# White Paper

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Institution: University of Massachusetts, Amherst
Project Title: Advanced Challenges in Theory and Practice in 3D Modeling of Cultural Heritage Sites
Project Director: Alyson Gill (University of Massachusetts, Amherst)
Co-Project Director: Lisa M. Snyder (University of California, Los Angeles)

# Narrative Description

The NEH Advanced Topics in the Digital Humanities Summer Institute, was co-hosted by University of Massachusetts Amherst and UCLA, and was convened to consider advanced problems and issues facing scholars working with 3D content with an emphasis on the end user experience. In June 2015, participants gathered for a week at UMass Amherst to discuss key issues and challenges with institute faculty, and define research questions for exploration in 2015/2016 academic year. In June 2016, participants presented their findings at a three-day symposium to be held at UCLA. The 2015 Institute at UMass Amherst was discussed in the Semi-Annual Performance Report. The current report covers the June 2016 symposium and later associated activities.

## 2015 University of Massachusetts, Amherst Summer Institute

The first year of the two-year Institute was held at UMass Amherst from June 21-28, 2015 with some variations to the schedule outlined in the original proposal due to changed location and lecturer availability. (Appendix A: Final Detailed Schedule)

## Stipends/Housing/Travel

Participants were given several housing options, and the majority chose to stay in the dorms at UMass. All those who stayed in the dorm had their housing costs deducted from the stipend checks so that they would not need to pay for those costs up front. All lecturers, with the exception of one who stayed at the Lord Jeffrey Inn, were housed at the Black Walnut Bed & Breakfast. Airport transfers were included for all participants and lecturers.

## 2015 NEH Institute (UMass)

The summer institute was planned for twenty one (21) participants and daily speakers. The mornings were reserved for presentations and discussions and the afternoons for lab work and additional discussions. Colleagues from around Amherst and the Five Colleges were also encouraged to attend the morning presentations.

The goals of the institute were to:

- Build a sense of community amongst scholars working with 3D content;
- Help project participants develop their research ideas and plan their projects;
- Identify compelling research questions and that plague academics working with 3D content (the key is identifying challenges that are critical to overcome and the analysis of which will benefit the 3D community);
- Identify possible projects and/or prototypes that will explore these issues;
- Identify possible taskforces for critical action items;
- Assign research questions to participants for development over AY 2015-16;
- Plan bounce-back symposium for Summer 2016;
- Facilitate group publication;
- Consider grant opportunities that advance 3D content;
- Identify ways to integrate 3D content into pedagogical practice; and

- Create useful web resource for scholars working with 3D content (e.g., discussions about best practices, etc.)

Insofar as possible, the participant presentations in the afternoons were linked thematically to the morning presentations.

## Assessment (Appendix B: UMass Assessment)

Following the 2015 Symposium, participants were asked to complete a survey in which they were asked two sets of questions. In the first they were asked to indicate how important they thought the specific goals that the 2015 Institute were to the 3D scholarly community, and in the second they were asked to indicate how successful they felt that the Institute was in either achieving or making progress towards that goal. 25 participants responded, and the results were as follows:

I. Importance of goal to the 3D scholarly community:

1. Build a sense of community amongst scholars working with 3D content. 87% Very Important, 13% Somewhat Important
2. Help scholars develop their research ideas and plan their projects. 82.6% Very Important, 17.4% Somewhat Important
3. Identify compelling research questions that plague academics working with 3D. 87% Very Important, 13% Somewhat Important
4. Identify possible projects/prototypes that will explore these challenges and/or issues. 78.3% Very Important, 21.7% Somewhat Important
5. Identify ways to integrate 3D content into pedagogical practice. 73.9% Very Important, 26.1% Somewhat Important

II. How successful participants felt the Institute was in achieving/making progress towards that goal:

1. Build a sense of community amongst scholars working with 3D content. 87% Very Successful, 13% Somewhat Successful
2. Help scholars develop their research ideas and plan their projects. 56.5% Very Successful, 43.5% Somewhat Successful
3. Identify compelling research questions that plague academics working with 3D. 91.3% Very Successful, 8.7% Somewhat Successful
4. Identify possible projects/prototypes that will explore these challenges and/or issues. 39.1% Very Successful, 52.2% Somewhat Successful, Somewhat Unsuccessful 8.7%
5. Identify ways to integrate 3D content into pedagogical practice. 39.1% Very Successful, 52.2% Somewhat Successful, 8.7% Somewhat Unsuccessful

When asked if participation in the Institute had changed their thinking about their own scholarship, 47.8% (n=11) said that it had substantially changed their thinking, while 39.1% (n=9) said that it had somewhat impacted their thinking. 13% (n=3) said that it had not. Some comments in this section included, "Due to constant time constraints of being a faculty member, my work on my project is most frequently done on an ad hoc basis, finding small amounts of

time to work, with the consequence that thinking about long-term strategies and resource needs often get pushed to the side. This institute allowed me the time, interaction, and support to think at a larger scale and focus on the big issues the project will face." "I have been involved for many years in the field of digital humanities/heritage and thus most of the things discussed - although extremely valuable - have been also discussed in the past in other institutes, round tables and conferences. It was great to see how colleagues from different disciplines approach major issues in digital cultural heritage. Although the latter didn't change my thinking of my own scholarship it was a great starting point to revisit some of my research and practices."

Participants were asked to rate the quality of several Institute components on a scale of Very Good to Very Poor.

- Pre-Institute Information (59.1% Very Good, 36.4% Good, 4.5% Neutral)
- General Coordination (90.9% Very Good, 9.1% Good)
- Facilities (90.9% Very Good, 9.1% Good)
- Lodgings (4.5% Very Good, 36.4% Good, 45.5% Neutral, 13.6% Poor)
- Food/Refreshments (59.1% Very Good, 36.4% Good, 4.5% Neutral)
- Participant remuneration process (45.5% Very Good, 40.9% Good, 13.6% Neutral)
- Informal Activities (63.6% Very Good, 31.8% Good, 4.5% Neutral)

Participants were asked if they wanted to share additional comments with the NEH. While the complete list of responses is included in Appendix B: UMass Assessment, comments included: "I truly appreciate the collaborative spirit they helped shape for the Institute. It was an intellectual exchange in which participants could actively engage one another rather than passively receive information. I also really appreciate the balance between senior and junior scholars. Also, the continued support from CESD and access to UMass maker bots between the next session is unbelievably generous. That along with the forum on the website makes me feel very supported and not isolated." "The institute was well-organized, informative, diverse, and employed different strategies to engage participants from various disciplines. I particularly enjoyed the hands-on sessions, but would like to emphasize has they not followed the lectures/discussions they would have been less useful and thought-provoking (so I am happy for the organization structure you had). I think some down time to work on projects (perhaps one hour on days 3-5) would have been quite useful to give participants some time to process all the materials we were presented and the software with which we worked. The 40 hours from CESD of technical support is amazing and I am very thankful for this generous assistance. In fact, working on the CESD proposal was quite challenging, however it truly helped me to narrow my focus and objectives for my project. Finally, the selection of participants was spectacular. Everyone's contributions were though-provoking and the variety of scholars brought new insights to the institute and to my own wok with 3D content for Cultural Heritage."

## CESD Support

The University of Massachusetts, Amherst Center for Educational Software Development (CESD) provided key support throughout the year to NEH summer scholars. CESD began their support of summer scholars with programming hours immediately following the end of the 2015 Institute.

In February 2016 all scholars were contacted to make sure that they were receiving the support that they needed. One scholar waived support, and his programming hours were reallocated to others who needed more than the allowable 40. (Appendix C: CESD Support)

## 2016 UCLA Symposium

The 2016 symposium was held at UCLA from June 20-23, 2016 and was centered around several clearly articulated goals, with the intention being 1) to clearly articulate the challenges facing researchers integrating 3D tools and methods into their scholarship, 2) to outline key questions and new lines of inquiry for future investigation, and 3) to develop actionable recommendations to position 3D work as a valid – and viable – mode of knowledge production. In the final session of the 2015 Summer Institute at UMass Amherst, participants generated a list of topics related to 3D research that they felt would be important to re-visit as a group when we re-convened in 2016. Over the next few months after leaving Amherst, participants prioritized the topics and finalized a list of six that they, as a group, considered to be of vital importance for their scholarship: metadata; publishing 3D work; sustainability, preservation, and forward migration; the technology learning curve and infrastructure for collaboration; promotion and tenure; and funding.

Dr. Snyder developed position papers on each of the topics in consultation with her co-director Alyson Gill, Institute faculty and invited discussants who included:

- Erik Champion (Professor of Cultural Visualization in the School of Media, Culture and Creative Arts at Curtin University, Perth, Australia);
- Henry E. Lowood (Curator for History of Science & Technology; Film & Media Collections, Stanford University Libraries);
- Diane Favro (Professor, Department of Architecture and Urban Design, and Associate Dean of Academic Affairs, UCLA School of the Arts and Architecture);
- Chris Johanson (Assistant Professor, Department of Classics, and Director of RomeLab);
- Bernie Frischer (Professor of Informatics at Indiana University, and Founding Editor of Digital Applications in Archaeology and Cultural Heritage),
- Neil Christensen (Director, Digital Business Development, UC Press),
- Friederike Sundaram (Acquisitions Editor, Stanford University Press),
- Anna Bentkowska-Kafel (Vice-Chair of the COST Action on "Colour and Space in Cultural Heritage"),
- Willeke Wendrich (Professor, Near Eastern Languages and Cultures, and Director of both UCLA's Center for Digital Humanities and the Cotsen Institute of Archaeology), and
- Jennifer Serventi (Senior Program Officer, National Endowment for the Humanities).

The position papers were distributed prior to the discussions and posted in a password-protected forum on the Advanced Challenges website along with selected readings. (Appendix D: Position Papers) During the Institute, an hour and a half was devoted to each topic. The sessions began with a brief overview by one of the co-directors, comments from Institute faculty either physically in the room or joining remotely, and then the topic was opened up for discussion. At the conclusion of each session, a list of action items related to the topic was

developed and later distributed to the participants. These action items ranged from the simple to the incredibly complex and nuanced. Across the six issues, a total of 38 action items were identified, and divided into four categories based on ease of fulfillment that ranged from items that could be completed in a week to those that would require years of effort and negotiation. A final category was added for items intended to build community. Sixteen of the items are relatively simple to accomplish – things like 'sharing links to known promotion and tenure guidelines,' 'organizing a panel at – fill in the blank – academic conference,' and 'mentor colleagues as much as possible.'

### *Metadata*

The conversation focused on both the metadata that can make 3D content discoverable and linkable through libraries and archives, and the information required within or associated with a 3D model in order to make it a usable (and re-usable) research and learning object. Explicit in the discussion was the need to establish agreed-upon standards for 3D content so that it can be cited and linked to similar work (i.e. aggregated on sites like Europeana and eventually DPLA), peer-reviewed, re-used by secondary scholars, and positioned for long-term sustainability and preservation. The critical action item for this topic was to 'create a simplified CIDOC-CRM worksheet [for 3D content] and develop an education campaign to promote its use.'

### *Publishing 3D Work*

The long-term goal of this discussion was the acceptance of computer models and digital work that involves 3D content as a new form of knowledge production and publications in their own right, either as short-form arguments (i.e., article equivalents) or long form publications (i.e., monograph equivalents). The position paper identified a number of challenges including, but not limited to, the plethora of 3D projects and their technologies (in which 'publishing' is not one constant); challenges to embedding the academic argument into the 3D form (as opposed to making the model a secondary element to a textual argument); finding a publishing house willing to accommodate 3D content and confer it with their imprimatur; identifying a stable platform for dissemination; developing standards for peer reviewing 3D scholarship; and overcoming the inherent technical challenges. This topic prompted a number of long-term action items including 'identify or develop places to publish 3D data,' develop summary information on the publication prototypes currently in development,' articulate the requirements of a good scholarly model and a good cultural heritage model (if those two things are different),' and 'articulate what constitutes best practices for peer review of 3D work.'

### *Sustainability, Preservation, and Forward Migration*

Broadly speaking, this topic focused on long-term access and reuse. In this context, 'sustainability' referred to the long-term life of the digital project deliverables and/or assets (e.g., a model, a website, an experience, raw work files, software, supplementary files, etc.) as opposed to funding (i.e., a sustainable funding model for continued research). 'Preservation' referred to the long-term care of the digital deliverables in an institutional archive or similar in keeping with the definition offered by Jones and Beagrie (2001): "the series of managed activities necessary to ensure continued access to digital materials for as long as necessary." 'Forward migration' referred to the very specific campaign required to keep digital deliverables

accessible and usable as intended by their creators (either in their native environment or through emulation).
The long-term action items in this category require a cohesive community of 3D scholars and include:

- 'articulating long-term preservation needs for those working with 3D,'
- 'developing a typology of 3D work'
- 'articulating sustainability and preservation differences between the major 3D types'
- 'developing best practices documents for preservation standards across 3D types that is aimed at creators,' and
- 'defining best practices/schemas for librarians and cataloguers in regards to 3D work and related software.'

### *The Technology Learning Curve / Infrastructure for Collaboration*

In this session, discussion focused on the technological challenges of 3D work and difficulties related to software access. There are hundreds of possible modeling programs, technologies, interfaces, and dissemination platforms from which to choose, each with its own strengths and weaknesses. While there are exemplars, there is no 'industry standard' for these types of interactive cultural heritage visualizations, so each project team must grapple with the technology question anew. Additionally, academics working with this form of 3D have little community support. They are oftentimes isolated within their disciplines, with little opportunity for interaction with their 3D peers. The action items for this session included 'establishing partnerships with other groups to create open source tools,' and 'developing and promoting educational materials about commonly used software and workflows so that researchers can make informed decisions.'

### *Promotion and Tenure*

This session focused on the acceptance of 3D work as viable scholarship and work product, and the challenges the participants have faced within their own disciplines. Depending on the situation, moving past this obstacle may require changing attitudes at a disciplinary level by educating colleagues and administrators about the process and the scholarship involved in 3D research, and building arguments for acceptance of the work as a new form of knowledge production. While the wide variety of 3D technologies fosters innovation and experimentation, it confounds efforts to educate colleagues about the importance of this work. There are now a significant number of guidelines for the evaluation of digital work including those from the American Historical Association (AHA), the Modern Language Association (MLA), and the College Art Association (CAA). There are also guidelines from individual institutions including Texas A&M (authored by Laura Mandell), the University of Nebraska-Lincoln, and the University of Florida. 3D work is particularly problematic because the digital output is light years away from a linear text.

### *Funding*

3D projects face significant funding challenges as they tend to be very expensive and time-consuming. As with all digital humanities projects, moving forward grant by grant is inefficient,

institutional support for this type of work is uneven, and a reliance on student labor is not a tenable solution. While each project is unique, and their level of complexity ranges from classroom exercises built with free software to large-scale, multi-institutional reconstruction projects intended for public dissemination, the costs associated with bringing a 3D project to successful completion fall into eight basic categories: project staff, research, lab space, hardware, software, technical support, cyberinfrastructure, and long-term maintenance.
The discussion in this session focused on alternatives to grant-by-grant funding, and unfortunately, this is still a problem with no easy solution. The funding situations, of course, vary by country. Our most critical action item in this session was to 'lobby funders for tool development and training initiatives.' The implications of these recommendations are daunting, and speak to a nascent discipline with considerable challenges to face before being embraced by the academy. In order for sustained 3D research programs to thrive, considerable work will be required across all aspects of the community to ensure that this new form of scholarship is supported, preserved, and accessible for future academics.

### *2016 Symposium Schedule*

The 2016 Symposium was held in the Young Research Library at UCLA. A detailed schedule is included as Appendix E: 2016 Schedule.

### *Participant Housing*

Participants were housed in the Tiverton House adjacent to the UCLA campus.

### *Assessment* (Appendix F: UCLA Assessment)

Following the 2016 Symposium, participants were asked to complete a survey in which they were asked two sets of questions. In the first they were asked to indicate how important they thought the specific goals that the 2016 Institute were to the 3D scholarly community, and in the second they were asked to indicate how successful they felt that the Institute was in either achieving or making progress towards that goal. 22 participants responded, and the results were as follows:

I. Importance of goal to the 3D scholarly community:

6. Build a sense of community amongst scholars working with 3D content. 90.9% Very Important, 9.1% Somewhat Important
7. Help scholars develop their research ideas and plan their projects. 85.7% Very Important, 14.3% Somewhat Important
8. Identify compelling research questions that plague academics working with 3D. 81% Very Important, 19% Somewhat Important
9. Identify possible projects/prototypes that will explore these challenges and/or issues. 66.7% Very Important, 28.6% Somewhat Important, 4.8% Not Important
10. Identify ways to integrate 3D content into pedagogical practice. 61.9% Very Important, 38.1% Somewhat Important

II. How successful participants felt the Institute was in achieving/making progress towards that goal:

6. Build a sense of community amongst scholars working with 3D content. 90.9% Very Successful, 9.1% Somewhat Successful
7. Help scholars develop their research ideas and plan their projects. 50% Very Successful, 45.5% Somewhat Successful, 4.5% Somewhat Unsuccessful
8. Identify compelling research questions that plague academics working with 3D. 54.5% Very Successful, 40.9% Somewhat Successful, 4.5% Somewhat Unsuccessful
9. Identify possible projects/prototypes that will explore these challenges and/or issues. 77.3% Very Successful, 22.7% Somewhat Successful
10. Identify ways to integrate 3D content into pedagogical practice. 33.3% Very Successful, 52.4% Somewhat Successful, 14.3% Somewhat Unsuccessful

When asked if participation in the Institute had changed their thinking about their own scholarship, 54.5% (n=12) said that it had substantially changed their thinking, while 45.5% (n=10) said that it had somewhat impacted their thinking. Some comments in this section included, "This year's meeting was especially useful for prompting me to think through issues that I hadn't anticipated even after last year's meeting" and "The 2015 session substantially changed my thinking about my scholarship. This session confirmed that new direction and added new ways to continue in a similar track."

Participants were asked to rate the quality of several Institute components on a scale of Very Good to Very Poor.

- Pre-Institute Information (66.7% Very Good, 33.3% Good)
- General Coordination (76.2% Very Good, 23.8% Good)
- Facilities (71.4% Very Good, 28.6% Good)
- Lodgings (33.3% Very Good, 42.9% Good, 19% Neutral, 4.8% Poor)
- Food/Refreshments (52.4% Very Good, 42.9% Good, 4.8% Neutral)
- Participant remuneration process (36.8% Very Good, 47.4% Good, 15.8% Neutral)
- Informal Activities (42.9% Very Good, 42.9% Good, 9.5% Neutral, 4.8% Poor)

Participants were asked if they wanted to share additional comments with the NEH. While the complete list of responses is included in Appendix F: UCLA Assessment, comments included: "These sorts of institutes are so essential to those of us who work in DH at universities without any real DH capabilities. Without this kind of support from the NEH, I think many of us would have either passed on DH to pursue traditional scholarship entirely, or done much weaker DH scholarship than we are currently doing." "The two-year format of the NEH Summer Institute has been extremely successful. Alyson and Lisa did an amazing job not only of organizing both years but facilitating ongoing conversations among participants throughout the year. Just as important, the group has a high level of energy that I have no doubt will carry our action items into the future. The institute has provided opportunities to meet scholars from other fields working with 3D Cultural Heritage Content, which has broadened my knowledge of tools and research applications. Importantly, it has not only inspired my individual research but helped me shape and formulate broader 3D interests for the Humanities." "These types of institutes are valuable in inspiring new scholarship and pedagogy in the humanities and in encouraging

scholars to continue their work. People working in cutting edge fields may feel isolated and/or alienated, and these institutes can help prevent that, in addition to spreading knowledge."

## Impact

The discussion amongst the symposium participants has continued since 2016, and the impact of this two-year event is enduring. Up until recently, the Advanced Challenges website forum remained active, and only stopped when the website became temporarily unavailable. The site is now being restored as (http://advancedchallenges.com) and will continue to be hosted by UMass Amherst until December 2020.

