Satellite imagery used in the search for Genghis Khan's tomb

University of California San Diego (UCSD) research fellow Dr. Albert Yu-Min Lin uses crowdsourced mapping for archeological discovery in Mongolia

In the spring of 2008, Dr. Albert Yu-Min Lin set out to solve an 800-year-old mystery. The University of California San Diego (UCSD) research fellow and DigitalGlobe Foundation grantee initiated a research project using a new, non-invasive approach to search for the tomb of legendary Mongolian leader Genghis Khan.

Featured in the National Geographic Channel's documentary, the "Forbidden Tomb of Genghis Khan," which first aired on Nov. 9, 2011, National Geographic followed Dr. Lin on his archeological expedition in Mongolia where he unveiled recent discoveries. Using high-resolution satellite imagery and noninvasive, ground-based imaging, Dr. Lin's team was able to identify and study dozens of archeological sites, including ancient burial mounds. To support his team's efforts once on the ground in Mongolia, Dr. Lin engaged the "human computation network," a National Geographic Society crowdsourcing project comprised of thousands of "citizen archeologists." Members of the network support Dr. Lin's team remotely by reviewing more 85,000 high-resolution DigitalGlobe images of the Forbidden Zone of Northeastern Mongolia, in real-time, helping Lin's team plot locations where they should investigate.

"Ultra-high resolution satellite imagery has provided a perspective of our Earth that was unimaginable only a few years ago. This project is only a small example of the power of this data revolution. We are now able to map all the various ways in which we interact, inhabit and alter our world. I am grateful for the vision of the DigitalGlobe Foundation in making these valuable resources accessible to advance my research and foster innovation."

—DR. ALBERT YU-MIN LIN

Thanks to Dr. Lin's team accurately marking historical Mongolian locations, officials can now protect these international treasures while preserving the land and its cultural history. Dr. Lin's methodology is summarized in a paper published by the peer-reviewed IEEE journal entitled, "Combining GeoEye-1 Satellite Remote Sensing, UAV Aerial Imaging, and Geophysical Surveys in Anomaly Detection Applied to Archaeology." The main findings were published separately in 2012.

Learn more about Genghis Khan at
www.nationalgeographic.com/explorers/projects/valley-khans-project/

Dr. Albert Yu-Min Lin

DigitalGlobe satellite image of the Mongolian archeological site