



Abstract

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General Staff Meeting

Remote Sensing for the Lost Tomb of Genghis Khan

Date: March 3, '09

Time: 2-3pm

Location:

Calit2 Auditorium,
Atkinson Hall

Speakers:

Dr. Ramesh Rao on the State of Calit2

Dr. Albert Yu-Min Lin on the search for the lost tomb of Genghis Khan

The story of Genghis Khan has until now been spliced together through a collection of almost entirely secondary source text. It has become understood that throughout his rule, he had introduced an alphabet and central currency, united a kingdom of warring tribes, and had conquered the majority of the known world creating an influence that stretched from Poland to Japan. Yet the mystery that surrounds his death and burial during the summer of 1227 still eludes the world today.



Albert Lin in Mongolia

The objective of this study is to perform a non-invasive archaeological search for the tomb of Genghis Khan utilizing modern tools from a variety of disciplines, including satellite imagery, human computation, computer vision, and non-destructive geophysical surveying. Large arrays of multi-spectral satellite imagery taken of the identified areas of interest are being analyzed to look for possible anomalies within the vast uninhabited landscape of northern Mongolia. These target spots will be subjected to systematic non-invasive

geophysical surveying, and electromagnetic induction (EMI), magnetometry, and ground penetrating radar (GPR) are the geophysical tools that will be applied. Leveraging super-resolution techniques designed to assemble high resolution, high quality digital images from multiple lower resolution images we hope to contribute to the advancement of these tools.

Calit2's extensive research scope provides the perfect platform for this high-tech approach. Massive-scale visual analytics can be conducted on Calit2's 1/3 gigapixel resolution HIPerSpace display and StarCAVE, while analysis through web-based human computation platforms are being applied to the overwhelming volume of data. By defining the landscape and creating a baseline of information through the noninvasive imaging, we hope to contribute to the knowledge of Genghis Khan and his tomb, which today remains undiscovered, a time capsule into the days of birth of the modern world.

“If the grave exists and if it were ever found, it would create a revolution in archaeology, scholarship, cash-flow and, since China claims Genghis as its own, international relations.”

John Man, "Genghis Khan: Life, Death and Resurrection", Bantam Press, 2004

www.valleyofthekhans.org

www.calit2.net