Multiple papers have been given referencing discussions emerging from the symposium, but most recently, in August 2017, Dr. Lisa Snyder presented "Can VR Survive Peer Review? Cultural Challenges for 3D Research" at Digital Humanities 2017 (DH2017) co-organized by McGill University and the Université de Montréal.

## Appendix A: Final Detailed Schedule

# FINAL DETAILED SCHEDULE

## Advanced Challenges in Theory and Practice in 3D Modeling of

## Cultural Heritage Sites

June 21-28, 2015
Mornings: ILC S140 (9-12:30)
Afternoons: ILC N111 (1:30-5)
(And in ILC S140 in the evening on both Monday, June 22, and Saturday, June 27) University of Massachusetts, Amherst
Last update: Lisa and Alyson, June 20, 2015

***NOTE***: Planned for twenty one (21) participants and daily speakers. Mornings are reserved for presentations and discussions; afternoons for lab work and additional discussions. Colleagues from around Amherst and the Five Colleges have been encouraged to attend the morning presentations.

# SUNDAY, JUNE 21, 2015

**Various times through the day – Participants arrive at Amherst**

Airport shuttles have been arranged with UMass Amherst Transit
Dorm rooms are available for the seventeen (17) staying on campus
Parking is available for people with cars
Welcome packages with maps, lists of participants, schedules, etc. are available

**7:00-10:00 AMHERST BREWING COMPANY**

No-host bar, snacks, or food at a local campus favorite gathering spot. Shuttles at 6:45 and 8:30 to/from the UMass Amherst dorms for those without cars.

# MONDAY, JUNE 22

Lead: Alyson and Lisa in morning; Alyson in afternoon; Lisa as 'moderator' of the panel discussion; Angel during Erik's Skype in ....

**Morning location: ILC S140**

**9-9:30 Introductions and expectation setting for the day (Alyson and Lisa; important bits to be recorded)**

Welcome to participants
Introductions of Alyson, Angel, and Lisa
Alyson: Intro to UMass Amherst, policies of seminar space, location of bathrooms, Library Media tour, etc. Alyson: Review of Institute goals:

1. Build sense of community amongst scholars working with 3D content
2. Help project participants develop their research ideas and plan their projects

3. Identify compelling research questions and that plague academics working with 3D content (the key is identifying challenges that are critical to overcome and the analysis of which will benefit the 3D community)
4. Identify possible projects and/or prototypes that will explore these issues
5. Identify possible taskforces for critical action items
6. Assign research questions to participants for development over AY 2015-16
7. Plan bounce-back symposium for Summer 2016
8. Facilitate group publication
9. Consider grant opportunities that advance 3D content
10. Identifywaystointegrate3Dcontentintopedagogicalpractice
11. Create useful web resource for scholars working with 3D content (e.g., discussions about best practices, etc.)

Lisa: Review of Institute schedule
Lisa: Review of expectations for participants (participant in discussions and lab sessions, the opportunity for presentations of their own work, Saturday lightening talks, the 2016 UCLA symposium, and planned publication)
Alyson: Review of participant support available through CESD courtesy the Institute grant (40 hrs per participant)
Alyson: Introduce Dave Hart and his group (we'll be hearing more from them on Tuesday)
Alyson: Housekeeping tasks (stipend checks distributed, signed releases, etc.)

a. Get signatures on video releases

**9:30-11:00 Participant introductions**

Lisa: Camera directions and moderations
Participant introductions ... their names, affiliations, connection to 3D work and/or ongoing projects, and their expectations for the Institute (20 participants plus John, Ruth, and Angel * 4 minutes per = 88 minutes) Lisa: Identification of participants (those that have done significant work) that would like to present their work in the afternoon hands-on sessions ... schedule those presentations. Possible arrangement:

Monday (avatars/difficult histories): Natalie, Lynn R., Magda, Daisy
Tuesday (archaeology related): Elaine, Heather, Miriam
Wednesday (scholarly research/pedogogy): Glenn, Piotr, or David N
Thursday (broad dissemination/pedagogy/public history): David C, Thomas, Lauren, and Ed Friday (issues of representation/scholarly publishing/academic process): Gurpreet Saturday (issues/recap): Eric/Jacob, and Kirk

*"The participant presentations will be in the afternoons, linked as closely thematically to the morning presentations. We currently have you, Elaine, Costas, and Miriam penciled in for Tuesday when the focus is on archaeology. (We'll set the final schedule as a group when we're together.)*

*In terms of time, aim for 15-20 total minutes of presentation and discussion. The format is up to you, but I would encourage you to think about the challenges you've faced (or are facing) with your project and articulate those to the group, and figure out how to capitalize on possible input from colleagues. We've left enough room in the schedule to be able to flexibly accommodate fruitful discussions and feedback. (So if having the participants work with your looming release and giving you feedback would be useful, let us know and we'll work it into the schedule.)"*

Break (15 minutes)

**11:15-12:30 DANGEROUS EMBODIMENTS (Ruth Hawkins; to be recorded)**

Alyson: Introduce Ruth
Presentation and Q & A about ASU Heritage Sites and problems of 3D reconstructions of sites with difficult histories

**12:30-1:30 LUNCH**

Participants will be given $10 coupons good at any of the food venues in the Blue Wall dining facility in the Lincoln Campus Center. Options include Harvest (salad bar and smoothies), Famous Famiglia Pizza, Tamales (Mexican food), Wasabi (sushi), Deli Delish, The Grill, and Star Ginger (Vietnamese, Thai, and Asian Specialties.

**Afternoon location: ILC N111 1:30-1:45 Lab introduction**

Alyson: Review of lab policies and introduction to lab space, etc.

**1:45-3:00 Hands-on session**

Participants are paired to spend time interacting with ASU Heritage Sites in SecondLife (Alyson), play Drama in the Delta (Angel), interact with Virtual Rosewood (Lisa), and then discuss

Break (15 minutes)

**3:15-4:15 Panel and participant discussion on Dangerous Embodiments (Ruth, Angel, Alyson)**

Lisa: Moderate
Alyson: Overview of Dangerous Embodiments grant and the thought process that led to the proposal Angel: Show images of the typology and current characters
Alyson: Discuss initial observations

Questions for panel:

A devil's advocate might say that it's completely disrespectful to present these difficult histories in a virtual environment. What do you say to that statement?

What do you think are the key ethical questions here?
At this moment, what do you think is the single best strategy for building avatars for virtual environments with difficult histories?
How do those strategies change when you're crossing audiences and age ranges?
What's the consensus about avatars amongst scholars building virtual environments that have difficult histories or include real-life historical figures?

*From grant proposal: Scholars of 'difficult heritage' are often confronted with the challenge of producing meaningful engagements with diverse audiences through the use of new digital technologies. With this engagement we often face risks as we represent serious, often painful and controversial, historical content through a medium so closely aligned with popular entertainment. This discussion will begin with questions about the ethics of avatar creation and why there is a need to consider the impact of avatars within virtual environments, and will touch on analogue examples of embodiment in living history contexts. As humanists, we are challenged to question the impact of these embodiments, and to consider not only the ethics of character creation, but also the ways in which those characters impact the narratives that viewers take from them.*

**4:15-4:45 Possible participant presentation**

Lisa: Possible project discussion from Natalie (avatars), Lynn Ramey (avatars), and Magda (virtual Elmina)

**4:45-5:00 Conclusion for the day**

Alyson: Discussion of challenges inherent with avatars/characters in 3D environments with difficult histories 3

Break (1 hour)

**6:00-7:00 DINNER**

A catered dinner will be provided in the ILC. On the menu: an Italian-themed buffet that includes a chef salad, minestrone soup, vegetarian lasagna, baked ziti, chicken parmesan, broccoli with slow-cooked tomatoes, ratatouille, tiramisu, and cannoli.

**Evening location: ILC S140; to be recorded**

**7:00-8:30 Skype with Erik Champion**

Angel: Introduce
Presentation followed by Q & A

Hopefully he will provide a broad overview of the field for scholars working with 3D content. (Had the timing worked, our original plan was to have him first to set the stage.) Most critical ... identifying the challenges/problems that he thinks need to be solved in the next 5 to 10 years, the outstanding compelling research questions, and discussion of exemplars.

# TUESDAY, JUNE 23

Lead: Alyson throughout the day

**Morning location: ILC S140**

**9-9:15 Morning welcome**

Alyson: Questions, comments, thoughts, housekeeping?

1. Get numbers for Wednesday night dinner at the Monkey Bar
2. Get numbers for river cruise on Friday night (call to Sarah with the cruise to confirm availability

   (Friday, June 26 ... Lady Bea River Cruise ... 7:00 pm departure ... $15 per person
   (http://www.brunelles.com/lady-bea/lady-bea-schedule/) ... (413) 315-6342

Alyson: Reminder of schedule for participant presentations for the day (intended to give participants a time to present their work for feedback from the group. The length of the presentations would depend on the number of participants interested in the opportunity)

Alyson: Recap of expectations for participants ... hand out expectation letter (Saturday lightening talks (two-page summary to be turned in that describes work of following year as well as intent for 40 hours of support time), the UCLA symposium, and planned publication)

**9:15-10:45 CENTER FOR EDUCATIONAL SOFTWARE DEVELOPMENT (CESD) (to be recorded)**

Alyson: introduce Dave and Phil

Presentation followed by Q & A Discussion of work done by the CESD Participant support to be discussed Time slots to be discussed

Request that participants complete initial index cards on possible research support activity (these are first drafts to be firmed up by the end of the week).

Break (15 minutes)

**11:00-12:30 THE INTERDISCIPLINARY SCHOLAR AS END-USER (John R. Clarke; to be recorded)**

Alyson: Introduction Presentation followed by Q & A

**12:30-1:30 LUNCH**

A catered lunch will be provided in the ILC. On the menu: build your own sandwich platters, potato salad, baby kale salad, beverages, assorted bars and brownies.

**Afternoon location: ILC N111**

**1:30-2:30 Hands-on session**

John to lead; Lisa as back up ... Alyson and Lisa to troll around ... participants are paired to spend time interacting with the Oplontis Project (let John decide about the order of them seeing the Unity build and the flash piece) ... also available are the text elements from the publications

**2:30-3:00 Q & A with John R. Clarke**

Alyson to moderate
Discussion about the Oplontis Project and planned next steps

Break (15 minutes)

**3:15-4:30 Participant discussion on the day's topics**

Discussion about challenges related to the day's topics (the veracity of the model and the value of metadata, and the interdisciplinary scholar as end-user). Articulation of possible related research projects.

**4:30-5:00 Participant presentations**

Presentation and discussion of work in progress or projects being planned (Possible: Costas, Elaine, Miriam, and Heather)

**6:30-? Optional no-host bar at the Lord Jeffery (first choice location is the rooftop terrace, possible second location is the firepit patio adjacent to the bar)**

# WEDNESDAY, JUNE 24

Lead: Lisa for Chris; Alyson for Arnie

**Morning location: ILC S140**

**9-9:15 Morning welcome**

Lisa: Questions, comments, thoughts?
Lisa: Any housekeeping?
Lisa: Reminder about participant presentations scheduled for that day

**9:15-10:45 Scholarly communication and the academic research agenda, and the creator as end user (Chris Johanson; to be recorded)**
Lisa: Introduction
Presentation followed by Q & A

*From grant proposal: Presentation on the application of digital tools and techniques to social historical research questions from classical antiquity. In the afternoon session, scholars will move into the lab and use the RomeLab model as a case study to frame this discussion.*

Break (15 minutes)

**11:00-12:30 THE 3D MODEL AND PEDAGOGICAL PRACTICE (Arne R. Flaten; to be recorded)**

Alyson: Introduction Presentation followed by Q & A

**12:30-1:30 LUNCH**

A catered lunch will be provided in the ILC. On the menu: an assortment of pizzas (house special, cheese, primavera, and pepperoni), Mediterranean salad, beverages, and assorted cookies.

**Afternoon location: ILC N111**

**1:30-2:30 Hands-on session**

Chris to lead discussion; participants are paired to spend time interacting with RomeLab projects and something related to Arne's presentation

**2:30-3:00 Q & A with Chris Johanson and Arne R. Flaten**

Lisa and Alyson to tag-team moderate
Discussion about the RomeLab and Coastal Carolina projects and planned next steps

Break (15 minutes)

**3:15-4:30 Participant discussion on the day's topics**

Discussion about challenges related to the day's topics (scholarly communication and the academic research agenda, and the creator as end user; and the 3D model and pedagogical practice). Articulation of possible related research projects.

**4:30-5:00 Participant presentations**

Presentation and discussion of work in progress or projects being planned (possibly Glenn, Piotr, or David N)

**DINNER AND EVENING FREE**
**OPTIONAL SOCIAL EVENT at the Monkey Bar and Grill ... Amherst City Center ... 6:30**

# THURSDAY, JUNE 25

Lead: Lisa throughout the day

**Morning location: ILC S140**

**9-9:10 Morning welcome**

Lisa: Questions, comments, thoughts?
Lisa: Housekeeping
Lisa: Reminder about participant presentations for that day

**9:10-9:30 Jen Servanti Skype from the NEH**

**9:30-11:00 PROJECT REQUIREMENTS FOR BROAD PUBLIC DISSEMINATION (Lisa M. Snyder; to be recorded)**

Angel: Introduction
Presentation on classroom use of real-time models followed by Q & A

Break (15 minutes)

**11:15-12:30 PUBLIC USE OF INTERACTIVE 3D RECONSTRUCTIONS (Lisa Fisher; to be recorded)**

Alyson: Introduction
Presentation on public/museum use of real-time models followed by Q & A

**12:30-1:30 LUNCH**

Participants will be given $10 coupons good at any of the food venues in the Blue Wall dining facility in the Lincoln Campus Center. Options include Harvest (salad bar and smoothies), Famous Famiglia Pizza, Tamales (Mexican food), Wasabi (sushi), Deli Delish, The Grill, and Star Ginger (Vietnamese, Thai, and Asian Specialties.

**Afternoon location: ILC N111**

**1:30-2:15 VSim tutorial for content creators**

Lisa: Participants spend time with the Pantheon (or other available models) to interact, building narratives, and add embedded resources

**2:15-3:00 Participant discussion on VSim**

Lisa to moderate: discussion about VSim and challenges related to the day's topics (project requirements for broad public dissemination and secondary use of academically generated 3D content). Articulation of possible related research projects.

Break (15 minutes)

**3:00-4:30 Hands on Colonial Williamsburg**

Lisa F. to lead: Interaction with Colonial Williamsburg models and continued discussion about the challenges related to the day's topics (project requirements for broad public dissemination and secondary use of academically generated 3D content). Articulation of possible related research projects.

**4:30-5:00 Participant presentations**

Presentation and discussion of work in progress or projects being planned (possibly David C, Thomas, Lauren, and Ed)

**DINNER AND EVENING FREE**

# FRIDAY, JUNE 26

Lead: Lisa throughout the day

**Morning location: ILC S140**

**9-9:15 Morning welcome**

Lisa: Questions, comments, thoughts? Lisa: Housekeeping

Lisa: Reminder about participant presentations for that day

**9:15-10:45 THE DANGERS OF REPRESENTATION (Diane Favro; to be recorded)**

John C: Introduction Presentation followed by Q & A

*From grant proposal: Discussion of representational issues with participants, using Rome Reborn and Digital Karnak to illustrate representational challenges. In the afternoon session, scholars will move into the lab and use the Rome Reborn and Digital Karnak models as case studies to frame this discussion.*

Break (15 minutes)

**11:00-12:30 Discussion of academic process as it relates to 3D content**

Alyson, Angel, and Lisa: Tag team moderation
Discussion of the analog peer review process; Bernie's DAACH process; discussion of peer review, publication, evaluation, tenure, and promotion as it relates to 3D content

**12:30-1:30 LUNCH**

A catered lunch will be provided in the ILC. On the menu: boxed sandwich lunches, your choice of turkey, ham, tuna, veggie, and caprese. Each lunch includes a sandwich, hand fruit, all natural chips, water, and a cookie.

**Afternoon location: ILC N111**
**1:30-2:15 Hands-on session and discussion about City Engine/Rome and Q & A with Diane Favro**

Diane to lead; Lisa to back-up. Participants spend time interacting with the City Engine viewer

**2:15-3:00 Presentation of Digital Karnak and VSim tutorial for users**

Diane, Elaine, and Lisa: Brief presentation of Digital Karnak; participants engage with Digital Karnak.

Break (15 minutes)

**3:15-4:30 Participant discussion on the day's topics**

Discussion about Digital Karnak package. Discussion about challenges related to the day's topics (the dangers of representation; and peer review, publication, evaluation, tenure, and promotion). Articulation of possible related research projects.

**4:30-5:00 Participant presentations**

Presentation and discussion of work in progress or projects being planned (possible Gurpreet)

**DINNER AND EVENING FREE**
**6:00-? Optional social outing: Lady Bea River Cruise ... 6 pm departure for 7 pm cruise ... $15 per person**

# SATURDAY, JUNE 27

Lead: Alyson throughout the day

**Morning location: ILC S140**

**9-9:15 Morning welcome**

Alyson: Questions, comments, thoughts?
Alyson: Housekeeping
Alyson: Reminder about final participant presentations
Alyson: Reminder about defining research topics – final discussion on this will be Sunday morning

**9:15-10:45 USING VIRTUAL WORLDS TO TEST SOLAR ALIGNMENTS (Skype with Bernie Frischer; to be recorded)**

John C.: Introduction and wrangling Presentation followed by Q & A

Frischer will stress the importance of modeling the sky with as much scientific rigor as the landscape and its built features. As examples of why this is useful, he will discuss his recent projects in modeling the northern Campus Martius in Rome and Hadrian's Villa in Tivoli.

Break (15 minutes)

**11:00-12:30 Initial discussion of research topics and reminder of the Institute vision**

Alyson and Lisa to tag-team lead this. Discussion of Institute vision ... this week followed by time of research followed by symposium and publication. Identification of possible projects and prototypes that could use Amherst support; small group discussions of paper research projects or white papers

**12:30-1:30 LUNCH**

Participants will be given $10 coupons good at any of the food venues in the Blue Wall dining facility in the Lincoln Campus Center. Options include Harvest (salad bar and smoothies), Famous Famiglia Pizza, Tamales (Mexican food), Wasabi (sushi), Deli Delish, The Grill, and Star Ginger (Vietnamese, Thai, and Asian Specialties.

**Afternoon location: ILC N111**

**1:30-3:00 Digital Media Lab Tour OR Time in the lab working on Lightening Talk**

Participants are given the option of going to meet with Dennis Spencer and see the Digital Media lab or staying in N111 to work on their presentation for the evening and writing up their proposal for CESD support

Alyson to go to the Library with those participants; Lisa to stay behind with any that want to work in the lab. Break (15 minutes)

**3:15-4:30 Participant discussion on key challenges and issues facilitated by Fred Zinn**

**4:30-5:00 Final participant presentations**

Presentation and discussion of work in progress or projects being planned (possibly those still fomenting: Eric/Jacob, Kirk, and Daisy)

Break (1 hour)

**6:00-7:00 DINNER**

A catered dinner will be provided in the ILC. On the menu: a light buffet that includes Israeli cous cous, baby kale salad, slow roasted turkey breast, crispy seared salmon, herb roasted potatoes, an additional vegan side TBD, and local apple crisp with vanilla ice cream.

**7:00-9:00 PARTICIPANTS' PERSPECTUS LIGHTENING TALKS (to be recorded)**

# SUNDAY, JUNE 28

Lead: Alyson and Lisa

**Morning location: ILC S140**

**9-9:15 Final morning welcome**

Alyson: Questions, comments, thoughts? Alyson: Housekeeping

**9:15-9:30 Evaluation forms and concluding paperwork**

Alyson: Completion of evaluation forms ... printing of participants' plans for UCLA symposium and use of 40 hrs of technical support time.

**9:30-10:15 Final assignment of research topics and reminder of the Institute vision**

Lisa: Discussion of each participant's follow up research.
Dave: Final confirmation of possible projects and prototypes that could use Amherst support; small group

discussions of paper research projects or white papers Break (15 minutes)

**10:30-11:00 Concluding comments from the participants (Lynn and Hannah; to be recorded)**

Summary of their impressions.

