

**Brief bio:**

Dr. W. Brent Seales is the Stanley and Karen Pigman Chair of Heritage Science and Professor of Computer Science at the University of Kentucky. He earned a Ph.D. in Computer Science at the University of Wisconsin-Madison and has held research positions at INRIA Sophia-Antipolis, UNC Chapel Hill, Google (Paris), and the Getty Conservation Institute.

The Heritage Science research lab (EduceLab) founded by Seales at the University of Kentucky applies techniques in machine learning and data science to the digital restoration of damaged materials. The research program is funded by the National Science Foundation, the National Endowment for the Humanities, the Arts and Humanities Research Council of Great Britain, the Andrew W. Mellon Foundation, and Google.

Seales is a co-founder of the Vesuvius Challenge, an international contest formed around the goal of the virtual unwrapping of Herculaneum scrolls. He continues to work with challenging, damaged material (Herculaneum Scrolls, Dead Sea Scrolls), with notable successes in the scroll from En-Gedi (Leviticus), the Morgan MS M.910 (The Acts of the Apostles), and PHerc.Paris.3 and 4 (Philodemus / Epicureanism). The recovery of readable text from still-unopened material has been hailed worldwide as an astonishing achievement fueled by open scholarship, interdisciplinary collaboration, and extraordinary leadership generosity.

**Talk Title:**

Accelerating Science and Learning, Part 2: The Breakthrough and the Next Stages in the Digital Restoration of Damaged Historical Material

**Abstract**

This talk continues the story of virtual unwrapping with a victorious return to the stage at ISGC 2024. Last year we predicted an unprecedented breakthrough with the help of an international competition called the Vesuvius Challenge. This talk will fulfil that promise and describe how we have captured the imagination of a diverse, global audience, through the virtual unwrapping of one of the iconic scrolls from Herculaneum. Aligned with the theme of ISGC, I will describe the crucial role that cloud computing has played in the application of computationally intensive AI techniques applied to this problem at scale within the competitive scheme of the Vesuvius Challenge. I will conclude by revealing the upcoming

activities we are planning in order to deliver a corpus of material from the ancient world that stands to be the largest revelation of classical material since Italian Scholar and Renaissance Humanist Poggio Bracciolini was rescuing manuscripts in 1416.