

ADVENTURES IN DIGITAL ARCHAEOLOGY & OPEN ACCESS ANTIQUARIANISM

July 14, 2014 AshMRichter Day of Archaeology, Day of Archaeology 2014, Digital Archaeology, Education, Experimental Archaeology, Italy, Public Archaeology 3D printed archaeological artifacts, 3D printing, Adventures in Digital Archaeology, Anthropology, Antiquarian, archaeological technology, Archaeology, armchair archaeology, art, artshow, Ashley M. Richter, Baptistery of St. Giovanni, Baptistery of St. John, Calabria, Center of Interdisciplinary Science for Art Architecture and Archaeology, CISA3, cyberarchaeology, digital archaeological technology development, digital archaeology, digital heritage, Facebook, Faynan, Florence, Imaging, Italy, Jordan, Kickstarter, laser scanning, layered multi-spectral imaging, LiDAR, LiDAR fabric, Open access, Open Access Antiquarianism, Palazzo Vecchio, sandcastles for science, Science, Technology, technology development, technology for archaeology's sake, technology for art's sake, UCSD, University of Calabria, University of California, University of California San Diego, Vid Petrovic



Ashley M. Richter in front of one of the UCSD Calit2 visualization walls and my layered realities conceptual graphic for digital archaeological technology development and use.

It's funny how quickly time passes while studying time.

Two years ago, this weekend was spent with a laser scanner at the beach.

I'd finagled a mini-grant from the National Science Foundation for a project I like to call [Sandcastles for Science](#), but whose full un-pronouncable name identified it as a project to test out laser scanning capabilities for handling the imaging resolutions of stratigraphic sediment on archaeological sites (see—even that was a mouthful).

As a graduate student at the University of California, San Diego, the beach was the nearest easy access place to play in the dirt and provided a perfect venue to open up the experiment to local kids and unsuspecting beach-goers who accidentally volunteered themselves for mini-science bootcamp. Willing audiences who would build me data castles, while my research assistant and I exposed them to archaeology, beach physics, the history of castles, laser scanning, sea-shell collecting, and all the other educational topics we could cram into our construction schpeals and posterboards. I like archaeological education outreach, so sue me. It gets written into almost every one of my projects somehow.

Sandcastles for Science was ultimately prep-work for a two month field season in Jordan, laser scanning sites in [Faynan](#) (and yes, even scanning [Petra](#) for one glorious day), as well as for a lovely bit of software development on visualizing temporal sequences in point clouds with one of my fabulous computer science colleagues.



The Leica Scanstation looming over its sandcastle victim at the beach.

Last year, this weekend was spent in a frenzy of data digging and labwork

My team needed to pull together presentations for Italian officials to approve the Center of Interdisciplinary Science for Art, Architecture, and Archaeology's upcoming field season at [Palazzo](#)

Vecchio and the [Baptistry of St. John](#) in Florence, and a bevy of lovely sites in [southern Italy](#) with a team from the [University of Calabria](#).

So it was a weekend slogging through back-data of point clouds from the Hall of the 500 in Palazzo Vecchio, emphasizing the layered multi-spectral imaging into the model, and how it definitely showed the cracks conservators needed to track to create preservation solutions, and how it maybe had a hidden Da Vinci lurking behind one of its walls. It was a weekend of lists for the upcoming season, of site logistics, and Italian language lessons (team lessons with an instructor + DuoLingo = a surprising amount of success once we hit Italy for the two month madcap field season that was my fall of 2013).

And if you'd like to check out more pics and details of my wonderful and ridiculous work for a once-promising academic something, scope out my scrapbook blog [Adventures in Digital Archaeology](#).



The CISA3 diagnostics team at Palazzo Vecchio after successful conservation imaging.



The Faro Focus and I about to image the exterior of the Baptistery. Note that I literally only seem capable of this one jaunty pose with a laser scanner. I desperately need to start doing something different in field propaganda photos.