**11:00-12:00 Concluding remarks and final discussion (Alyson)**

Alyson and Lisa: Wrap-up and recap ... what we did, what we talked about, our conclusions, next steps. Alyson: Reminder of vision ... this week followed by time of research followed by symposium and publication; reminder of planned projects and prototypes, research projects, and white papers; final good-bye

**FINI for now**
**Shuttles back to airport**

July 2015

**NEH Digital Humanities Summer Institute Participant Survey**
**Item-by-Item Results**

**This institute was designed to fulfill a set of goals for 3D scholarship. For each GOAL below (left column), please indicate: (A) how IMPORTANT you think the goal is to the 3D scholarly community and (B) how SUCCESSFUL you feel the Institute was in achieving/making progress on the goal.**

| Importance of Goal: Build a sense of community amongst scholars working with 3D content | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Important | 3 | 12.0 | 13.0 | 13.0 |
| | Very Important | 20 | 80.0 | 87.0 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |
| **Success of Goal: Build a sense of community amongst scholars working with 3D content** | | | | | |
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Successful | 3 | 12.0 | 13.0 | 13.0 |
| | Very Successful | 20 | 80.0 | 87.0 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Importance of Goal: Help scholars develop their research ideas and plan their projects | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Important | 4 | 16.0 | 17.4 | 17.4 |
| | Very Important | 19 | 76.0 | 82.6 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |
| **Success of Goal: Help scholars develop their research ideas and plan their projects** | | | | | |
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Successful | 10 | 40.0 | 43.5 | 43.5 |
| | Very Successful | 13 | 52.0 | 56.5 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Importance of Goal: Identify compelling research questions that plague academics working with 3D content | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Important | 3 | 12.0 | 13.0 | 13.0 |
| | Very Important | 20 | 80.0 | 87.0 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Success of Goal: Identify compelling research questions that plague academics working with 3D content | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Successful | 2 | 8.0 | 8.7 | 8.7 |
| | Very Successful | 21 | 84.0 | 91.3 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Importance of Goal: Identify possible projects and/or prototypes that will explore these challenges and/or issues | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Important | 5 | 20.0 | 21.7 | 21.7 |
| | Very Important | 18 | 72.0 | 78.3 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Success of Goal: Identify possible projects and/or prototypes that will explore these challenges and/or issues | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Unsuccessful | 2 | 8.0 | 8.7 | 8.7 |
| | Somewhat Successful | 12 | 48.0 | 52.2 | 60.9 |
| | Very Successful | 9 | 36.0 | 39.1 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Importance of Goal: Identify ways to integrate 3D content into pedagogical practice | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Important | 6 | 24.0 | 26.1 | 26.1 |
| | Very Important | 17 | 68.0 | 73.9 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Success of Goal: Identify ways to integrate 3D content into pedagogical practice | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Somewhat Unsuccessful | 2 | 8.0 | 8.7 | 8.7 |
| | Somewhat Successful | 12 | 48.0 | 52.2 | 60.9 |
| | Very Successful | 9 | 36.0 | 39.1 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your responses above.**

*Allowing for a little more time initially in order to develop project idea. Appreciated the change to allow for more time later in the week. Allowing for Q&A after the presentation of lightning talks would have been constructive, I think. It would have been time consuming however right after, so perhaps allowing for follow up on project ideas, or encouraging the use of the forum for such practice.*

*I think we made a lot of progress during the institute, but we have to wait until next year to see if the plans put in action during this week will help solve some of the issues we've identified.*

*In terms of developing our own research projects, it would have been useful to have known in advance of the start of the institute that we would be getting assistance from CESD so that we could develop support proposals in advance. It was useful to come up with a proposal while here, but I would have preferred to spend the week working with CESD to refine a preexisting proposal and figure out what would actually be possible rather than springing something on them--and then leaving without knowing exactly were the proposal stood and what exactly I would be able to get in the way of support over the coming year.*

*The best thing about the institute, I think, was how successful it was in generating a sense of shared purpose among a group of scholars with very different backgrounds and areas of expertise. I think part of the reason why that aspect worked so well was the care with which participants were selected.*

*The goals of the institute align quite well with my personal goals as well as with others that I have spoken to within the DH community. The co-organizers did a fantastic job balancing lectures, discussion, and hands-on work, particularly in setting the stage for us to work collaboratively to identify key challenges. The different lecturers covered a diverse range of topics that planted seeds in my mind for ways to expand my current work. I would suggest a little down time starting on day 3 in the afternoon to give participants some time to process the information and begin to develop their research ideas and plans based on what they have learned during the start of the institute.*

*The institute exceeded all my expectations. It was a wonderful experience and I am glad to have participated.*

*The NEH Summer Institute was quite successful in building all the above - It would be nice though to give more support regarding the development of research ideas and plans. As it was planned, it presumed that participants came to the institute with already developed ideas. It would be nice to do some activities that would help participants build and/or develop preliminary ideas or new projects.*

*This was an excellent workshop, and although it was not "very successful" in all 5 categories, it was in 3 main ones. The pedagogy was the least discussed, broached or addressed. Mostly because, even though many of us are educators, there were no attendees that were from the realm of "education." So assessment and learning outcomes were not thoroughly discussed or even brought up as a challenge in most discussions. The other category that I felt was not thoroughly delved into was the 4th one. The topic of sustainability, interoperability and sharing of data was discussed and some strategies were addressed on how it might be done in the community. Some collaborations were identified that would research/study this problem and try to identify possible solutions. But other than that specific topic, no other major collaborative projects were discussed that the group as a whole might be able to pursue for funding. That does not mean that there weren't any one on ones and other "smaller" scale collaborations that did not occur. I heard plenty of discussions and the lightning talks highlighted some of them. Sharing of data and experiences, discussion on longevity of projects, publishing in the digital world, were all wonderful topics that provided very meaningful platforms for discussion and creation of longer term connections and research goals. All in all a VERY successful workshop from the intellectual standpoint - the focus of the questions on this page.*

*This was an intense but incredibly rewarding institute, one that developed a very collegial and supportive atmosphere early on.*

*We spent a great deal of time identifying problems, but I'm not sure that we really came up with solutions to those problems. We had some success with a few - especially with setting up the forum as a space for collaboration and for sharing skills and insights, but others ended up seeming more daunting than before (e.g., publication and tenure).*

*While each person did present his or her research to date, I wish there was a more structured way to get participants to give constructive feedback on research questions and methods. Some received more while others not much at all.*

**Has participating in this Institute changed your thinking about your own scholarship?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No, Not too much | 3 | 12.0 | 13.0 | 13.0 |
| | Yes, Somewhat | 9 | 36.0 | 39.1 | 52.2 |
| | Yes, Substantially | 11 | 44.0 | 47.8 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your response.**

*By participating and making connections, I have been able to see my place in the scholarship, and articulate the goals and plans to help in our joint effort. I feel very lucky to have been a part of this, and I appreciate the opportunity to work with everyone. This is a great group!*

*Due to constant time constraints of being a faculty member, my work on my project is most frequently done on an ad hoc basis, finding small amounts of time to work, with the consequence that thinking about long-term strategies and resource needs often get pushed to the side. This institute allowed me the time, interaction, and support to think at a larger scale and focus on the big issues the project will face.*

*I came away reaffirmed about the path I'm taking, which includes both using 3D content and trying to publish it in traditional venues. I did get a lot of great ideas about additional tools that would improve my work, though.*

*I have been involved for many years in the field of digital humanities/heritage and thus most of the things discussed - although extremely valuable - have been also discussed in the past in other institutes, round tables and conferences. It was great to see how colleagues from different disciplines approach major issues in digital cultural heritage. Although the latter didn't change my thinking of my own scholarship it was a great starting point to revisit some of my research and practices.*

*In the course of the institute, I participated in structured and unstructured discussions that enabled me to advance my project considerably.*

*It was fantastic to demo the various 3D environments. The experience made me think it was possible for me to use these tools.*

*It was great to see that this is a challenge in all disciplines not just my own.*

*My discussions with the other participants really helped me clarify what I thought I was doing, and focused my mind more clearly on future goals and ways to achieve them.*

*Now I am better equipped with the practices and concerns in the field.*

*Seeing colleagues' projects and analyzing their approaches to digital 3D content helped me rethink my own work.*

*The institute has provided me with a broader framework as well as concrete project examples and new software to pursue my scholarship. It has been quite beneficial for refining many ideas that I have been thinking about and provided new insights into how to begin to tackle some of the challenges for dealing with 3D content in the humanities.*

*The institute helped me see that it is important to develop 3D models and simulated environments in stages: Build the models first, create a simulation, and then develop a game based on the simulation.*

*The institute provided an excellent balance between theoretical frameworks for 3D projects and tools.*

*There were many questions and topics that were brought up, especially by the speakers that were eye openers and provided lots of food for thought and fodder for discussions.*

*This seminar gave me the language and tools I need to think about the process of creating 3D content as part of my research. I had always thought of the end product as important, but documenting and publishing the process is now a part of my research agenda.*

**Has participating in this Institute changed your thinking about 3D work in general?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No, Not too much | 4 | 16.0 | 17.4 | 17.4 |
| | Yes, Somewhat | 9 | 36.0 | 39.1 | 56.5 |
| | Yes, Substantially | 10 | 40.0 | 43.5 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your response.**

*I have been quite involved in the theory and practice of 3D so far, so my participation didn't change my thinking about it. However, it was great to see in practice (hands-on) some of the projects under development that attempt a paradigm shift in the field. A characteristic example of this was the demonstration of vsim and Johanson's RomeLab project.*

*I was exposed to a lot of 3D work that I hadn't seen before and that really impressed me. I was already a convert, but I will be incorporating a lot of this new material into my teaching and research.*

*I was presented with a number of possibilities and projects that I had not thought about before, and it showed me that there is an even larger variety of research and teaching uses than I had previously thought.*

*Issues were raised that I had never thought about prior to coming to this workshop.*

*It broadened my appreciation for the potential uses of the technology.*

*It has provided me with a broader perspective about my 3D work and given me concrete ideas to develop my own current project.*

*It would have been nice to bring in a Unity or UnReal Game developer in on the presenters. It would be interesting to see their perspective on what we are trying to achieve.*

*One thing that WAS new to me was how augmented reality could be used for virtual heritage projects.*

*Those demonstrations were eye-opening for me. I plan to try out some augmented reality exercises in my own teaching next year. I'll be able to do that with the help of those I met at the institute.*

*The institute helped solidify concerns I've held for a while, and reinforced the notion that I'm not alone in this. I have been able to make connections and talk with people who have the same experience and hopefully, those relationships will continue to grow into collaborations to help change the future of 3D scholarship.*

*The institute was invigorating and gave me many, many new ideas for new directions in my work and in appreciating and supporting the work of others.*

*The scale that people are implementing it is much bigger than I thought.*

*While everyone here came in already convinced of the value of 3D work, some of the work this week has helped me think more clearly about how that work fits into a larger university environment and how to be able to articulate its value for others who aren't already believers.*

*Yes, it helped me realize that there is a growing interest in the field and that work in the field will increase in relevancy in the coming years.*

**Has participating in this Institute advanced your own scholarship?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No, Not too much | 1 | 4.0 | 4.3 | 4.3 |
| | Yes, Somewhat | 14 | 56.0 | 60.9 | 65.2 |
| | Yes, Substantially | 8 | 32.0 | 34.8 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your response.**

*Being present in the institute with fellow participants, co-organizers, and lecturers was an ideal situation to formulate new ideas particularly via discussions.*

*During the institute, many concerns were raise, and holes in research were articulated so that one could see how to address them. The research direction I plan on conducting was not one I had thought of until I had a chance to speak with fellow 3D scholar.*

*I am taking away from this workshop a whole slew of new ideas and thoughts on how to design and develop 3D immersive environments and digital publishing.*

*I don't know that I can really answer this question right now. The Institute has at least introduced me to a set of questions and practices that weren't previously things I had thought about, and which I hope to be able to incorporate into my own scholarship.*

*I have come away with an idea for a 3D environment and a paper topic that will form the theoretical foundation of a serious game that will evolve out of the environment.*

*I now have a plan for working on some of the most important problems in my project during the coming year. I think this will be instrumental in publishing my work.*

*I wouldn't say 'advanced' but definitely it made me rethink of my current research in the theory and practice of digital heritage.*

*It would have been great to dedicate one day to showcasing advanced 3D modeling, advanced lidar techniques and the latest hands on training on HMD devices.*

*My research project is considerably further along than it was just a week ago.*

*Now I have to do the work of following through with my plans! I like that we have a support system for that in the coming year.*

*Other participants helped me clarify how the project I'm working on ought to be designed and implemented. Plus, the reading lists and lectures helped me get up to speed on the relevant literature in the field of virtual heritage.*

*The variety of projects discussed and explored were very informative. The massive usage of games engines and the procedural modeling raises new questions, beyond the issues of representation (by renderings/animations) and "hand-made" modeling.*

*The week allowed me to further articulate and refine my project---I felt I made real progress.*

*Time will tell; much depends on support for my 3D work.*

**Please rate the overall quality of each Institute component.**

| Institute component: Quality of Institute content | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Good | 5 | 20.0 | 21.7 | 21.7 |
| | Very Good | 18 | 72.0 | 78.3 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Quality of lecturers | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 1 | 4.0 | 4.3 | 4.3 |
| | Good | 5 | 20.0 | 21.7 | 26.1 |
| | Very Good | 17 | 68.0 | 73.9 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Quality of Institute discussions | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Good | 8 | 32.0 | 34.8 | 34.8 |
| | Very Good | 15 | 60.0 | 65.2 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Quality of peer-to-peer interactions | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Good | 5 | 20.0 | 21.7 | 21.7 |
| | Very Good | 18 | 72.0 | 78.3 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

**How useful to you were the afternoon lab components?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Somewhat Useful | 6 | 24.0 | 26.1 | 26.1 |
| | Very Useful | 17 | 68.0 | 73.9 | 100.0 |
| | Total | 23 | 92.0 | 100.0 | |
| Missing | System | 2 | 8.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your responses above.**

*Being able to use/explore the 3D projects was extremely useful. So often we hear or read about projects but unless they are online we can't actually touch them and try them out ourselves. This was a big help for me.*

*Hands-on was awesome, as was the lab itself and the help given by colleagues in operating and understanding the rationales behind the various 3D projects.*

*I can't praise the organizers enough for the excellence of this workshop. It was, from all perspectives, a great success. Very well planned, organized, run. All that was lacking was maybe a stronger representation in the "learning" domain. I mentioned hat in my first comment and believe that a talk on what the learning measures are, how to address outcomes, and assess impact might be useful to the participants, as most of us are in academics and do teach. Even though research is central to our career, the "broader impacts" of our work, i.e., being able to share our work with students and the public, would be useful to learn more about, especially as the work we output can/should easily lend itself to a public that is very "digitally" and "visually" oriented.*

*I found the institute discussions very useful, and I might have liked to have a little more time for these.*

*I found the lab component far more useful than many of the lectures. Being able to play with and explore existing models, learn their capabilities and limitations, and evaluate the user experience for myself has done more to shape my thinking about how to proceed over the next year than most of the lectures. The lectures themselves were about half very good, half not. The less-good half seemed to provide not a lot more information than one could gather from spending a half hour exploring the model being discussed, never arriving at any clear articulation of why this thing was important or had a reason to exist beyond, essentially, "because I could." The best were able to show a project and also explain the broader theoretical concerns of that project and how the model could be used as a way of making or intervening in existing scholarly debates.*

*I teetered on the "Very Useful" and "Somewhat Useful" in regards to the utility of the afternoon labs. Initially, I was concerned that testing the various projects was not all that helpful, especially if we covered them in lecture in the morning. However, we were able to explore different aspects of the projects, like interface design and usability. It was also nice to give constructive feedback to the creators on how it could be altered or made more accessible. The lab session, therefore, were very useful not just for me, but also to the lab instructors, I believe.*

*I think it would have been interesting for participants to do a short presentation on their work, and then allow the other participants to interact with it (if there was some interactive component) in order to get feedback.*

*I would personally prefer to have a discussion-led Institute rather than a lecture-based approach. In other words, shorter lectures that would demonstrate the challenges and a longer discussion on these challenges based on the presented subject. Lab components were very useful, but I would like some greater range on the hands-on topics. It would also be nice to work as a formal way of evaluating projects under development. Re: lightning presentations:*

*Interesting but I think it is crucial to have some interaction on the proposed topics. Q&A would give feedback and help scholars further develop their approach or research questions.*

*It was an action-packed week and all of it was useful and well planned. I can't think of *anything* that was irrelevant or a waste of time. The one thing I would suggest would be more opportunities for informal interactions with the lecturers. Diane Favro and John Clark were outstanding in that they were there, present, and clearly interested in the work of the participants. I think if someone is going to come and talk and then leave quickly, they may as well skype in like Bernie, which was fine.*

*It would have been nice had there been more "hands-on" component to the afternoon labs. It was nice to see how the 3D environments worked, but I would have also appreciated some training on the tools that were used in developing the environments (e.g., Laar, etc.), Maybe a lab that taught the workflow of making basic 3D models (SketchUp), texturing the models, and then importing them into an augmented reality platform. Maybe a series of labs for one week that focuses on giving institute participants basic- o intermediate-level skills on an essential 3D development platform?*

*John Clarke, Chris Johanson, Diane Favrau, Bernie Frischer, and Lisa Snyder made standout contributions as lecturers.*

*Loved the lecturers and readings. All the leaders were great. I also learned a lot from the other participants, although it might have been good to have more "structured free time" to work together and discuss potential collaborations during the institute. At the end of the day, people were pretty exhausted and not quite ready to discuss serious collaborations in detail. I will be following up with people regarding some of the projects we discussed, but it would have been nice to have time set aside for those discussions during the institute. Also, I would have liked a bit more emphasis on the builder's, rather than the user's, perspective in the afternoon sessions. I feel like I could definitely work well in VSim, but I only know how to use the other applications, not create something.*

*Some lecturers were better than others. Most were excellent. I did not find Arne Flaten's contribution to be very interesting or useful.*

*The afternoon lab components were an integral part of the institute's success (from my perspective). The ability to sit down and have hands-on interaction with some of the software helped to plant ideas in my mind as well as better understand how the key ideas/topics from morning lectures and discussions played out in digital applications.*

*The afternoon lab was excellent. The idea to immerse the projects presented in the morning and the conversation on the self-explored projects was very helpful.*

*The chance to get hands-on experience with different projects that are using interactive 3D environments was very useful in considering what I might use.*

*The hands-on sessions were critical. Seeing how something works for yourself is key to understanding the potentials and limitations of new approaches.*

*Though everything was excellent, the afternoon labs were the highlight for me.*

*Would have liked to have some participants from software development companies and from the gaming industry, with in-depth hands-on training from experts.*

**Please identify up to THREE Institute sessions or experiences that you found particularly useful or impactful. For each session or experience that you identify, elaborate on WHY it was useful or valuable.**

| Name of Presenter or Session | # of Mentions |
|---|---|
| Lisa Snyder | 12 |
| Diane Favro | 10 |
| John Clarke | 8 |
| Chris Johansen | 7 |
| Other Institute participants | 7 |
| Erik Champion | 4 |
| Arne Flaten | 4 |
| Lab sessions | 2 |
| Ruth Hawkins | 2 |
| Bernie Frischer | 1 |
| Drama in the Delta | 1 |
| Eklaine Sullivan | 1 |
| Dave Hart | 1 |
| CESD modeling | 1 |
| Morning sessions | 1 |
| Fred Zinn | 1 |

**Session/Experience 1**

*Bernie Frischer - His talk was fascinating and very well explained. It gave me a theoretical framework for what I had already been trying to do, something that I will definitely be able to use in my own future scholarship - as well as making me feel less isolated in wanted to use my models for experimentation rather than primarily presentation.*

