state-of-the-art scientific methodologies applied to discovery, recovery, restoration, representation, analysis and ultimately new understanding of a broad range of cultural heritage artifacts. Much of the important remnants critical to more fully understanding the ancient and modern world has been neglected, deteriorated, destroyed, and scattered to different parts of the world. Artifacts include script on a variety of media, manuscripts and documents, images, objects, and historic sites. Computation is central to understanding mechanisms of change over extended periods of time, destructive processes and practices and at the same time can provide means for recovering much of what was lost. The tasks involve, in part, processing massive amounts of raw data from a wide range of instruments and combining this with historic records to produce new information. At this point scholarly work, creative approaches, imaginative thinking and international interdisciplinary collaboration can used to create knowledge and understanding, bringing to light new segments of the human record.