

## **DECIPHERING AND DOCUMENTING DESTRUCTION WITH GIS: METHODS OF DIGITAL EXCAVATION AND DOCUMENTATION AT TEL BETH-SHEMESH, ISRAEL**

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Destruction levels are an important source of archaeological information since they normally conceal a large array of finds. Thus, destruction debris are usually cleared away in order to access artifact bearing floors. However, application of GIS-based procedures to excavation of destruction debris enables meaningful insights concerning the construction of the ruined building, as well as the process of its destruction, and allows its visual reconstruction. This paper presents such an innovative approach developed and exercised by our team in the current excavations at Tel Beth-Shemsesh, Israel.

Tel Beth-Shemesh is a major Bronze and Iron Ages site, The study of the site focuses in recent years on the Late Bronze II fully developed and rich city. A massive destruction layer dating to mid-14<sup>th</sup> century BCE was found covering a large public edifice – probably a palace. Comprised of a mass of dozens fallen mud bricks, the destruction debris were meticulously excavated and digitally documented through GIS-based procedures. Data collected about the mud bricks, their spatial positioning and distribution within the debris allowed the understanding of the destruction mechanics, and the construction of two- and three-dimensions visualization models of the building's rooms before their collapse. The GIS-based documentation and models enabled the preservation of information usually removed during the excavation, and allowed for a virtual repeating of the excavation process.