*Chris Johanson's lecture was very interesting and thought provoking, partly because it was most closely related to my own work, and partly because it was still in progress, and thus problematic. He was very good about presenting his work in a way that shoed what he had achieved, but also what issues still had to be dealt with.*

*Chris Johanson's presentation was very thought-provoking. He challenged the aesthetic approach (beautiful-looking reconstructions) to show how less detailed models could answer specific research questions. ("Impactful is not a word.)*

*D. Favro: her talk contextualized the issue of representation and visualization in a historical perspective. This was a really excellent talk.*

*Erik Champion - Getting exposed to a wide range of cross-disciplinary projects and concepts which involve the digital humanities*

*Experience - connecting with others working on similar problems and forming new collaborations. This was key.*

*Exploring VSim. Far and away, this was the most valuable afternoon lab session, since the experience of using it (and hearing Lisa talk about it and guide us through how to use it) convinced me that it is the platform that comes closest to what I want for my own project.*

*Getting to see everyone's approach to using 3D content in their research. It would have been great to have tackled all presentations on the first day. This would have helped discussions outside the classroom.*

*I found the talks on pedagogical applications of 3D very useful (this is a personal interest of mine). For example, Lisa's demo of the VSIM and Arne's talk on teaching DH in the classroom. Both of these talks gave me practical*

*examples of tools and practices to use in the classroom.*

*Identification of key issues and possible action items – helpful to have an actual agenda for advancing the field.*

*Jonn Clarke - provided a sterling example of how traditional and digital scholarship can be mated in the present publishing environment.*

*Oplontis- for the sheer scale.*

*Playing "Drama in the Delta"--this is a project I have read and heard about, but being able to explore it first-hand was very valuable.*

*Project requirements for broad public dissemination (Lisa M. Snyder) / Mediation of the pedagogical aspects, using the interactive 3D content for education.*

*Stories - It was extremely helpful to hear that many others are facing the same difficulties that I am facing at my own institution. Not that misery enjoys company, but rather to know I am not alone.*

*The Champion lecture. The fact that it was the first and contained the most philosophical questions really set a good tone for a deep questioning of digital humanities practices throughout the week.*

*The Interdisciplinary Scholar as End-User, John R. Clarke It was helpful to see someone who is an established scholar using 3D content in a scholarly way - he is using Unity in exciting ways (particularly being able to toggle on/off the reconstructed wall paintings)*

*The lab demos: using the software allowed me to see how I might use these technologies.*

*The sessions on Dangerous Embodiment were particularly provocative. I had thought of the dangers of avatars, but not necessarily in a cultural heritage context. I believe it will make me more critical of what I'm seeing/experiencing in 3D space when there is or is not an avatar.*

*The veracity of the computer model and the value of metadata. The talk by Chris Johanson was particularly useful in regard to thinking about using 3D content for exploring hypotheses and developing new hypotheses. The various ways to deal with metadata and paradata brought up in the lecture and follow-up discussions provided new ways for me to begin to deal with similar issues with which I am confronted.*

*Tuesday Morning. Enjoyed the talk, was a pleasure to listen to and learn from that experience.*

*VSim tutorial for content creators - Really interesting to see an attempt for a paradigm shift in the field of publishing/ peer-reviewing 3D content*

**Session/Experience 2**

*Arne Flaten - Getting an honest account of how he approaches his classroom and interaction with students and his passion for preserving cultural artifacts*

*Chris Johannson's talk--seeing his project and listening to him talk about how he chose what aspects of a 3D model to develop for a particular research question helped me in my own thinking about how and why to develop particular aspects of a virtual heritage project.*

*Chris Johanson's lecture. This was far and away the best of the lectures because of Chris's ability to explain the specifics of creating the model he was working with without getting bogged down in every last detail of the things the model could do, and ten moving on to explain the significance of how the model might be useful in making*

*claims about history, or refuting claims about history. Basically, this lecture was one of the few that really made the case for the model as a research tool, capable of binging about further engagement and scholarship, rather than a research product that has little use once it's been made.*

*Diane Favro's talk was an excellent review of the field and the issues we have to deal with, and the afternoon session when we looked at her projects was very useful for me. It gave me some good ideas of things I could do in my own work, and set a high standard for how such things could be done well.*

*Diane's talk was also very useful to me because she gave a very candid talk on the pitfalls and problems with 3D representation. It was great to hear this sage advice from someone who has been working in the field for many years.*

*Erik Champion was very interesting, and had some great insights into praxis and challenges. Evening time slot was a challenge though.*

*Experience - Having John Clark (especially) and Diane Favro as interlocutors on everything from 3D content to professional development.*

*John Clarke's hands-on session: getting to explore 2 versions of the same project in the lab was really illuminating, showing how each software has different affordances and totally changes the type of research question or interaction of the user. It was also great to see some really mature projects as a sort of guide for what is possible.*

*Lisa Snyder - Made us familiar with the potential and operation of a potentially very useful platform*

*Networking - Made some very good connections to other people in the institute, which should prove productive in the coming years as projects develop.*

*The dangers of representation (Diane Favro) / Mediation of the impact of the graphical representation (graphic design) and cultural/social background.*

*The dangers of representation. This was my favorite session. Diano Favro did an excellent job of highlighting several of the key challenges we face as scholars using and creating 3D content. Her lecture paired nicely with Chris Johanson's lecture and hand-on lab. Together, they dealt with many of the same issues with which I am working such as linking metadata, attributes, and paradata to 3D models as a means to carry out scholarship but also as a way to convey uncertainty in reconstructions--a topic that is still very much unresolved.*

*The interdisciplinary scholar as end-user & Scholarly communication and the academic research agenda, and the creator as end user. Both lectures and the following hands-on were really good in demonstrating both theory and practice and stimulating discussion.*

*The lab session whereby participants presented their work on the ways they were capturing their decisions and providing context to their 3D models was particularly helpful. There were various modes in which people were attempting to capture their metadat/paradata, and it became obvious that capturing all of said data in a methodological way was not practical unless we all could come up with a way to adequately represent our research that allows for creative expression, but also bounds us together so that our projects can speak to each other, or at least, live together in a similar digital repository.*

*The other participants' presentations: I saw so many possibilities to use 3D environments in research and teaching.*

*The presentations of Lisa Snyder and that of Elaine Sullivan showed how VSim could embed deep scholarly research even while providing a variety of viewer experiences. I see this work as essential, like that of Johanson, in validating the unique opportunities that 3D work provides for acquisition and creation of new knowledge.*

*The Skype presentation from Australia was very informative. It would have been great to have a longer discussion with him.*

*Thursday Morning. Well presented and addressed dissemination of work and use as a learning tool.*

*Vsim - collaboration and ideology*

*VSim lecture and lab. The lecture gave history on the project and its intent. It also concluded with a summary of challenges and research questions that I found particularly useful to hear and think about. The lab was great because the platform is amazing Robust yet easy to understand and flexible.*

*VSIM lecture/lab session, Lisa Snyder I think VSIM will be an important teaching tool for many disciplines (architectural history/art history/archaeology, and more) and I'm excited to potentially try it out in the future and get people interested in it a my institution.*

*VSim tutorials - I hadn't know about this tool before, but I find it very intuitive. I definitely want to use it in preparing 3D material for classes in the future. I like the way it builds in the narratives AND allows in-world annotation. I think it really combines all the features you'd want in the classroom.*

**Session/Experience 3**

*3D model and pedagogical practice - As a teacher of Digital Heritage it is really valuable to see how others approach similar issues.*

*All of the participant presentations were as important as the official lecturers'.*

*Conversations with other institute participants during dinners/free time were a great time to learn more about them and their work.*

*Dave Hart and company - provided a good sense for abilities of CESD.*

*Diane Favro's talk--this was a wonderful theoretical and practical exploration of the development of the field from a leader in the field. I learned a good deal from that one presentation.*

*Friday Morning. Beautiful talk, very thought provoking.*

*Getting to use and play with current research simulation projects in the lab. It was great to play then discuss the strengths and weaknesses of each approach.*

*I liked the Flaten talk about how did work in a small college (not R1) environment. Even though I'm at an R1, I have some of the same problems and his experiences were helpful as I think through how I can develop an infrastructure for my project.*

*John Clarke's 3D model most directly addressed the problems of cultural heritage preservation and 3D reconstruction, since he's working with a complex UNESCO site. The fact that a user can instantly access the project's database with archival photos, detailed metadata, means that it can serve deeper scholarly inquiry.*

*Modeling - It was absolutely fantastic to see what others are doing and to think about how I could do something similar.*

*Morning lectures: they were all stellar, and I saw many examples of the use of 3D models for experimentation.*

*Participant presentations -- helpful to hear what folks are working on, in some cases inspiring, and provided*

*jumping off point for networking and collaboration. Would have liked these to be longer and perhaps all in the first day or two.*

*Ruth Hawkins afternoon tutorial - I didn't expect that the discussion of avatars would particularly help me, but it exposed me to ways of thinking that I hadn't considered. I hadn't really thought about doing anything to get people to spend time in my models. I figured they would just be interested. Hearing her studies of how long people spent in the museum and their attempts to stimulate additional interest were very helpful. They gave me ideas I could apply to improve my own work, especially the idea of using a game.*

*Scholarly communication and the academic research agenda- the discussions on how to peer-review 3D content and scholarly arguments derived from 3D content was fascinating. The work on Digital Karnak shown by Lisa Fisher and Elaine Sullivan was very intriguing and offers a great possibility in the direction of expressing via 3D content itself scholarly arguments that others can evaluate (i.e., peer review).*

*Student involvement in RomeLab - pedagogy and empowerment for students*

*The discussions and hands-on sessions were very engaging and allowed us to work closely with the other institute participants, helping to create community. In particular, I liked the group exercise that was led by Fred (?) which exposed our shared concern about 3D and the issues surrounding it. It helped to reveal that we all are in the same boat and have the same fears and reservations. We also realized that we might be able to solve many of the issues together as a community.*

*The interactions with various 3D environments that are being used for delivering 3D content in the digital humanities was useful, as well as how they are currently being presented to learning environments.*

*The interdisciplinary scholar as end-user (John R. Clarke) / Mediation of the necessity of linkage of Database with immersive 3D content. Transparency of data.*

*The last session on using heuristic 3D was quite nice. It was not necessarily enlightening, but more that, after the week of talking about the problems of the platform, it was nice to sum up the week talking about how the platform, in a concrete way, embellishes our work and opens new avenues of inquiry. "We would not be able to test this, or would not be able to even ask these questions, if it were not in 3D". It was wonderful to have that discussion too.*

*The session in which we got to see our fellow participants' augmented-reality projects was fun and inspirational. I saw for the first time that augmented reality really did work, and could be useful for teaching and for disseminating work to the public.*

**Please rate the overall quality of each Institute component.**

| Institute component: Pre-Institute information | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 1 | 4.0 | 4.5 | 4.5 |
| | Good | 8 | 32.0 | 36.4 | 40.9 |
| | Very Good | 13 | 52.0 | 59.1 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: General Coordination | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Good | 2 | 8.0 | 9.1 | 9.1 |
| | Very Good | 20 | 80.0 | 90.9 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Facilities (auditorium and team-based learning room) | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Good | 2 | 8.0 | 9.1 | 9.1 |
| | Very Good | 20 | 80.0 | 90.9 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Lodgings | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Poor | 3 | 12.0 | 13.6 | 13.6 |
| | Neutral | 10 | 40.0 | 45.5 | 59.1 |
| | Good | 8 | 32.0 | 36.4 | 95.5 |
| | Very Good | 1 | 4.0 | 4.5 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Food/Refreshments | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 1 | 4.0 | 4.5 | 4.5 |
| | Good | 8 | 32.0 | 36.4 | 40.9 |
| | Very Good | 13 | 52.0 | 59.1 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Participant remuneration process | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 3 | 12.0 | 13.6 | 13.6 |
| | Good | 9 | 36.0 | 40.9 | 54.5 |
| | Very Good | 10 | 40.0 | 45.5 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

| Institute component: Informal activities | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 1 | 4.0 | 4.5 | 4.5 |
| | Good | 7 | 28.0 | 31.8 | 36.4 |
| | Very Good | 14 | 56.0 | 63.6 | 100.0 |
| | Total | 22 | 88.0 | 100.0 | |
| Missing | System | 3 | 12.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your responses.**

*All aspects of the institute were extremely well-organized. The dorms were fine :)*

*All the coordinators and staff were extremely helpful, friendly, and knowledgeable. I especially valued my interactions with Lisa Snyder.*

*Dorm rooms were cool. Just wish I had brought my own sheets.. It was great to be so close to the venue.*

*Dorms were OK, although the mattress required a bit of getting used to. The Blue Room was actually quite nice and a pleasant surprise. It would have been nice to have more activities that highlighted the history of the area. It felt sometimes that I was suck on the university.*

*Everything was very good. Lodgings in the dorms was fine. It was a personal choice and I have no complaints. Not the most comfortable, but they were clean, accessible and cheap and provided for lots of fun discussions among the participants. :)*

*Excellent job with organization and hosting us!*

*Food was a bit of a problem. Sometimes we found there was little available on campus (especially on Saturday and Sunday). I didn't find it was very easy to get into town to get to a restaurant. The organizers were good about arranging off-campus meals and transportation, but it was more difficult to take care of ourselves on our own. I would have liked more free time in the middle of the day to go into town, and to talk to other participants, preferably in a lab with computers and internet connections.*

*I appreciate the effort the organizers made to have some evening events scheduled, like the boat trip. The dorms were convenient, cheap, and close-by, although the beds were less than comfortable and I can't say that I ever slept well!*

*I enjoyed the many opportunities to informally gather as a larger group outside of the institute. It made for long days, and I feel for the organizers! But I enjoyed it!*

*I know there were problems with the initial sound recording in the room, but from my perspective everything was dealt with smoothly and efficiently. The afternoon room was fantastic, but all the facilities were great. I also enjoyed the camaraderie in the evenings.*

*In general everything "very good". Excellent management and venue!*

*Mostly things were excellent! The teaching facilities were superb & Alyson & Lisa did a great job of organizing. I would have like to have had a bit more down-time for informal activities during the institute days—maybe a few hours here-and-there to talk 1-on1 with other participants, rather than booking all of the days full with structured activities. The days were very long, so more free evenings would have been preferred. The dorm accommodations were not very comfortable.*

*No problems. The facilities were great and close by. I didn't love the dorms, but they foster a sense of community and the price was right, so I wouldn't change anything there.*

*The organizers did an excellent job--no event like this is flawless, and even when there were minor issues the leaders made sure to communicate continually to us so we were aware of what was happening. I never felt lost or confused--great job on keeping s on schedule and informed.*

*The overall experience has been very positive. It is hard to respond to remuneration, because that is still being worked out. The facilities were very nice. Coordination with IT in order to get needed technology on laptops is always a challenge. Mice need to be provided on the laptops rather than trackpads.*

*There is some information I wish we had had in advance of the institute starting: guidelines for presentations; information about the lightning round talks (or even just a note that these would be happening but that we should develop them over the week); information about the eventual CESD support we could propose; basically, information in advance about we would be expected to prepare over the week, and even to start thinking about for next year's meeting. And while of course unexpected bureaucratic thigs come up in the process of remuneration, I do wish it were possible to be informed in advance when reimbursement/stipend checks would arrive, and then actually have them arrive on that day.*

*This has been an incredible experience; thank you for bringing this diverse and wonderful group of people together!*

**How convenient or inconvenient was the Institute's geographic location?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Somewhat Inconvenient | 4 | 16.0 | 19.0 | 19.0 |
| | Somewhat Convenient | 11 | 44.0 | 52.4 | 71.4 |
| | Very Convenient | 6 | 24.0 | 28.6 | 100.0 |
| | Total | 21 | 84.0 | 100.0 | |
| Missing | System | 4 | 16.0 | | |
| | Total | 25 | 100.0 | | |

**Please provide any additional information that would help us understand your response.**

*Although airline connections to Amherst are dicey, the area is really beautiful and the facilities of UMass Amherst excellent.*

*Awesome geographic location....*

*Everything was great from my perspective, coming from the east coast and not flying, except that it took an hour and a half for me to be picked up by Meet and Greet. Not their fault, since someone's flight was late.*

*I could not imagine trying to figure out an efficient way to get to-from Amherst if it was not for the organizer's help and set up for shuttles etc.*

*It was a bit difficult to get to UMass, although the area is certainly beautiful. The campus itself is a bit far-removed from town.*

*It was a fairly short trip by plane, and I appreciated the UMass shuttle since the university is an hour from the airport.*

*It was a little hard to get to on a direct flight, but not too bad.*

*Not the easiest place to get to, remote airport, more expensive than most to fly to. However, the institute provided transportation to and from the airport, that was all very well organized.*

*Once we got here, everything was extremely convenient. It's a little hard to get here, but not prohibitively so.*

*The extra effort put by team in organizing shuttles made it better than it is.*

*This question doesn't make sense to me. Convenient to travel from home? Convenient to travel from lodging at the institute?*

*While the location and campus were beautiful and I truly was happy to travel to UMass, it was a bit difficult to get flights.*

**Please provide any additional information you would like to share with the conference organizers about your experience at the Institute.**

*Dear Organizers, This was an exceptional week, thanks to your hard work and good planning. I also appreciated your good humor and flexibility in the light of last-minute changes and needs. It was great to have social occasions as well; I seem to have learned a lot through informal exchanges, and I feel that I have a network of colleagues I can go to when I get stuck.*

*Fantastic job! Looking forward to next year.*

*Generally, I thought the week was excellent, but a few suggestions: While it has helpful to explore how other scholars are using the technology, it would have been a great benefit to hear directly from those developing it or using it at the highest end, like game developers. On the other hand, I would also have benefitted from more discussion of specific pedagogical applications and experiences and more theoretical discussion about the field and the stakes at present and future.*

*I gave my input along the way. I will take this opportunity to thank Lisa and Alyson for having organized a wonderful workshop and also want to thank all the supporting staff at UMass Amherst for being very patient and helpful. My colleagues too were all great bunch of people and I look forward to seeing them next June in LA.*

*I really enjoyed being here this week and have learned about a lot of new programs and technologies that I'm eager to explore when I return to my institution. I look forward to seeing everyone's progress next year!*

*I think a set time for consultations with Dave and Phil earlier in the week would have been helpful, before we turned in our support sheet. I had to corner them in a bar to get some advice - which completely defined my final request. It worked out perfectly, but it could have been smoother if they'd had office hours or something during one of the sessions. I'm not sure whether a formal research proposal was necessary, after the lightning rounds. Thinking through the requirements of the lightning round accomplished the same goal. I just felt that writing it into a formal proposal was not necessary, unless the proposal is needed for records within NEH or publication. It might be helpful for a grant application, if I decide to apply for a grant for this project. So I'm of 2 minds! I can't wait to get into all of the web resources to plan my teaching for the fall!*

*I truly appreciate the collaborative spirit they helped shape for the Institute. It was an intellectual exchange in which participants could actively engage one another rather than passively receive information. I also really appreciate the balance between senior and junior scholars. Also, the continued support from CESD and access to UMass maker bots between the next session is unbelievably generous. That along with the forum on the website makes me feel very supported and not isolated.*

*In overall, a very successful and well-coordinated Summer Institute.*

*It was a much better experience than I expected, thanks to the work of the organizers and the quality of the participants.*

*It was a wonderful experience and I am grateful for the support during and after the Institute the leaders ensured we would receive. Thank you.*

*It would be great get a perspective of current game developers in the US. I think bringing someone in like Jesse Schell from Carnegie Mellon ETC program would have been a great person to bring in to talk about what we are all missing in our simulations!!! He has his own game company Schell Games and designed the Toy Story Ride at Disney World. I would also suggest his book The Art of Game Design as a point of one of the discussions....*

*Overall, this has been a great experience. As someone who is a little less technically experienced than many of the other participants, personally I might have wished for some time learning how to use specific pieces of software.*

*But at least I am now aware of a far greater range of available options and possibilities, and I feel a LOT more confident about moving forward in the year to come knowing that there is a group of people who are thinking about the same ideas, challenges, and questions who I can as for assistance, and that I have at least a starting place and an ability to articulate questions that I didn't have before.*

