Digital Archaeological and Historic Landscapes: Laboratory and Fieldwork

Reconstructing Vulci | Information, Society and Culture
Katherine McCusker | Art History/PhD Program
Nevio Danelon | PostDoc

Project summary: Vulci 3000 is a multidisciplinary project of archaeological research, training, and digital communication focused on the Etruscan site of Vulci (Italy).

PROJECT OBJECTIVES
• Create environmental reconstruction of ancient landscape of Vulci
• Use paleo-environmental analyses to show the articulated relationships between the city context and surrounding landscapes
• Encourage people to explore the past by using modern technologies

METHODOLOGY
This project collected and processed raw data, which was then used in conjunction with an investigation (through archaeobotanical scholarship) of environmental conditions in the Mediterranean around the 3rd century B.C to reconstruct a possible landscape of ancient Vulci.

DATA COLLECTION
• Geophysics
  • Magnetometry
• Remote Sensing:
  • Ground Penetrating Radar
• Terrestrial Laser Scanning
• Satellite Imagery
• Photo Interpretation
  • Historical Aerial Photography
  • Drone Photogrammetric Surveys

DATA PROCESSING
• GIS- Vulci Geodatabase
• Structure From Motion (SFM) techniques
• Multi-Spectral Analysis
• Point Cloud Processing
• 3D Modeling (Unity 3D)

DATA VISUALIZATION AND DISSEMINATION
• GIS Webserver
• Stereoscopic displays (Occulus Rift, zSpace)
• CAVE Virtual Environments
• Augmented reality

CONCLUSIONS AND EXPECTATIONS
This ongoing project will provide an archaeological and landscape context for Vulci. Only in stage one of three, this preliminary research shows the great potential for dissemination of archaeological research to the public through digital visualization. The next stage will include more on-site data collection as well as further analysis.