

# Personal Profile: Amanda Ndemo Archeological Accessibility through 3-D Laser Scanning

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*Name: Amanda Ndemo*

*Project: "Visual Palaeoanthropology: The Use and Benefits of Three Dimensional Laser Scanning in Bioarchaeological Studies."*

*Program: Honors Summer Undergraduate Research Program – VCU Honors College*

*Mentor: Ramana Pidapart, Ph.D*

*Year: Senior*

*Major: Anthropology*

The familiar signs that chide visitors to refrain from touching historical artifacts in museums would have no place in Dr. Bernard Means' Virtual Curation Laboratory. Thanks to the innovative, fast-paced world of 3-D scanning, senior Amanda Ndemo had an archeological site at her fingertips, all while staying in Richmond for the VCU Honors Summer Undergraduate Research Program (HSURP).

Ndemo is working towards an Anthropology major and Spanish minor, with a pre-medical concentration. "I've been doing a lot of stuff that was just based on the medical field," said Ndemo. "I am going into medical anthropology, but I wanted to stick to my major for my last year."

Her curiosity in research piqued while attending the class of Means, an instructor in the School of World Studies and Director of the Virtual Curation Lab. "Dr. Means would talk about 3-D scanning in class and bring in little artifacts for us to see," said Ndemo.



Means serves as a strong advocate for undergraduate research. "I can't not incorporate research into my teaching. I update my lectures with cur-



rent research...I give students the option to do research in my upper-level classes...they have a wide latitude.”

The HSURP program provided Ndemo with an avenue to pursue her major while also supplying Means with eager, proactive students. For two months, Ndemo assisted the Virtual Curation Lab by creating tangible and concrete portrayals of significant artifacts, making them accessible to researchers and educators around the world.

“Most of the time, the biggest issue is accessibility,” said Ndemo. “Travelling to sites and actually getting your hands on the artifact can be difficult, so by creating a virtual representation of that, you kind of cut that all out.”

Means takes the realistic desires of Anthropology students and merges them with reachable opportunities. “Everybody in archeology wants to go to Egypt, and then they realize they’re not going to Egypt. It’s challenging for VCU students, even with all the opportunities given to them, to find the time and the money,” he said.

His proposed research project in the lab bestowed hands-on experience to Ndemo. “My job is to photograph objects that have been loaned to us... scan them, and do the editing,” Ndemo explained. Her duties to replicate artifacts, such as hominid skulls, through 3-D scanning, took different routes. “You can do a video format...or you can put it on a platform, and use the cursor to rotate the object,” she said.

The skills are transferable. Means reported, “She’s [Ndemo] doing an honors thesis. She’s going forward with our project and focusing more on animal remains.”

The art of the 3-D scanner posed no hindrance to Ndemo. “The faculty made it easier for us because they created videos and entire methodology of the scanning process and editing process. A new learner could probably pick it up in a week,” said Ndemo.

Though the clarity given by professors helped Ndemo, her self-motivation drove her tasks. “I have to do a lot of online research on my own time.

Most of the time, I'm looking at the projects that others have done within their fields to find methodology of something someone else has created."

The connection among scholars within the archeological field showcased the versatility of the field. Archeology is not limited solely to archeologists and anthropologists. "We use archeology today to encourage people not to think just about the past, but about human relationships. We're always trying to get people who are interested in STEM; the 3-D scanning project is a way to do that," Dr. Means noted.

As a pre-medical and Anthropology student, Ndemo fit the bill. The mentor-mentee dynamic between Ndemo and Means evoked creative expression and open communication. "I feel like I have improved my writing skills and my critical thinking," said Ndemo. "It's hard to do that within the system. A teacher talks to you, you take a test, and you don't really get to talk about your opinions on things. So, getting a one-on-one relationship with a teacher through HSURP is just great."

The mutual appreciative feeling made the lab thrive. "For me, student involvement is critical because it would take a thousand years to do all the research I'd like to do. The nice thing is, if I'm interested in a question, I can have students explore the question as well as have the students come up with their own research projects," Dr. Means noted.

Ndemo and Means both plan to continue with their research, supported by the 3-D scanning fundamentals practiced within Ndemo's research assistance.