*Thank you for all of your hard work on organizing this experience! Getting to know more people who are pursuing the digital humanities has been fantastic. Also, it is a great feeling to know that there is a community that has been shaped that supports embarking on challenging new projects and navigating how this work translates to academic recognition.*

*Thank you so much! This really has been very worthwhile and helpful. It was wonderful to finally meet up with other 3D scholars in one setting, without the baggage of societal meetings and professional conferences. There was never an atmosphere of "my work is better than your work" that can come from the aforementioned gatherings. The caliber of the presenters and that of participants was very high, and I learned a lot from everyone. I am sad to leave. Ready for my own bed, but sad to leave.*

*Thank you, Alyson and Lisa, for organizing the institute. It was a very positive experience for me and I am happy to have participated.*

*The institute was well-organized, informative, diverse, and employed different strategies to engage participants from various disciplines. I particularly enjoyed the hands-on sessions, but would like to emphasize has they not followed the lectures/discussions they would have been less useful and thought-provoking (so I am happy for the organization structure you had). I think some down time to work on projects (perhaps one hour on days 3-5) would have been quite useful to give participants some time to proess all the materials we were presented and the software with which we worked. The 40 hours from CESD of technical support is amazing and I am very thankful for this generous assistance. In fact, working on the CESD proposal was quite challenging, however it truly helped me to narrow my focus and objectives for my project. Finally, the selection of participants was spectacular. Everyone's contributions were though-provoking and the variety of scholars brought new insights to the institute and to my own wok with 3D content for Cultural Heritage.*

*The one suggestion I would have is that the days were too full. It would have been really useful on day 3 and 5 to have a 2-hour time block where participants could have met with each other. There are many of us here with a great deal of project overlap(in terms of specific technologies or applications used), and I would have liked to have had time to sit down and do some working through of technical issues that small groups of us face, but not the whole group. Finishing at 5PM, getting dinner, and having to work individually on our lightning talks and proposals left almost zero time for that. It would have been useful to have this scheduled during the day, half-way through the conference, once we had identified people we would like to meet with. Al of the formal content was great, but I think a little less would have been okay if we would have then had some flex time to work with the other participants. We don't often get the opportunity to spend quality time with these colleagues, so that would have been really helpful. It also would give us time to work out some possible post-conference collaborations.*

*This was an incredibly well conceived, well organized, and well executed institute!*

# Appendix C: CESD Support
(Partial as of 2015)

| | Participant | Project Description | Project Status & Comments | | Key |
|---|---|---|---|---|---|
| **Section 1, July-August** | Ed Johnston | 1) Provide a summary of Unity licenses and advice on which license plan to use for academic development, and 2) An environmental scan of existing techniques for conveying layers of information within games | Complete. The second portion wandered a bit off-topic and may not be exactly what the client had in mind. | | Complete |
| | Daisy O'lice Williams | Conduct a survey of existing platforms for developing AR experiences, with an eye to ease of development and applicability to the digital humanities | Complete. | | In Progress |
| | Natalie Underberg-Goode (Part 1) | A brief survey of existing mixed-reality education and training platforms | Complete. | | Stalled / Waiting on Client |
| | Hannah Scates Kettler | A survey of methods for assessing user engagement in virtual environments, particularly with respect to embodiment and avatars | Nearly complete. On a review of the information gathered, I discovered that the most recent articles were dated in the mid 2000's. I'm currently assessing | | |
| **Section 2, Sept.-Oct.** | Magda El Zarki | Develop the back-end for an online memorial wall in which members of the public can place pictures and text in honor of family history. | The project has been completed and approved by the clients on a local wordpress server. When they have their own server up and running, I will need to duplicate the setup process on their end. Estimated time ~3 hours. | | |
| | Elaine Sullivan | Find methods of transferring metadata in and out of CityEngine, and provide a potential best-practices workflow therefor. | In progress | | |
| | Gurpreet Singh | Integrate a WebGL interface with an experience running in the Unreal Game Engine | I've reached out to Gurpreet twice and he has not replied. Most recently contacted by email 1/20/2016 | | |
| | Thomas Tucker | Provide 3D printing for a number of models which Thomas would provide | An email thread discussing the logistical difficulties of this request was last updated 7/14/2015, when Thomas indicated that he would be sending us models shortly. | | |
| **Section 3, Nov.-Dec.** | Lynn Ramey | Find or develop a version control system for Unity 3D that can be used by inexperienced programmers with the free version of Unity | In progress | | |
| | Glenn Gunhouse | Develop control and GUI systems for VR using Unity | Glenn declined support, and requested that his hours be used for other projects. | | |
| | Natalie Underberg-Goode (Part 2) | Conduct a brief survey into the state of the art of non-caucasian facial modelling for avatars. | In progress | | |
| **Section 4, Jan.-Feb.** | Piotr Kuroczyński | Develop a simpler front-end interface for interacting with a metadata schema in Drupal | Not yet started | | |
| | Heather Richards-Rissetto | Develop methods for importing models with metadata between CityEngine PostgreSQL database | Not yet started | | |
| **Section 5, March-April** | Kirk Quinsland | Kirk was uncertain of his support needs at the time of his request | Not yet started | | |
| | David Neville | Development of a VR GUI for Unity 3D | Not yet started | | |
| | David Cline | Build a website to host a mobile app | Not yet started | | |
| **Section 6, May-June** | Costas Papadopoulos | Advice, assistance, or research on 3D printed objects, embedded sensors, and HCI techniques | Not yet started | | |
| | Miriam Clinton | Implement Unity Analytic's movement tracking system in a recreation of a Minoan temple site | Not yet started | | |
| **Miscellaneous / Ongoing** | Lauren Massari & Lynn Cunningham | Lauren and Lynn C are both unsure of the final form their projects will take. Lauren is interested in applying AR to the locations of former outbuildings at Jefferson University, while Lynn and her team are in possession of high-quality scans and models of a Peruvian cultural heritage site. Both have requested general information about the possiblities and techniques of VR and AR. | In progress. I want to send Lauren and Lynn copies of the reports I've conducted for other participants, as the information in them seems directly relevant to their concerns; however, I am not certain of the proper format for this - whether they will be hosted on the website, posted in the forum, or sent directly. | | |
| | Jacob Caton & Eric Carter | VR representations of classic philosophical thought experiments | Uncertain; Matthew has been working with Jacob and Eric directly. | | |

## Appendix D: Position Papers

### Position Paper: Metadata

There are two parts to this discussion: (1) the metadata that can make 3D content discoverable and linkable in a library/archive sort of way, and (2) the information required within the model that makes it a usable (and re-usable) research and learning object. Part of the value of thinking about metadata and its variants is to position 3D work as a valid mode of knowledge production, and begin to establish agreed upon standards that will support its products as research objects that can be cited and linked to similar work (i.e. aggregated on sites like Europeana and eventually DPLA), peer-reviewed, re-used by secondary scholars, and positioned for long-term sustainability and preservation. (This distinction is important because metadata, in and of itself, might allow work to be included in a library catalog, but that's not necessarily enough information to enable the goals listed above.)

Strictly thinking in terms of metadata, CIDOC-CRM (International Council of Museums (ICOM) International Committee for Documentation-Conceptual Reference Model) may serve as a model. Per the International Organization for Standardization's website for the most recent release of the standard (ISO 21127:2014), the guidelines are for "the exchange of information between cultural heritage institutions … defined as the information managed by museums, libraries, and archives." In brief, the CIDOC-CRM is a formal ontology that maps relationships with classes that include Events, Activities, Actors, Time-Spans, Images, Documents, Places, etc. From a practical standpoint, adopting this standard would increase the findability of 3D content, but the decision to use it (or not) is largely out of the hands of individual scholars. The standards make perfect sense for tracking and understanding the relationship of objects to their culture of origins or with related artifacts, but does not address how scholars might mark-up their models for secondary users.

There are also documents that provide directives for scholars working with cultural heritage content, but do not go so far as to suggest standards (e.g., the London Charter for the computer-based visualization of cultural heritage, the ICOMOS Ename Charter for the Interpretation of Cultural Heritage Sites, and the Principles of Seville (International Principles of Virtual Archaeology). Of these, most relevant for this discussion is the London Charter's section on documentation.

#### KEY QUESTIONS

Is it conceivable that a single metadata standard and an agreement on related information could address the myriad of projects represented by the participants at this symposium? What is the bare minimum required for entry into WorldCat, DPLA, and similar? What information needs to be associated with 3D content to make it usable by secondary scholars? How does the standard for data collection about a research object differ across disciplines? How could metadata for one discipline be made nimble enough to be useful for others? (Or is that impossible?) Considering the speed at which technology changes, are operating principles more feasible than standards?

RECOMMENDED ORDER FOR READINGS

Champion, Erik. “The role of 3D models in virtual heritage infrastructures.” In *Cultural Heritage Digital Tools and Infrastructures*, edited by Agiatis Benardou, Erik Champion, Costis Dallas, and Lorna Hughes. London: Routledge, 2017. (This reading speaks to a number of our discussion topics.)

Boeykens, Stefan, and Elaina Bogani. “Metadata for 3D models: how to search in 3D model repositories?” ICERI 2008 Proceedings, v1.

Bentkowska-Kafel, Anna. “Processual scholia: the importance of paradata in heritage visualization.” In *Paradata and Transparency in Virtual Heritage,* edited by Anna Bentkowska-Kafel, Hugh Denard, and Drew Baker, 245-259. Ashgate, 2012.

Snyder, Lisa. “VSim: scholarly annotations in real-time 3D environments.” In the proceedings of DH-CASE ’14, Fort Collins, CO, USA, September 16, 2014.

Denard, Hugh. “Implementing best practice in cultural heritage visualisation: The London Charter.” In *Good Practice in Archaeological Diagnostics: Non-invasive Survey of Complex Archaeological Sites*,” edited by Cristina Corsi, Božidar Slapšak, and Frank Vermeulen, 255-268. Springer, 2013.

CARARE Metadata Schema

CIDOC-CRM tutorials

## Position Paper: Publishing 3D Work

### Invited remote discussants: Bernie Frischer, DAACH (8-9:30pm, Florence), Neil Christensen, UC Press (PST), Friederike Sundaram, Stanford University Press (PST)

The long-term goal of this discussion is the acceptance of computer models and digital work that involves 3D content as a new form of knowledge production and publications in their own right, either as short form arguments (i.e., article equivalents) or long form arguments (i.e., monograph equivalents). There are a host of related challenges including, but not limited to, the plethora of 3D projects and their technologies (in which 'publishing' is not one constant), challenges to embedding the academic argument into the 3D form (as opposed to making the model a secondary element to a textual argument), finding a publishing house willing to deal with 3D content and confer it with their imprimatur, identifying a stable platform for dissemination, developing standards for peer reviewing 3D scholarship, and overcoming the inherent technical challenges. This publication goal is largely driven by scholars looking to push the academic envelope and engage in research work that does not necessarily result in a single-author monograph. A related piece of the discussion is general access to 3D work. (See the London Charter for their discussion of access.) Consider access as the kinder second cousin of publication. Where publication's overarching *raison d'être* is to get credit for one's 3D work in the high-stakes promotion and tenure process, access has fewer demands and is easily satisfied with a stable mechanism for the dissemination of the research to its intended audience.

There are limited opportunities for publication of 3D work today:

- Elsevier's Digital Applications in Archaeology and Cultural Heritage (DAACH) encourages upload of models as an accompaniment to a textual argument and displays them in a basic web viewer. First published in 2014, there have approximately 35 articles, a portion of which have included supplementary 3D content.
- The University of Michigan Press has been funded by the Mellon Foundation to develop a publishing platform envisioned as "the infrastructure to enable long form presentations of digital scholarship." One of the project's five case studies is the Gabii project (an archaeological field report with navigable photogrammetric models of the site in Unity), which has a Fall 2016 publication date.
- The Journal for the Society of Architectural Historians has in the past accommodated 3D models via Google Earth.
- Europeana provides access to 3D models (mostly artifacts with a simple viewer for objects based on 3DHOP through Archaeology Data Service, 3D pdfs, and links to other outside party for environments (Fondazione Bruno Kessler, PROBADO 3D, Archeotransfert, etc.). A related project was 3D Icons (3D Digitisation of Icons of European Architectural and Archaeological Heritage), which ran as a pilot for three years starting February 2012 and was an aggregator of 3D content (http://3dicons-project.eu/eng/)).
- CyArk stores their own scan data of cultural heritage sites, and has expressed interested in hosting data from scholars, but there's been no action on this as of yet.

- General 3D warehouse websites host and provide access to models (e.g., SketchFab, 3D Warehouse, Thingiverse, and Turbosquid), but these are not designed for academic interests.
- UCLA has been funded by the NEH to build the VSim Archive and Repository for 3D content and the design includes both a standard for distribution (VSim) and a mechanism to embargo content during the peer-review process. The project will likely be launched Fall 2017.

Until other options become viable, the bulk of 3D work is being self-published and made available on project websites.

## KEY QUESTIONS

What does it actually mean to publish 3D work? Are we giving primacy to a model? Is it a 50/50 text to model ratio? When can screen grabs suffice and at what point is interaction necessary? What kinds of annotations do we need to support? Within the model or within the text? How are those linked? What kinds of interactions would we want to support? How do we support a continuum of research objectives, some of which can be addressed by simple web viewers while others require the ability to navigate through a large-scale space? How to support visual/spatial/kinetic/sequential argumentation within 3D space? How is the publishing or access question different for models captured and generated (e.g., PhotoScan) vs. those manually built? How to track and support different versions of a published model or database? How to track use statistics? How does one peer review digital work that challenges the prevailing print traditions? How does the user experience impact peer review? How to articulate and acknowledge the scholarship represented in the 3D work from the 'bells and whistles' of the latest technologies?

## RECOMMENDED ORDER FOR READINGS

Potenziani, Marco, *et al*. "An advanced solution for publishing 3D content on the web," MWF2014: Museums and the Web Florence 2014, held February 18-21, 2014.

3D-ICONS Guidelines and Case Studies. http://3dicons-project.eu/eng/Resources/D7.3-3D-ICONS-Guidelines-and-Case-Studies

Author names redacted. "Digital Karnak: an experiment in publication and peer review of interactive, three-dimensional content." In peer review with the *Journal for the Society of Architectural Historians*.

Morse, Jeremy, *et al*. "Poster: Building a hosted platform for managing monographic source materials and born digital publications through library/press collaboration."

Hydra/Fedora Mellon Project. "Building a hosted platform for managing monographic source materials" Interim Report – Year 1.

Elliot, Michael A. "The future of the monograph in the digital era: a report to the Andrew W. Mellon Foundation." In the *Journal of Electronic Publishing*, v18, n4.

## Position Paper: Sustainability, Preservation, and Forward Migration

**Invited remote discussant: Anna Bentkowska-Kafel, Vice-Chair, COST Action "Colour and Space in Cultural Heritage" (9:30 to 11:00 pm, London).**

Broadly speaking, this topic is in reference to long-term access and reuse. In this context, 'sustainability' refers to long-term life of the digital project deliverables and/or assets (e.g., a model, a website, an experience, raw work files, software, supplementary files, etc.) as opposed to funding (i.e., a sustainable funding model for continued research). 'Preservation' refers to the long-term care of the digital deliverables and/or assets as in an institutional archive or similar in keeping with the definition offered by Jones and Beagrie (2001): "the series of managed activities necessary to ensure continued access to digital materials for as long as necessary." While included in this definition for preservation, 'forward migration' refers to the very specific campaign required to keep digital deliverables and/or assets accessible and usable as intended by their creators (either in their native environment or through emulation).

As scholars working with 3D, we can provide opinions about what and how our content might be archived and preserved, but this is an issue that needs to be discussed and resolved in concert with library professionals. Work needs to happen on both sides of the equation. Libraries are the natural leaders on the fundamental archival questions of ingest, metadata, storage, access, persistent identifiers, rights management, security, migration, retrieval, interoperability and aggregation, and administration. For our part, we need to consider our work practices and develop strategies that will make our research accessible and usable. We also need to think deeply about what preservation, sustainability, and forward migration means to us as a community. Jointly, we need to develop mechanisms for communication so that we can work together.

### KEY QUESTIONS

How does 3D content stand in terms of library collection development? What kinds of 3D content are most likely to be addressed by repositories in the near future? How might scholars working with 3D artifacts influence decisions that will shape collection policies relating to this content? What does it mean to archive a 3D project? What files should be preserved? (Research materials? Model files in multiple formats? Textures? Supplementary information? Text documents? Work files for collateral materials? Renderings? Videos?) What are our most stable 3D formats? And what does their use for preservation mean to our project work? What about the software used to build the models or interact with them? What interactions need to be preserved? Using what strategies? Emulation? Constant forward migration? What selection criteria should be used? Who undertakes this work and pays for these services? How long should this content be archived? Short-term or long-term? When can archived material be de-accessioned? How do we address situations where proprietary software/platforms used for a given project is no longer available or supported by its creator? And what can we do immediately to begin preserving our own work?

### RECOMMENDED ORDER FOR READINGS

Pletinckx, Daniël. “Preservation of virtual reconstructions.” In *Good Practice in Archaeological Diagnostics*, Natural Science in Archaeology, 309-314. Springer, 2013. (NOTE: An earlier version of this same article appeared in *The Preservation of Complex Objects Volume 1: Visualisations and Simulations* (The University of Portsmouth, 2012), and this entire volume is a worthwhile read.)

Koller, David, Bernard Frischer, and Greg Humphreys. “Research challenges for digital archives of 3D cultural heritage models.” *Journal on Computing and Cultural Heritage*, v 2, n 3, article 7 (December 2009).

Sabharwal, Arjun. “Defining digital curation in the digital humanities context.” In *Digital Curation in the Digital Humanities: Preserving and Promoting Archival and Special Collections*, 11-25. Elsevier, 2015.

Lowood, Henry. “Memento Mundi: Are Virtual Worlds History?” iPres 2009, 6th International Conference on Preservation of Digital Objects.

McDonough, Jerome, *et al*. *Preserving virtual worlds final report*. August 31, 2010.

Thwaites, Hal. “Digital Heritage: What Happens When We Digitize Everything?” In *Visual Heritage in the Digital Age*, Springer Series on Cultural Computing, 327-348. Springer, 2013.

Dodgson, Neil A. “Going to the movies: lessons from the film industry for 3D libraries.” In *3D Research Challenges*, edited by M. Ioannides and E. Quak, 93-103. Springer, 2014.

Bennett, Michael J. “Evaluating the creation and preservation challenges of photogrammetry-based 3D models” (2015) *UConn Libraries Published Works*. Paper 52.

## Position Paper: The Technology Learning Curve/Infrastructure for Collaboration

For newcomers to the 3D world, the technology learning curve is daunting. For nascent projects, there are hundreds of possible modeling programs, technologies, interfaces, and dissemination platforms from which to choose, each with its own strengths and weaknesses. Picking the right technology for a given project from the beginning is critical, because a misstep at the onset could waste valuable time, or worse, jeopardize a successful outcome. While there are exemplars, there is no 'industry standard' for cultural heritage visualization, so each project team must grapple with the technology question anew. Once chosen, the learning curve for a particular piece of software or the workflow for moving between programs is potentially steep – for the PI, for the student researchers, and for any hired staff that needs to be trained. The amount of training time required to feel confident with a piece of software varies; the learning curve for working with Unity might be three weeks, for Autodesk's 3ds Max, it could be six months. For projects with a workflow that touches a number of different products, the learning curve is amplified.