But this year, this year was spent online- in a flurry of creative archaeological energy

This summer, I find myself graduated and out on my own, free to pursue my own projects, safely away from the boundary lines of academia and the rather unhealthy environment I had found myself in for a big chunk of this year.

Pulling ourselves back together, my favorite research colleague Vid and I cooked up a delightful dish that brings together all the digital archaeology flavors we'd been prepping before, but as part of a much grander and more colorful feast.

And so this weekend was spent running down the final lists of photographs, video media, and writing that needed to coalesce together into the FIRST archaeological technology driven [Kickstarter](#).

Mushing together the laser scanning, point clouds, 3D models, and 3D printing, our project, [Open Access Antiquarianism](#), proposes the construction of art exhibit built from re-purposed cultural heritage data using

the digital visualization pipelines my colleague and I have been building to handle archaeological data.

A blend of **3D printed archaeological artifacts**, furniture upholstered in fabric printed with archaeological LiDAR (literal **armchair archaeology**), interactive point cloud visualizations and other such extravagant re-workings of scientific data from open archives, the Cabinet of Curiosities Open Access Antiquarianism proposes offers an excellent opportunity to continue streamlining the point cloud and 3D modelling methodologies we'd been playing with for so long, while reaching a much much larger audience.



The Main Page of the Open Access Antiquarianism Project Website

Because the larger global community needs to be engaged in the increasingly complicated discussions regarding ethical implementations of digitization and open access of tangible and intangible cultural heritage. The public (and archaeologists themselves) need to understand the desperate desperate need for interdisciplinary and collaborative work and move away from the academic politics and needless power-plays that constantly bog such wonderful creative enterprises down. Archaeologists need to work more closely with technologists and engineers to develop useful and adaptable systems that preserve the past for the future (and often simultaneously end up building the surveying systems needed for the space-age future we all envision).

And the public needs to be aware of the wealth of data that is available to them in the increasingly larger and more wonderful online archives of museums and government institutions all over the world. The past has the potential to become increasingly and excitingly ubiquitous and something that plays a much stronger role in one's everyday conception of time and space. It's getting all wibbly wobbly timey wimey and the doctors of archaeology ought to be actively on the hunt for more and more Companions. Studying the past is no longer something that need be done by experts alone. In fact, we are drowning under such an avalanche of data, that it is imperative that more crowd-sourced archaeological ventures be launched to bear the brunt of analyzing everything that is already stacked up in the university basements of the world, let alone the incoming finds. Archaeologists can stay experts, but that doesn't mean we shouldn't be able to talk to the public and engage them more actively in what we're up to.

Enthusiasm should count more than correct use of erudite jargon. Even to those hipster archaeologists out there.

In some small artistic way, the [Open Access Antiquarianism](#) project would like to address all of these things, while expanding the research and technological collaborative possibilities to continue refining the much needed digital pipeline that takes things from the field through processing, archiving, studying, and out to engagement.

My collaborative and interdisciplinary digital archaeology and outreach isn't the traditional archaeology. But it's my archaeology. And more than that, it's an archaeological practice of hope. Hope that archaeology will fully embrace the increasingly digitized and interdisciplinary future. Hope that archaeology will not fall prey to over-specialization and tenure. Hope that archaeologists will continue to try to document and in some small way understand the past, so that we can help make vital statistically based decisions for the future. Archaeology has such potential to aid technology development and global ecological policy, if only us archaeologists would reach out and grasp it instead of assuming it will fall into our laps.

If you're intrigued/dismayed/excited/furious/amused or any one of the wonderful and ridiculous emotions human beings are capable of, please check out [Open Access Antiquarianism on kickstarter](#) and on [Facebook](#). We'd love your support, and if you love our concepts about tech development, archaeology, and art as a research and outreach driver, perhaps your collaboration as well. Get in touch!

To the erudite young men and women a-sitting on a-tell: may your trowels be ever muddy and your point clouds free of shadows.

Acres and acres of happy wishes to all the archaeologists of the world,

[Ashley M. Richter](#)



One of *the Open Access Antiquarianism Medaillions* we've designed as part of the *Kickstarter reward* campaign.