



## Emerging Technologies for Cultural Resources

### Seminar Overview

Review best means of integrating new technologies with existing CRM practices as they relate to the documentation, preservation, and/or creative mitigation of cultural resources. Learn about the use of unmanned aerial vehicles (UAVs or drones), digital documentation (photogrammetry), and virtual reality (new media methods). Discuss ways to integrate these technologies with more familiar forms of technology, such as geographic information systems (GIS), and explore how information gathered can be used for public outreach.

### Agenda

#### UAVs for Heritage

The use of drones for CRM has dramatically risen in recent years. This includes the collection of high quality aerial photography to assist with spatial analysis and contextualization of study areas.

- Introduction to unmanned aerial vehicles (UAV) for heritage work
- Examples of potential work
- Best practices for collecting useful information

#### Digital Documentation of Heritage Resources

Examine how digital documentation of objects and structures can be conducted through the use of photogrammetry, a cost-effective alternative to 3D laser scanning, without sacrificing data quality or level of detail.

- Introduction to low-cost documentation solutions, photogrammetry
- Best practices for collecting, processing, and sharing digital documentation
- Integrating photogrammetry into preexisting workflows (e.g., HABS/HAER/HALS)

#### Digital Heritage

These technologies support both various forms of scientific analysis and emerging practices in creative mitigation of sites. An overview examines how virtual reality can combine geospatial data and digital documentation to bring historic sites to life for the public.

- The growing role of 3D modeling and virtual reality in CRM
- Digital heritage as creative mitigation
- Best practices and free resources for digital heritage (e.g., software, workflows)

#### Integrating Emerging Technologies with Geographic Information Systems (GIS)

The 3D models created through photogrammetry can also be analyzed via GIS.

- UAV aerial imagery to support geospatial analysis and visualization
- Working with photogrammetry data inside a GIS
- Using real-world data to inform virtual reconstructions of heritage resources