From a forum post on www.digitaltutors.com in response to a question about the 3D learning curve: "*… I could not tell you how many projects I've never finished. There are many causes for this… Sometimes, like you, I hit a brick wall and cannot seem to find a solution or sometimes it's purely that whatever motivation I started with dries up. The problem with 3D is that there is a near limitless number of possible solutions to every given model and sometimes you just take the wrong approach. A vital part of 3D is problem solving and learning to work through the issues will not only make you more proficient at 3D modelling but will make you a better artist in general*." Adengu

Additionally, academics working with 3D have little community support. They are oftentimes isolated within their disciplines with little opportunity for interaction with their 3D peers. Discipline-specific academic conferences have yet to embrace 3D work, with architecture and archaeology being the rare exceptions. The Digital Humanities community is welcoming, but rarely attracts a significant contingent of scholars working with 3D. A similar situation exists with the gaming, graphics, museum, and education communities; they might be welcoming, but their focus doesn't necessarily overlap with that of scholars working with 3D. Europe is ahead of the United States in terms of opportunities for general information, technical support, scholarly interaction with peers, and dissemination of 3D content. There are groups like:

- DARIAH-EU (Digital Research Infrastructure for the Arts and Humanities) that support digital research in the arts and humanities generally;
- V-MUST (Virtual Museum Transnational Network http://www.v-must.net/) which supports virtual museums and online educational content across the heritage sector broadly;
- ICOMOS (International Council on Monuments and Sites (http://www.icomos.org/en/) which deals with physical cultural heritage sites;

- UNESCO (United Nations Educational, Scientific and Cultural Organization http://en.unesco.org/) and their various activities to promote and protect cultural heritage (including Erik's new effort);
- ARIADNE (an aggregation portal for archaeological research data infrastructures and datasets) http://www.ariadne-infrastructure.eu/
- CIPA Heritage Documentation (International Committee for Documentation of Cultural Heritage http://cipa.icomos.org/index.php?id=2);
- ITN-DCH (Initial Training Network for Digital Cultural Heritage http://itn-dch.eu/);
- Europeana, Europeana Space, and 3D-Icons (promoting the 'creative re-use of digital cultural content http://www.europeana-space.eu/, http://3dicons-project.eu/, and http://www.3dicons.ie/);
- EPOCH (European Network of Excellence in Open Cultural Heritage, although all posted papers are from 2004-2008, http://epoch-net.org/site/);
- CAA (Computer Applications & Quantitative Methods in Archaeology http://caa-international.org/) which focused broadly on computation and narrowly on archaeology; and
- ISPRS (International Society for Photogrammetry and Remote Sensing http://www.isprs.org/).

Additionally, there are a number of Euro-centric annual conferences related (or not) to the above-mentioned organizations: VAST (International Symposium on Virtual Reality, Archaeology and Intelligent Cultural Heritage), with an emphasis on archaeology; EUROMED (International Conference on Digital Heritage); and VSMM (Conference on Virtual Systems and MultiMedia Dedicated to Digital Heritage).

In the United States, we have limited support for Digital Humanities generally and 3D research specifically. Digital interests in the Library world is similarly well represented, but there is just not a counterpart to the robust network for 3D scholars as exists in Europe. A short list of U.S. organizations includes:

- HASTAC (Humanities, Arts, Science, and Technology Alliance and Collaboratory https://www.hastac.org/),
- ACH (The Association for Computers and the Humanities http://ach.org/),
- the National Humanities Alliance (largely a promotional organization, http://www.nhalliance.org/),
- regional support networks like the University of California Humanities Research Institute (UCHRI https://uchri.org/),
- DPLA (The Digital Public Library of America, the American counterpart to Europeana, although they do not currently support 3D content. https://dp.la/)
- CNI (Coalition for Networked Information https://www.cni.org/),
- DLF (Digital Library Federation https://www.diglib.org/),
- IMLS (Institute of Museum and Library Services https://www.imls.gov/),
- Ithaka and Ithaka S+R (http://www.ithaka.org/ and http://www.sr.ithaka.org/),

- NDSA (National Digital Stewardship Alliance, an effort of the Library of Congress, the Council on Library and Information Resources (CLIR) and the DLF. http://ndsa.diglib.org/), and
- Humanities Indicators (http://humanitiesindicators.org/content/indicatordoc.aspx?i=11)
- Canadian … Historic GIS group … run out of Toronto?

## KEY QUESTIONS

How to address the technology learning curve? What information can be generated/shared with subsequent scholars to encourage 3D research? Is there a standard 3D toolkit? Would it help if recommendations for project development were posted online? Training videos? How to support scholars working at institutions without the infrastructure for 3D work? How to build a community of scholars working with 3D? How can we easily connect scholars across disciplinary boundaries?

## RECOMMENDED ORDER FOR READINGS

Champion, Erik. "The role of 3D models in virtual heritage infrastructures." In *Cultural Heritage Digital Tools and Infrastructures*, edited by Agiatis Benardou, Erik Champion, Costis Dallas, and Lorna Hughes. London: Routledge, 2017. (This reading speaks to a number of our discussion topics.)

Dombrowski, Quinn. "What ever happened to Project Bamboo?" *Literary and Linguistic Computing* 2014. https://rd-alliance.org/system/files/filedepot/136/Lit%20Linguist%20Computing-2014-Dombrowski-llc-fqu026.pdf

3D-ICONS Guidelines and Case Studies. http://3dicons-project.eu/eng/Resources/D7.3-3D-ICONS-Guidelines-and-Case-Studies

## Position Paper: Promotion and Tenure

### Invited in-person discussant: Willeke Wendrich, outgoing director of UCLA's Center for Digital Humanities

The challenge of acquiring tenure while involved with digital scholarship is very specific problem for those currently in or expecting to gain tenure-track positions that require the successful completion of a tenure case within a fixed time period (typically six years). Promotion, on the other hand, is a challenge everyone faces and is more broadly defined as "the act of moving someone to a higher or more important position or rank in an organization."

Whether the goal is tenure or promotion, critical for our participants is the acceptance of 3D work as viable scholarship and work product. This is a multifaceted challenge. Depending on the situation, it may require changing attitudes at a disciplinary level by educating colleagues and administrators about the process and the scholarship involved, and establishing 3D research as a new form of knowledge production. While the wide variety of 3D technologies fosters innovation and experimentation, it confounds efforts to educate colleagues about the importance of this work. How does one tease apart the differences between building a reconstruction model and generating a PhotoScan model for use in archaeological field work? The two are equally valid uses of technology, but involve entirely different research objectives, tool sets, outputs, and scholastic investment. At minimum, an argument that is both compelling and irrefutable must be made for 3D work within the context of one's unique work situation. For an archaeologist, that argument might revolve around the uses of 3D technologies for recording and disseminating field data. For an instructional technologist, that argument might involve the learning benefits of interaction with virtual worlds.

For those facing academic tenure and promotion challenges, there are a growing number of guidelines on the evaluation of digital scholarship. The recommendations in the disciplinary guidelines echo the advice many have given to students: that the research objective for the digital work be clearly articulated, that said research objective was sane and appropriate, and that there is evidence that the technological approach successfully addressed the objective. The common thread is scholastic rigor. From the CAA/SAH guidelines: "… evaluation will depend on the clarity of the argument and the scholarship, as well as the assessment of impact and evidence of review by the field of specialists. This standard holds in digital scholarship as it does with non-digital scholarship."

### KEY QUESTIONS

How best to build compelling arguments for 3D work when it's not one size fits all? How best to educate colleagues on the validity and importance of 3D work? How best to build a compelling tenure or promotion case that includes 3D work? Beyond competitive grants and extramural support, how else might we validate 3D work for tenure and promotion cases?

## RECOMMENDED ORDER FOR READINGS

Closing the evaluation gap. *Journal of Digital Humanities*, v1, c4, Fall 2012. (An entire issue of the journal devoted to discussion of "assessment and the scholarly vetting process around digital scholarship.) http://journalofdigitalhumanities.org/1-4/

Humanities Indicators – Tenure (a pdf of graphs pulled from http://www.humanitiesindicators.org/)

Rockwell, Geoffrey. "On the evaluation of digital media as scholarship." *Profession* (published by The Modern Language Association of America) (2011): 152-168.

Fitzpatrick, Kathleen. "Peer review, judgment, and reading." *Profession* (published by The Modern Language Association of America) (2011): 196-201.

Zorich, Diane M. "Transitioning to a digital world: art history, its research centers, and digital scholarship. May 2012. (NOTE: Specifically, the section 'Challenges for art history in the digital realm" that begins on page 19.)

American Historical Association. *Guidelines for the evaluation of digital scholarship in history*. 2015. https://www.historians.org/teaching-and-learning/digital-history-resources/evaluation-of-digital-scholarship-in-history/guidelines-for-the-evaluation-of-digital-scholarship-in-history

College Art Association and the Society of Architectural Historians. *Guidelines for evaluation of digital scholarship in art and architectural history*. January 2016. http://www.collegeart.org/news/2016/02/23/the-college-art-association-and-the-society-of-architectural-historians-release-guidelines-for-the-evaluation-of-digital-scholarship-in-art-and-architectural-history/

Modern Language Association. *Guidelines for evaluating work in digital humanities and digital media*. (online only) https://www.mla.org/About-Us/Governance/Committees/Committee-Listings/Professional-Issues/Committee-on-Information-Technology/Guidelines-for-Evaluating-Work-in-Digital-Humanities-and-Digital-Media

## Position Paper: Funding

**Invited remote discussant: Jennifer Serventi, National Endowment for the Humanities (2-3:15, Washington)**
**Invited in-person discussant: Willeke Wendrich, outgoing director of UCLA's Center for Digital Humanities**

3D projects face a significant funding challenge. As with all digital humanities projects, moving forward grant by grant is inefficient, institutional support for this type of work is uneven, and a reliance on student labor is not a tenable solution. The holy grail is a sustainable funding model for very expensive and time-consuming 3D work. While each project is unique, and their level of complexity ranges from classroom exercises built with free software to large-scale, multi-institutional reconstruction projects intended for public dissemination, the costs associated with bringing a 3D project to successful completion fall into eight basic categories:

1. **Project staff** (e.g., course relief for the PI; benefits related to salaried employees; project management staff; administrators/human resource personnel; technical hires such as modelers, animators, and web/graphic designers; recharge or funding for collaborators; training; outsourcing; and student workers)
2. **Research** (e.g., travel costs; archive fees for things such as access, duplication, and licensing; book purchases; conference participation; digitization services; and transcription and mark-up services)
3. **Lab space** (i.e., the physical infrastructure required for the project team)
4. **Hardware** (e.g., computer workstations; possible system upgrades for things like advanced graphics cards or solid state drive; and stand-alone devices such as cameras, 3D scanners, 3D printers, mobile devices (e.g., smartphones and tablets), Total Stations, drones, and video recorders)
5. **Software** (e.g., the purchase or subscription costs of required 3D modeling software packages for the team; costs for general purpose software like Word, the Adobe Creative Suite, and project management software; licenses for web-based services like BaseCamp, Survey Monkey, Box, or Dropbox; and charges associated with compute time)
6. **Technical support** (e.g., desktop and hardware support; trouble-shooting expertise; and specific technical expertise above-and-beyond that possessed by the PI on issues like metadata, database construction, data standards, copyright, intellectual property, web design, gaming, and graphics)
7. **Cyberinfrastructure** (e.g., network support; shared workspace systems; virtual private network and virtual machine creation and administration; and servers for storage/delivery, GIS data, and streaming audio/video)
8. **Long-term maintenance** (e.g., costs associated with storage, web-hosting, archival preservation, sustainability, and forward migration)

Most academics enjoy some level of indirect support from their home institution, typically in the form of overhead costs (e.g., offices, furniture, office equipment, and electricity) and

administrative costs (e.g., contracts and grants, finance, or human resources staff). This may be at the departmental, divisional, college, or institutional level.

## KEY QUESTIONS

How to overcome the funding hurdle? What are the common funding challenges? How best to leverage institutional indirect support for 3D work? How to encourage infrastructure build-out at the institutional level to support 3D work? How can we work less expensively and/or more efficiently? How do we break down silos on campuses so divisions collaborate to make labs/centers/places for digital work across disciplinary boundaries?

## RECOMMENDED ORDER FOR READINGS

Humanities Indicators – Funding (a pdf of graphs pulled from http://www.humanitiesindicators.org/)

Maron, Nancy L. and Matthew Loy. *Revenue, Recession, Reliance: Revisiting the SCA/Ithaka S+R Case Studies in Sustainability*. October 6, 2011 http://sr.ithaka.org/?p=22366

Maron, Nancy L. and Sara Pickle. *Sustaining the digital humanities: host institution support beyond the start-up phase*. June 18, 2014. http://www.sr.ithaka.org/publications/sustaining-the-digital-humanities/

## Appendix E: 2016 Schedule

### 2016 UCLA Session Summary (June 20-23, 2016)

**Sunday, June 19**: Participants arrive
**Monday, June 20**: Participant presentations followed by responses from Institute faculty and general discussion
**Tuesday, June 21**: Participant presentations followed by responses from Institute faculty and general discussion
**Wednesday, June 22**: Group discussions on critical topics including metadata, publishing 3D work, sustainability, preservation, forward migration, and the technology learning curve
**Thursday, June 23**: Group discussions on critical topics including promotion and tenure and funding, Taking stock and next steps. Participants leave.

### Detailed Description

**Sunday, June 19, 2016**

**Participants arrive at Tiverton House**

7:00-10:00 p.m. BAR/RESTAURANT (LOCATION TBD)
No-host bar, snacks, and/or food at a local campus gathering spot.

**Monday, June 20, 2016**
ZOOM MEETING ID: 641 231 3750

**Location: Charles E. Young Research Library, Main Conference Room (room 11360)**

Faculty: Alyson Gill (UMass Amherst), Lisa M. Snyder (UCLA), Diane Favro (UCLA), and Chris Johansen (UCLA)

**9:00-9:30** Welcomes and Introductions

**9:30-11:30** Panel #1: **Challenges and Public History**

Where Have We Come From? Where Are We Going? Challenges and Opportunities in 3D Modeling of Cultural Heritage Sites
*Hannah Scates Kettler and Lynn Cunningham*

Challenges in Public Dissemination of Cultural Heritage Data
*Lauren Massari*

Modeling Uncertainty, Uncertain Modelers, and their Uncertain Models
*Kirk Quinsland*

Freedom's Fortress, A Tale of Two Interfaces: A comparison of AR and VR mobile environments to support the retelling of the "Contraband Decision" *Daisy-O'lice I. Williams*

**11:30-11:45** Panel #1 **Faculty comments and session discussion**

11:45-1:00 LUNCH

1:00-2:30 Panel #2: **Metadata, Paradata, Publishing, Sustainability**

Libraries and 3D Modeling: Supporting Humanities Scholars Working with 3D Content
*Hannah Scates Kettler and Lynn Cunningham*

Metadata, Paradata and Standards: Management Challenges in 3D Scholarly Edition Project
*Gurpreet Singh*

The end of Babel – Designing a virtual research environment for digital 3D reconstruction of art and architecture
*Piotr Kuroczyński*

2:30-2:45 Panel #2 Faculty comments and session discussion

2:45-3:00 CATERED BREAK

3:00-4:30 Panel #3: Research with 3D

Collaborative Storytelling in Unity3D: Creating Scalable Long-Term Projects for Humanists
*Lynn Ramey*

Trolley Problem in a Virtual 3D Environment
*Jacob Caton and Eric Cave*

Can Virtual Spaces Be Made Accessible to the Blind Using Spatial Audio Cues?
*Glenn Gunhouse*

4:30-4:45 Panel #4 Faculty comments and session discussion

4:45-5:00 Concluding remarks for the day

Tuesday, June 21, 2016

Location: Charles E. Young Research Library, Main Conference Room (room 11360)

ZOOM MEETING ID: 641 231 3750

9:00-9:30 Welcomes and Introductions

9:30-11:30 Panel #4: VR, AR, and Student Engagement

Phygital Augmentations of History in the Classroom: The Battle of Mount Street Bridge *Constantinos Papadopoulos*

Technology-Enhanced Learning for Local History: Utilizing the Potential of AR and VR to Explore Blacksburg's Historic 16 Squares District *Thomas Tucker*

Technology-Enhanced Learning for Local History: Christiansburg Institute and the CI-Spy Application *David P. Cline*

Liberty Hall Museum: Designed VR/AR Experiences *Edward S. Johnston*

11:30-11:45 Panel #4 Faculty comments and session discussion

11:45-1:00 LUNCH

1:00-2:30 Panel #5: Ethics, Avatars, Difficulty Histories

Virtual Cultural Rehearsal: Addressing Digital Humanities Concerns in the Design of Mixed-Reality Cultural Immersion Projects *Natalie Underberg-Goode*

The Uncle Sam Plantation: A 3D/VR Learning Environment for Teaching Lost and Difficult Histories *David Neville*

From Elmina to Sankofa: an evolving digital project *Magda El Zarki*

2:30-2:45 Panel #5 Faculty comments and session discussion

2:45-3:00 Catered break

3:00-4:30 Panel #6: Archaeology

MayaCityBuilder: A workflow and test application for integrating georeferenced multi-format and multi-resolution data to explore ancient Maya cityscapes *Heather Richards-Rissetto*

The House of the Rhyta at Pseira: A New Reconstruction for Online Crowdsourcing *Miriam G. Clinton*

3D Saqqara and the Future of Born-Digital Publishing *Elaine Sullivan*

4:30-4:45 Panel #6 Faculty comments and session discussion

4:45-5:00 Concluding remarks for the day

Wednesday, June 22, 2016

Location: IDRE's Visualization Portal (5628 Math Sciences)

WebEx MEETING ID: 198 179 112

Additional in-person faculty:

Erik Champion (Professor of Cultural Visualization in the School of Media, Culture and Creative Arts at Curtin University, Perth, Australia)

Henry E. Lowood (Curator for History of Science & Technology; Film & Media Collections, Stanford University Libraries)

9:00-9:15 Welcomes and Introductions

9:15-10:45 TOPIC #1 Metadata

(NOTE: Please see the attached position papers for background information on all discussion topics)

10:45-11:00 BREAK

11:00-12:30 TOPIC #2 Publishing 3D Work

Invited remote discussants: Bernie Frischer, DAACH (8-9:30pm, Florence), Neil Christensen, UC Press (PST), Friederike Sundaram, Stanford University Press (PST).

12:30-1:30 Catered Lunch

1:30-3:00 TOPIC #3 Sustainability, Preservation, and Forward Migration

Invited remote discussant: Anna Bentkowska-Kafel, Vice-Chair, COST Action "Colour and Space in Cultural Heritage" (9:30 to 11:00 pm, London).

3:00-3:15 Catered break

3:15-4:45 TOPIC #4 The Technology Learning Curve/Infrastructure for Collaboration

4:45-5:00 Concluding remarks for the day

6:00-7:00 Catered dinner

Thursday, June 23, 2016

Location: IDRE's Visualization Portal (5628 Math Sciences)

WebEx MEETING ID: 195 682 023

9:00-9:15 Welcomes and Introductions

9:15-10:45 TOPIC #5 Promotion and Tenure

Invited in-person discussant: Willeke Wendrich, outgoing director of UCLA's Center for Digital Humanities

10:45-11:00 BREAK

11:00-12:30 TOPIC #6 Funding

Invited remote discussant: Jennifer Serventi, National Endowment for the Humanities (2-3:15, Washington)

Invited in-person discussant: Willeke Wendrich, outgoing director of UCLA's Center for Digital Humanities

12:30-12:45 Evaluation forms and concluding paperwork

12:45-1:00 Concluding remarks and final discussion (Alyson)

1:00-1:30 Lunch

A catered lunch will be provided, probably boxed sandwiches so people can take them with them if they're racing for the airport.

