

#### 4.2.1

### LiDARchaeology: Using New Technology to Discover Old Sites and Assist the CRM Process.

#### **Presenter**

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#### **Co-Presenters**

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The Kentucky Transportation Cabinet (KYTC) has a long history of utilizing GIS. Recently, KYTC invested as a partner in a statewide LiDAR and aerial photography program to help support project development. A surprising benefit to the investment has been KYTC archaeologists' use of LiDAR and other remote sensing data, to minimize cultural resource issues in the project development process. LiDAR can provide archaeologist a powerful tool to quickly detect prehistoric earthworks and mounds, however, it is not a panacea. Two sites (Portsmouth Earthworks in Greenup County and the Mount Horeb/North Elkhorn earthworks and village in Fayette County, Kentucky) are used as primary test cases to examine the methods and their strengths and weaknesses. These new technologies are helping archaeologists work toward proactive methods that will allow projects to progress in a more efficient and cost effective manner. Additionally, communicating these findings to project teams have sparked new applications in the larger transportation management process, and led to benefits for public engagement and education.

#### **Bio(s):**

Will has over 17 years of GIS experience in the public and private sectors. He is the GIS Branch Manager for the Office of Information Technology at KYTC. He is a recovering archaeologist with a Masters and some PHD work from the University of Kentucky.

Edward R. Henry is a Ph.D. student at Washington University and an adjunct research assistant at the University of Mississippi's Center for Archaeological Research. He has published on geophysical survey and excavation of Middle Woodland earthworks in Kentucky and sociopolitical development among Early and Middle Woodland peoples in the Ohio Valley.

Stuart Nealis is a PhD candidate and Research Assistant at the Department of Anthropology, University of Kentucky. His research focuses on Middle Woodland Earthwork Construction in North America, with specific interests in remote sensing and geospatial analysis.