

International Workshop on 3D Digital Cultural Heritage Modeling

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There could not have been a better venue for a workshop on heritage documentation than Dunhuang at the historical junction of the Northern and Southern Silkroad. This ancient staging post for caravans on the route between China and Middle East/Europe lies at the border of the Gobi desert and is surrounded by historic monuments and cultural and natural heritage sites.

Holding this workshop in Dunhuang created an interesting link between practice and theory, an interchange of ideas between a major documentation project at the World Heritage Site of the Mogao caves and a group of international experts. The presence at the workshop of members of the Mogao team from the University of Wuhan under Prof Deren Li' supervision made it possible to expose and discuss the Mogao documentation project which must be one of the largest of its kind worldwide.

The workshop, organised by Professors Deren Li from the University of Wuhan and Emeritus Professor Armin Gruen from the ETH Zürich focussed on 3D modelling, one of the most crucial and complex components of state-of-the-art heritage documentation. However a broad range of other topics was addressed during the full program of the two-day work shop. Papers presented were on invitation only and some twenty keynotes and invited papers were presented to an audience of more than 50 delegates from nine countries as well as 20 members of the Dunhuang Academy.



The presented papers covered a wide spectrum of heritage related topics ranging from space born techniques to terrestrial laser scanning, from state-of-the-art acquisition and processing technologies to the presentation and management of spatial data through the internet. The mix of heritage practitioners and data acquisition experts, the presence of data providers and data users, made it possible for the technical experts to inform the conservators and archaeologist about potential and limitations of modern technologies while the heritage practitioners had the opportunity to convey their needs and expectations with respect to spatial documentation of heritage sites.

An interesting aspect of heritage documentation was presented and discussed at the workshop, which specifically arose from the close link between the workshop and the documentation of the Mogao Grottoes with their exquisite Buddhist murals and rock paintings. Documentation of a site of this nature requires the highest quality of photorealistic texturing and special emphasis must be placed on the acquisition of photographic imagery, which in cases like this would appear to be equally if not more important than highest precision 3D modelling. The need to create seamless, colour-perfect images of large complex painted surfaces under

difficult light conditions was addressed in a number of presentations by the Mogao documentation team and excellent results were reported.

The workshop showed the commitment to the documentation of China's heritage with a number of reported examples amongst which stood out the gigantic achievement of the survey of more than 8000 km of the Ming sections of the Great Wall.

Besides the presentations and discussions of Chinese documentation projects a number of field projects and web-based technologies in Europe, South America, South East Asia and Africa were reported.

The workshop continued with two days of technical tours to heritage sites close to Dunhuang. The delegates had the unique opportunity to visit remains of ancient gates or "passes" built to control and protect the trade along the Silkroad, as well as sections of the Great Wall constructed from mud and straw and thus very different from the heavy stone structures which appear in travel brochures. However, the high point of the technical tours was a visit to the Mogao Grottos where delegates had the opportunity to visit some of the finest examples of Buddhist art, a truly unique and unforgettable experience.

The well organised workshop, enhanced by outstanding Chinese hospitality, succeeded in creating lively discussions among experts while exposing international delegates to a fascinating part of China's heritage.

For more details concerning the program see

http://www.casm.ac.cn/dbfile/2011/07/13/2812/20110713_4e1d4699e5843.pdf

The presentations are available through Lily Shi (lilyshi@lmars.whu.edu.cn)

Workshop Sponsors:

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