FINI (for June 2016) … everyone leaves

# Preliminary 2016 NEH Report

*2016 NEH Digital Humanities Summer Institute Survey*

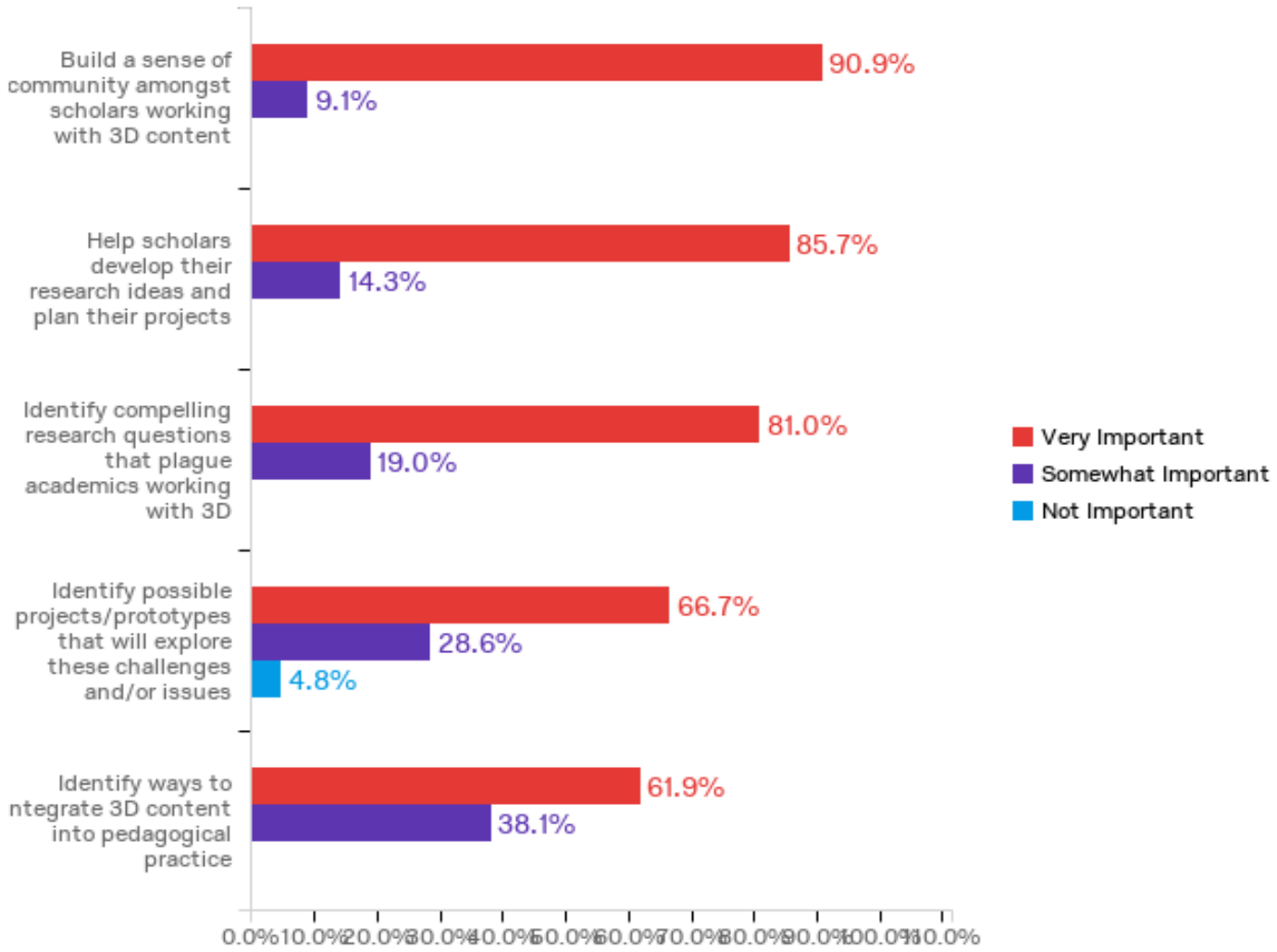
**July 14th 2016, 11:59 am PDT**

**This 2016 Institute was design to fulfill a set of goals for 3D scholarship.**

For each GOAL below, please indicate how IMPORTANT you think the goal is to the 3D scholarly community.

| Question | Very Important | | Somewhat Important | | Not Important | | Total |
|---|---|---|---|---|---|---|---|
| Build a sense of community amongst scholars working with 3D content | 90.9% | 20 | 9.1% | 2 | 0.0% | 0 | 22 |
| Help scholars develop their research ideas and plan their projects | 85.7% | 18 | 14.3% | 3 | 0.0% | 0 | 21 |
| Identify possible projects/prototypes that will explore these challenges | 66.7% | 14 | 28.6% | 6 | 4.8% | 1 | 21 |
| Identify research questions that plague academics working with 3D content | 81.0% | 17 | 19.0% | 4 | 0.0% | 0 | 21 |

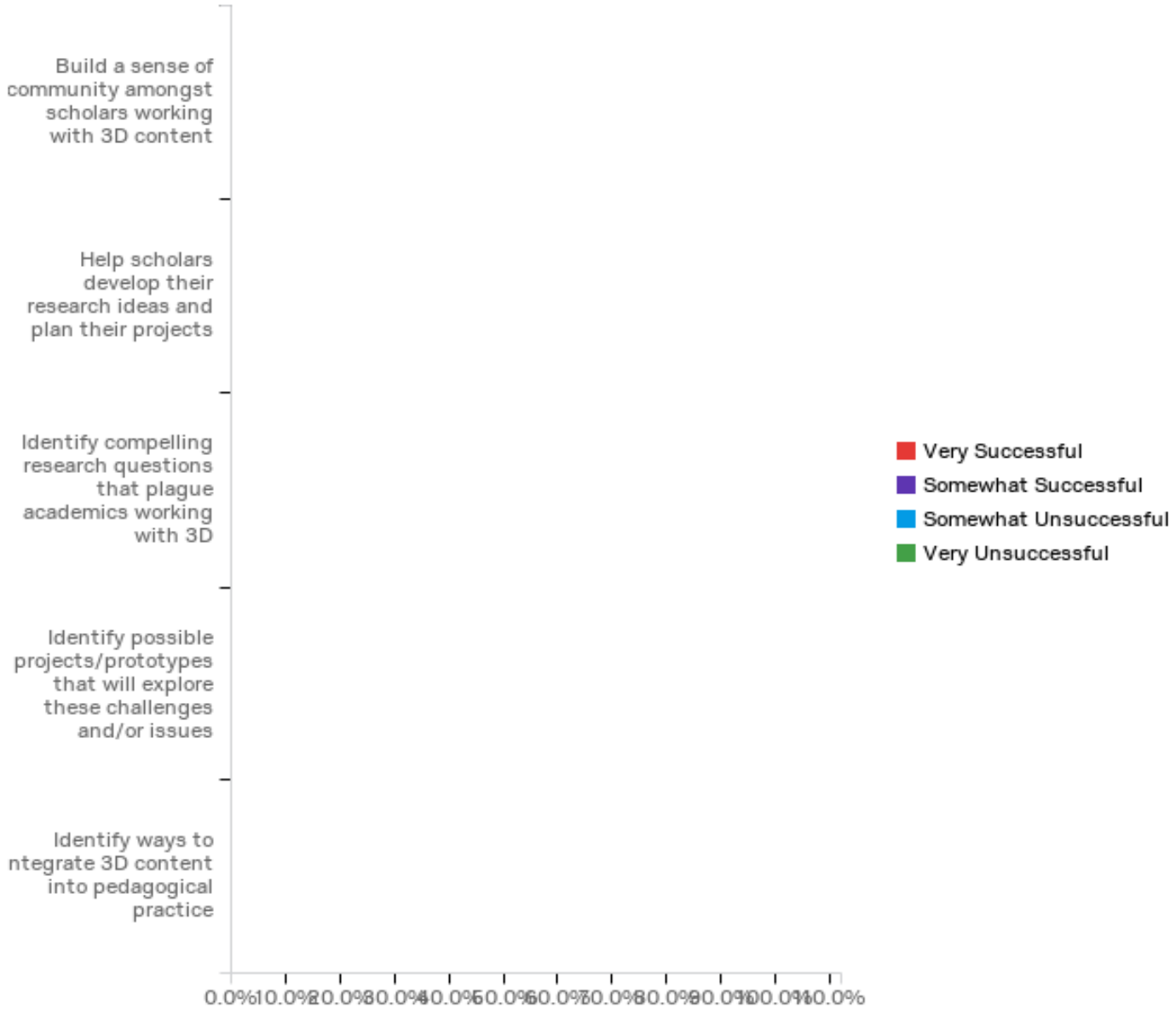
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Identify ways to integrate 3D content into pedagogical practice | 61.9% | 13 | 38.1% | 8 | 0.0% | 0 | 21 |



**This 2016 Institute was design to fulfill a set of goals for 3D scholarship.**

For each GOAL below, please indicate how SUCCESSFUL you feel the Institute was in achieving/making progress on the goal.

| Question | Very Successful | Somewhat Successful | Somewhat Unsuccessful | Very Unsuccessful |
|---|---|---|---|---|
| Build a sense of community amongst scholars working with 3D content | 90.9% | 9.1% | 0.0% | 0.0% |
| Help scholars develop their research ideas and plan their projects | 50.0% | 45.5% | 4.5% | 0.0% |
| Identify possible projects/prototypes that will explore these challenges | 54.5% | 40.9% | 4.5% | 0.0% |
| Identify research questions that plague academics working with 3D content | 77.3% | 22.7% | 0.0% | 0.0% |
| Identify ways to integrate 3D content into pedagogical practice | 33.3% | 52.4% | 14.3% | 0.0% |

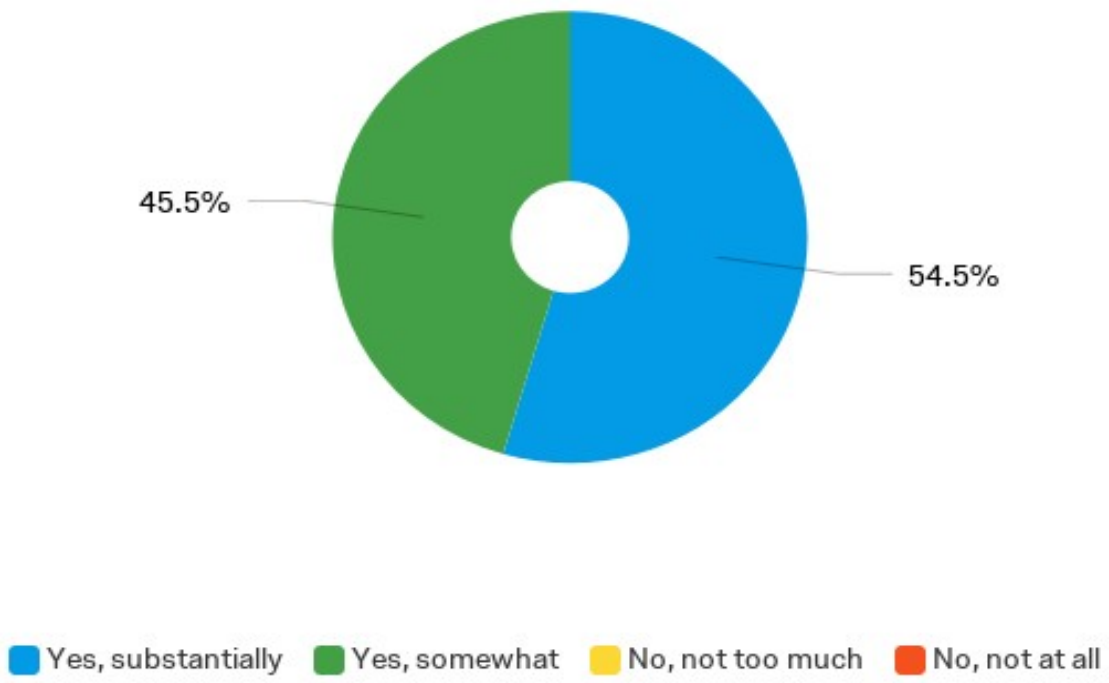

Build a sense of community amongst scholars working with 3D content
Help scholars develop their research ideas and plan their projects
Identify compelling research questions that plague academics working with 3D
Identify possible projects/prototypes that will explore these challenges and/or issues
Identify ways to ntegrate 3D content into pedagogical practice
0.0%
10.0%
20.0%
30.0%
40.0%
50.0%
60.0%
70.0%
80.0%
90.0%
100.0%
110.0%
Very Successful
Somewhat Successful
Somewhat Unsuccessful
Very Unsuccessful

## Please provide any additional information that would help us understand your responses above.

| Please provide any additional information that would help us understand you... | undefined |
|---|---|
| Building community and discussing major challenges and coming up with strategies and action plans for dealing with those challenges was a major goal for me in attending these workshops, and I think this institute has been great towards fostering these outcomes. | |
| I think this has been a great opportunity to create a community which will sustain beyond the life of the 2-year institute. We worked together on lots of great ideas for training, conference participation, development of best practices, etc. Great job by Lisa & Alyson in fostering community & providing a path forward for our group! | |
| We need this every year. I appreciate all the work Lisa and Allyson and all have put into this, so THANK YOU. It has been amazing. | |

## Has participating in this 2016 Institute changed your thinking about your own scholarship?

| Answer | % | Count |
|---|---|---|
| Yes, substantially | 54.5% | 12 |
| Yes, somewhat | 45.5% | 10 |
| No, not too much | 0.0% | 0 |
| No, not at all | 0.0% | 0 |
| Total | 100% | 22 |

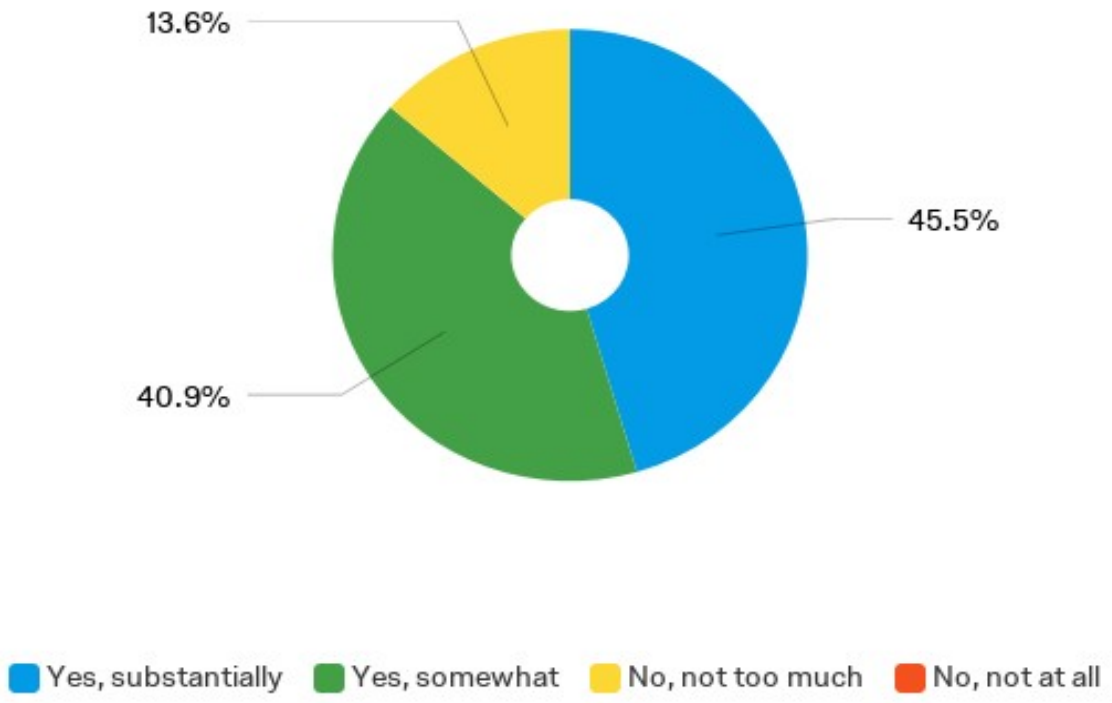


## Please provide any additional information that would help us understand your response.

| Please provide any additional information that would help us understand you... |
| --- |
| I now see my scholarship in a wider context. |
| It has been very useful in thinking about how I approach my scholarship personally but also how I market/spin/promote/etc. it. |
| It has widened my understanding of issues in different disciplines that I am now more aware and can think of ways to make my work more transferable. |
| It has been a platform for approval for the ideas and challenges that I had. |
| The 2015 session substantially changed my thinking about my scholarship.  This session confirmed that new direction and added new ways to continue in a similar track. |
| This year's meeting was especially useful for prompting me to think through issues that I hadn't anticipated even after last year's meeting. |

## Has participating in this 2016 Institute changed your thinking about 3D work in general?

| Answer | % | Count |
|---|---|---|
| Yes, substantially | 45.5% | 10 |
| Yes, somewhat | 40.9% | 9 |
| No, not too much | 13.6% | 3 |
| No, not at all | 0.0% | 0 |
| Total | 100% | 22 |

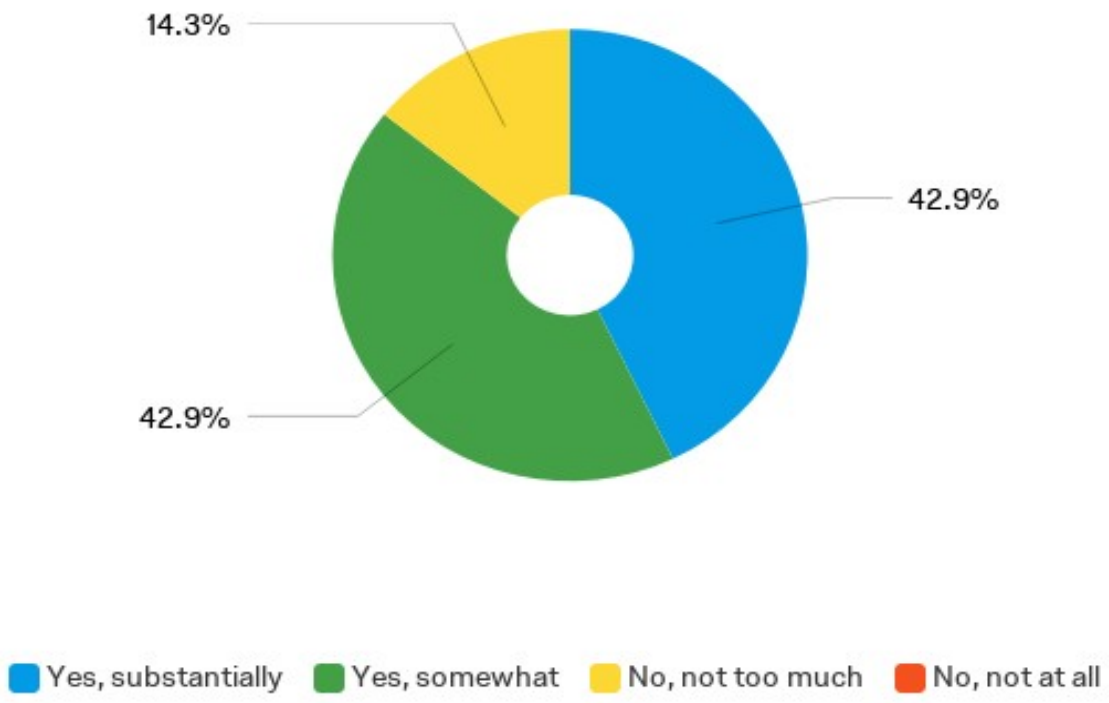


## Q7 - Please provide any additional information that would help us understand your response.

| Please provide any additional information that would help us understand you... |
| --- |
| It was already significantly realigned by the 2015 institute at UMass. |
| I see the "grand challenges" for 3D in new ways, I also have realized new potentials for the field, and it was very useful to get to work closely with people really pushing new boundaries. |
| There is still a steep learning-curve for me before I feel completely comfortable, but I feel as though I at least have a good understanding of the issues and challenges. |
| It was a deep dive into what for me was a relatively new interest. |
| No, I came in thinking that the work was difficult, varied, robust, and convoluted. This just made it more so in some cases. But now there are action items to address this. |
| Again, 2015 changed my thinking substantially, whereas 2016 confirmed that change. |
| I'm thinking a lot more about data management, editing, and curation that I previously had |

## Q8 - Has participating in this 2016 Institute advanced your own scholarship?

| Answer | % | Count |
|---|---|---|
| Yes, substantially | 42.9% | 9 |
| Yes, somewhat | 42.9% | 9 |
| No, not too much | 14.3% | 3 |
| No, not at all | 0.0% | 0 |
| Total | 100% | 21 |



