Archimedes’ Oldest Writings under X-ray Vision

Abstract
Archimedes of Syracuse (287 – 212 BC) is considered one of the most brilliant thinkers of all times. The 10th century parchment document known as the Archimedes Palimpsest is by far the oldest surviving copy of works by the Greek genius. More importantly, it is the unique source for three of his treatises – the Stomachion, and The Method of Mechanical Theorems, and the Greek version of On Floating Bodies. The privately own palimpsest is the subject of an integrated campaign of conservation, imaging, and scholarship being undertaken at the Walters Art Museum in Baltimore. Much of the text has been imaged by various optical techniques, most notable multispectral imaging, but significant gaps in our knowledge of the writings of Archimedes remained. Large parts of these missing writings were recently brought to light at SSRL by using rapid-scanning x-ray fluorescence imaging (XRF). In particular, the XRF technique was able to produce maps of the iron in the faint traces of the partly erased ink. The x-ray images revealed Archimedes writings from some of his most important works covered by 12th century biblical texts, mold, and forged gold paintings. The findings have made significant contributions to a better understanding of Archimedes’ concepts and methods.

Please join me in a fascinating journey of a 1000 year old parchment from its origin in the Mediterranean city of Constantinople to an x-ray beam line at the SLAC National Accelerator Laboratory in California.

Refreshments at 3:30 pm