

New Technology for Old Fossils

- Dr. Matt Tocheri: 00:02 In my research, I use a host and a range of scanning technologies. And by that I mean, everything from laser scanners to CT scanners, to MRI. Basically, data that's acquired using advanced technology, but what it does is it translates the information about the object into a digitized form. So, I can pull it up on my computer, I can spin it around. I can take measurements in ways that I can't do on the actual object. And so it really is a liberating ability to be able to then take more measurements from the scans without having to handle the object itself anymore. (00:39) And in my research, I use it extensively. Essentially what happens is as the laser goes across the surface, a sensor captures that information of where the laser is contacting the surface. And from that, it translates that information into a digital model, so that we essentially create a digital cast of the object that then we can have inside the computer. And when that object has to go back away, or even in some cases back in the ground, we still have a full three-dimensional copy of it. And that's a phenomenal tool for research and education.
- Dr. Rick Potts: 01:12 We actually have a scanning electron microscope or SEM. And so we're able to prepare the specimens, the bones that we want to look at, or the edges of stone tools that we want to look at. And we're able to then take the molds and casts of those and the powerful scanning electron microscope sends electron beams over the edges of those things over the surfaces, and able to create just these beautiful images at high microscopic power.
- Dr. Matt Tocheri: 01:38 With laser scanning, it essentially just captures the outer surface, because the laser can't see inside the bone, whereas CT scanning actually sees inside the bone as well. So they're complementary technologies. Paleoanthropologists, we use whatever is available to us. And whether that happens to be a dental pic, or your bare hands at times to the most expensive technological equipment out there, anything that can help address a question is useful. And especially if it can help address the question in a new and novel way, then you can bet an

anthropologist is going to try and get their hands on it, to do it.

[Return to the web page for this video, "New Technology for old fossils"](#)