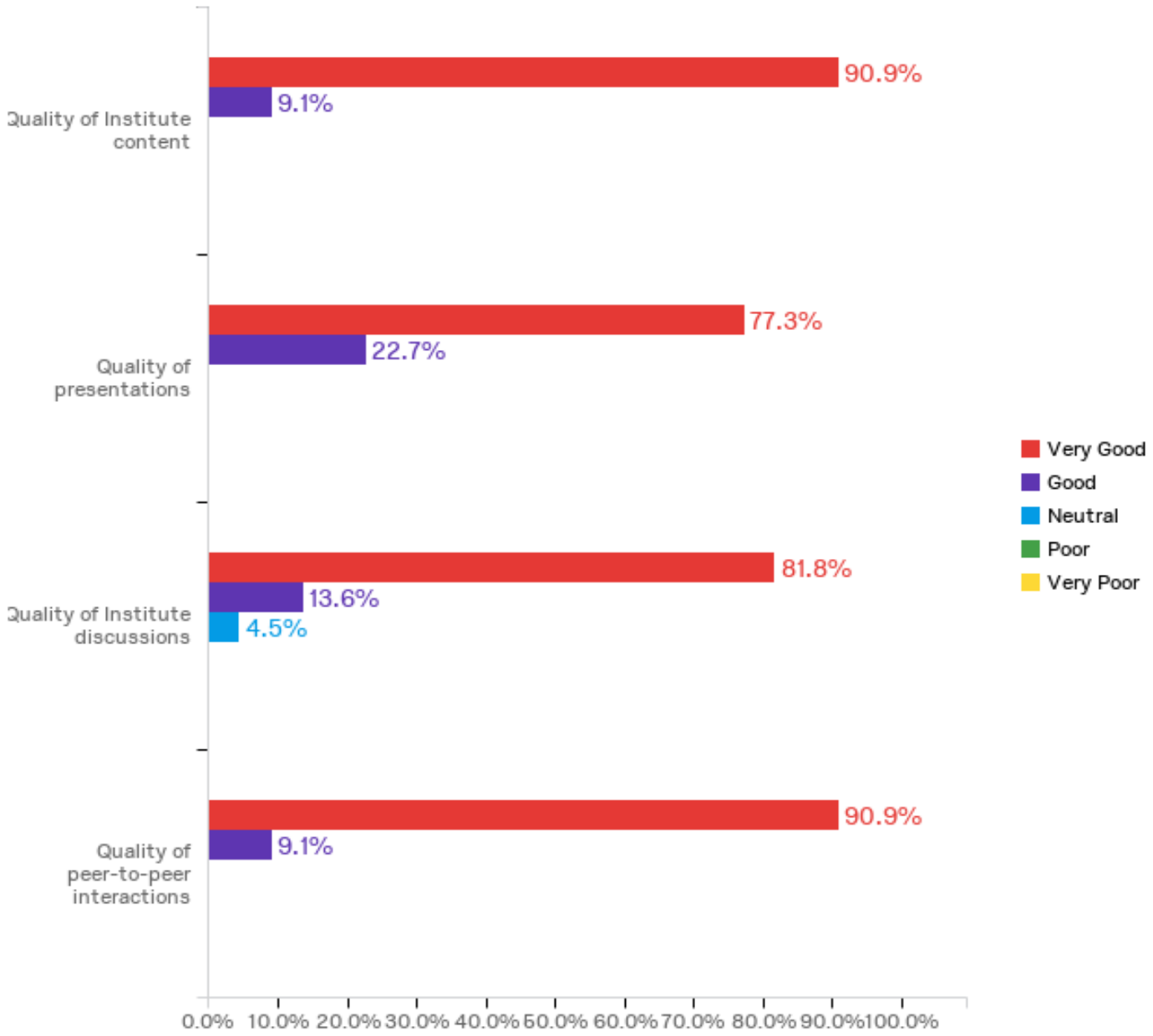
## Q9 - Please provide any additional information that would help us understand your response.

Please provide any additional information that would help us understand your responses.

| Please provide any additional information that would help us understand you... |
| --- |
| Not my main field of research |
| I was already committed to a 3D project when I came in, but this has provided support, motivation, expertise and community, all of which I have very little of at my own university. |
| Yes, I used the NEH Summer Institute on my Tenure Packet |
| It has provided for a network of people working on something similar where it was isolating on my own campus. |

## Q10 - Please rate the overall quality of each 2016 Institute component.

| Question | Very Good | | Good | | Neutral | | Poor | | Very Poor | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quality of Institute content | 90.9% | 20 | 9.1% | 2 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 22 |
| Quality of presentations | 77.3% | 17 | 22.7% | 5 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 22 |
| Quality of Institute discussions | 81.8% | 18 | 13.6% | 3 | 4.5% | 1 | 0.0% | 0 | 0.0% | 0 | 22 |
| Quality of peer-to-peer interactions | 90.9% | 20 | 9.1% | 2 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 22 |


Quality of Institute content
90.9%
9.1%
Quality of presentations
77.3%
22.7%
Quality of Institute discussions
81.8%
13.6%
4.5%
Quality of peer-to-peer interactions
90.9%
9.1%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%
Very Good
Good
Neutral
Poor
Very Poor

## Q11 - Please provide any additional information that would help us understand your responses above.

| Please provide any additional information that would help us understand you... |
| --- |
| It was a great group |
| Excellent. This year was even better than last year. |
| The institute and its directors did a fantastic job of organization, guiding interaction and conversation, and selecting interdisciplinary participants. |

**Please identify up to THREE Institute sessions or experiences --over both years-- that you found particularly useful or impactful.**

For each session or experience that you identify, elaborate on WHY it was useful or valuable. (Session/Experience 1)

| Session/Experience 1 |
| --- |
| Chris Johanson's 2015 session was useful to me because it got me thinking about some of the virtues of 3D builds that do not strive for realism. |
| I really enjoyed the hands-on sessions in year 1 where we got to "dig in" to a mature 3D project with the creator there (like the John Clarke demo)- it allowed us to see the project from multiple points of view and to get a sense of the original goals and how those were manifested in a very real way. |
| I found the discussion sessions very useful. We tackled the issues together. Some of the issues were too complex to begin to solve in a brief session, but at least we touched on some of the problems and produced action items to explore the issues further. |
| Metadata, Paradata, Publishing and Sustainability: It was useful to talk about the requirements and the impact of metadata and data harmonization in general. In my opinion it is the key issue for documentation and interlinkage of the knowledge the models are built on. |
| Small workshop experiences |
| AR |
| 2015- the first Monday session on Dangerous Embodiments. These issues were not at the fore of my thinking with regard to my project. However, they have now become integral and I am able to return to this content via the web and my notes. |
| Panel 1: useful, insightful |
| Individual presentations: It was great to see what people ended up doing in a year cycle. |
| Year 1 - AR demo. Open my eyes to new possibilities for teaching. I tried some of them in my classes soon after. |
| Using and demoing the models in the afternoon sessions from 2015. It was helpful to see how other projects were designed, and it was helpful to use the software with the other scholars. |
| Bringing people together. Allowing for connections between researchers and librarians. |
| The readings and position papers were most useful and helped to focus the discussions on the last two days of the 2016 institute. I found these to be most useful. |
| Second year presentations - It was nice seeing everyone's projects more fleshed out and hear about new technologies that people are exploring |
| Metadata and paradata.<br>This is one session that picks on the problems that I have been taking in my project. |
| 2015- interactive session on identifying key challenges and follow-up discussion on final day in 2015 to set up action items |
| 2015 session on 3D modeling as heuristics - this became a major component of my own scholarship. I was already focusing on this but did not have the terminology or the bibliography. |

| |
|---|
| Collaboration and infrastructure- very helpful in helping us aggregate resources and encourage collaboration. |
| Publishing 3d work; learned about challenges |
| N.a. Did not attend both years. |
| The discussion on metadata made a lot more sense to me this year than it did last year, and it has been especially helpful in thinking through my own issues and challenges with metadata |

## Q14 - Session/Experience 2

For each session or experience that you identify, elaborate on WHY it was useful or valuable. (Session/Experience 2)

| Session/Experience 2 |
| --- |
| The 2016 session on promotion/tenure was useful because of the breadth of suggestions offered by participants about how one might go about addressing difficulties in getting scholarship incorporating 3D content recognized. |
| I very much appreciated both presentations by librarians Hannah Kettler and Lynn Cunningham, as they did a great job presenting us with some information on where things stand today int he field of 3D and the types of integration for libraries with 3D content. This was a very useful overview and helped position where we need to move with archiving 3D content at our universities. |
| The presentations were good, but I most enjoyed the faculty comments and discussions that occurred after each topic grouping. On occasion, those had to be cut short or eliminated due to time constraints. I suppose I would have rather seen shorter presentations (15 minutes?) with more time for the topic discussions. |
| Archaeology: The projects presented gave us a deeper view on the challenges and the advanced approach in this research field. |
| Lightning Round Presentations |
| case studies |
| The 2015 lecture with E. Champion. He helped offer theoretical frameworks for why and how a 3D Humanities project should/could proceed. I have returned to his writing repeatedly. |
| Panel 3: good models for projects, interesting challenges and problems |
| Publishing Paper: This was an interesting discussion. It is interesting to see that this is a issue in each field. |
| Year 1 - met an number of scholars who worked on similar problems. Kept in contact with them through the year. They helped me develop my own projects. |
| Seeing the participants presentations from 2016. It was illuminating to see the work that was accomplished over the year. |
| Making a space to talk about problems with our projects, whether problems disseminating, issues with avatar representation, how to avoid the 'dead' quality of models. |
| The metadata and paradata discussions were useful and gave me idea on how to move into complementary research fields. |
| Infrastructure for Collaboration talk - I'm interested in keeping in touch with everyone about new developments, troubleshooting, project updates, etc. |
| Publishing 3D work.<br><br>The future focus of the work. |
| 2015- interactive classroom experiences to explore various software programs. |
| 2015/2016 discussions on promotion/tenure and publication (since these are related). The 2016 session with the editors was particularly helpful. It gave me new ideas about publishing my work, which I had previously thought was only possible through traditional methods. The discussions helped me convince my school to rewrite the tenure requirements to include digital materials. |

| |
|---|
| Tenure, publishing and promotion issues both times made me really think about these important questions even though I already have tenure. It is helpful for me advocating for junior people on my campus. |
| Infrastructure for collaboration; surfaced helpful ideas |
| N.a. |
| Last year's workshop concerning VSim, since it's software I will probably be using |

## Q15 - Session/Experience 3

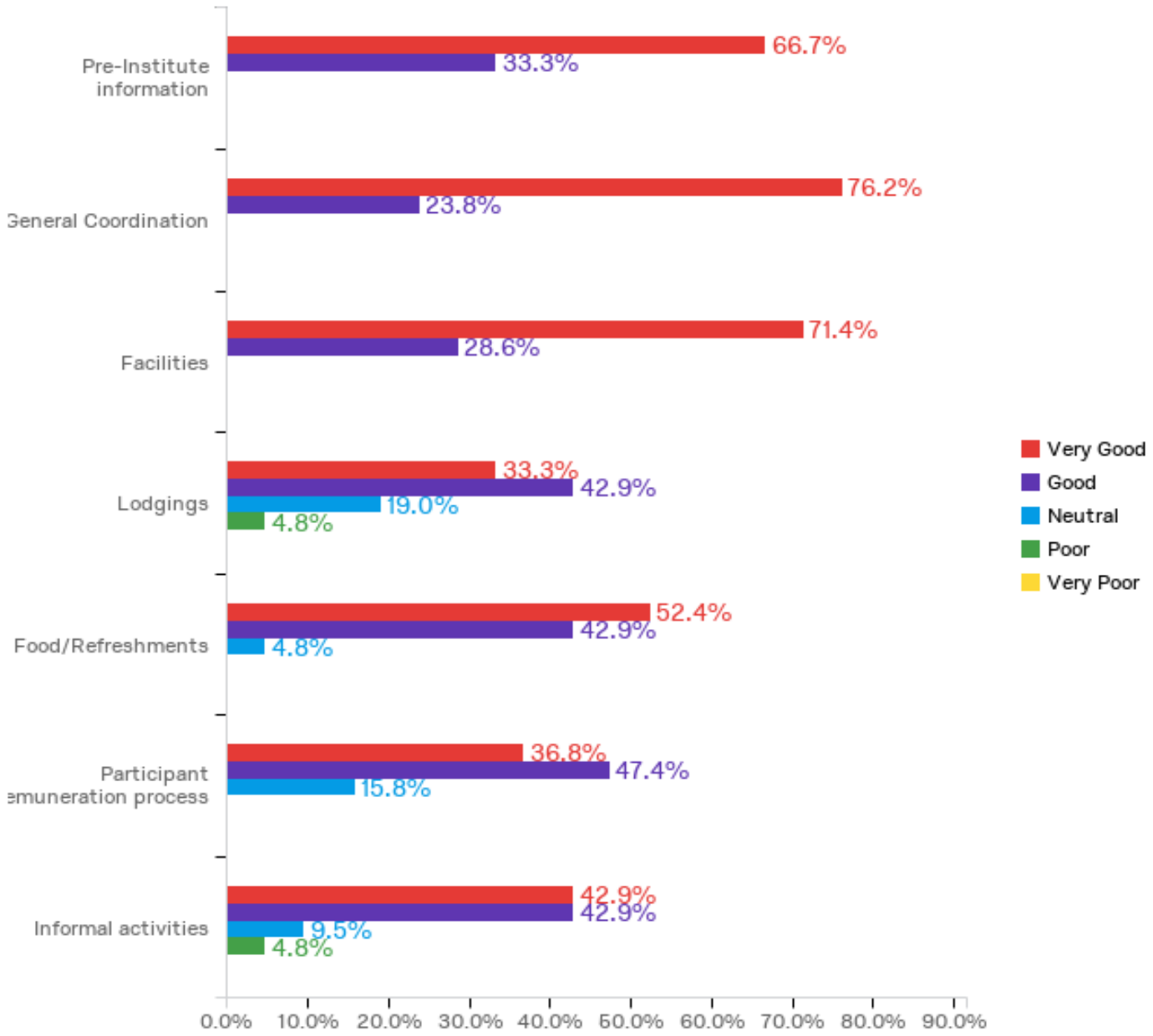
For each session or experience that you identify, elaborate on WHY it was useful or valuable. (Session/Experience 3)

| Session/Experience 3 |
| --- |
| John Clarke's 2015 session was useful because it conveyed well just how much can be accomplished within the current constraints on publication of 3D models. |
| I personally got a lot out of the session on archaeology, as this was my own area of focus, and it allowed me to see the direction my direct colleagues' work is going in, and our panel discussant, Chris Johanson, provided very thoughtful talking points and discussion areas for all of us to think about for our projects going forward. |
| In 2015, I found the hands-on workshops really useful. It allowed us to engage with the models and experience them first-hand while providing the opportunity to speak directly with their creators and ask questions. Also in 2015, the brain-storming session was really important because as a group we identified key challenges which informed the topics for 2016. |
| Presenting my work |
| questions on 3D technology |
| 2016/2015 sessions that allowed me to see what my peers were doing and in some cases allowed me to interact with their work. |
| Topic #5 discussion: Since I can time travel, I predict this will an intense, deeply thoughtful, and useful session. |
| Technology Learning Curve: Glad to see this was brought up as a big issue |
| Year 1 - 3D printing demo. Tried some applications of that in my classes the year after. |
| Meeting the participants. It has been extremely useful to have contact with other scholars. They have been extremely valuable for answering questions and hearing about their work. |
| Making sure there were action items at the end of each meeting was very helpful and does not always happen at meetings like this. |
| Conversations around pedagogy and gaming were very useful, |
| Informal gatherings - Talking to people one-on-one or in small groups informally was helpful to learn about other related projects, get to know more about participants and their background, etc. |
| Sustainability, preservation and forward migration. |
| 2016- the discussion sessions being focused on the key challenges identified in 2015 were wonderful. they stimulated a lot of engaged discussion that built on people's experiences over the year and ended up with additional action items. |
| 2016 discussion on the technology learning curve - this is an issue that is dear to my heart, and I felt that this discussion created some very promising new avenues that will help me with the problems I personally face. |
| Dangerous embodiments or thinking about representing people was very helpful and thought provoking. |
| Librarian report on 3d resources; learned much helpful info |

N.a.

## Q16 - Please rate the overall quality of each Institute component for the second Institute year (2016) at UCLA.

| Question | Very Good | | Good | | Neutral | | Poor | | Very Poor | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pre-Institute information | 66.7% | 14 | 33.3% | 7 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 21 |
| General Coordination | 76.2% | 16 | 23.8% | 5 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 21 |
| Facilities | 71.4% | 15 | 28.6% | 6 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 21 |
| Lodgings | 33.3% | 7 | 42.9% | 9 | 19.0% | 4 | 4.8% | 1 | 0.0% | 0 | 21 |
| Food/Refreshments | 52.4% | 11 | 42.9% | 9 | 4.8% | 1 | 0.0% | 0 | 0.0% | 0 | 21 |
| Participant remuneration process | 36.8% | 7 | 47.4% | 9 | 15.8% | 3 | 0.0% | 0 | 0.0% | 0 | 19 |
| Informal activities | 42.9% | 9 | 42.9% | 9 | 9.5% | 2 | 4.8% | 1 | 0.0% | 0 | 21 |

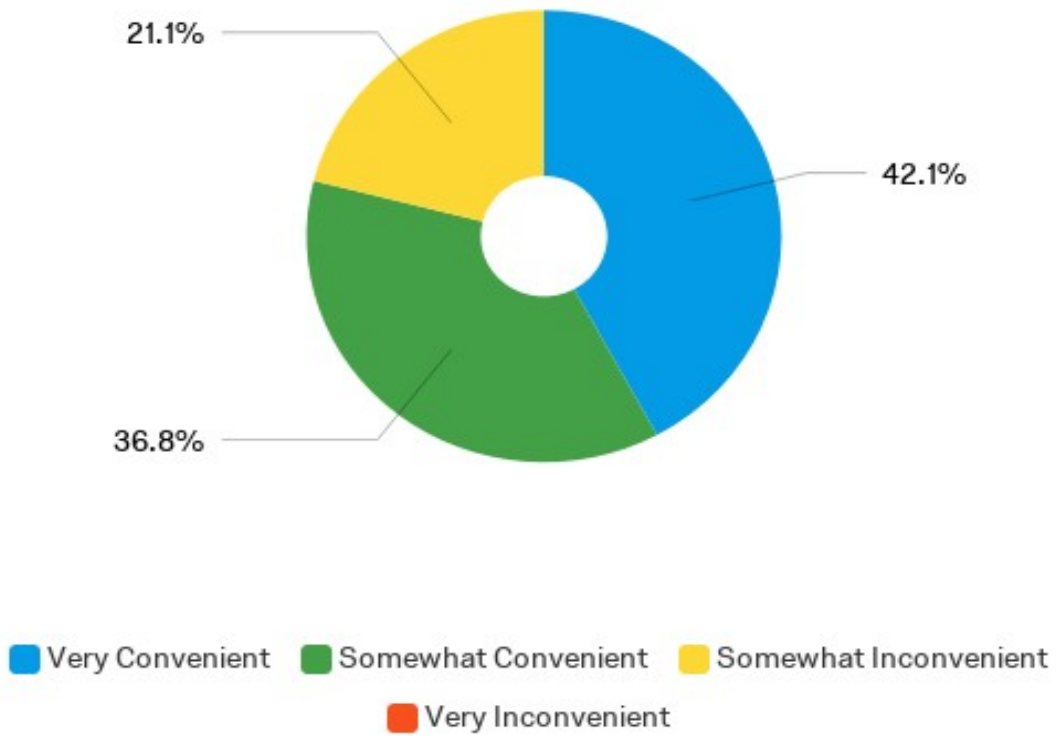

Pre-Institute information
66.7%
33.3%
General Coordination
76.2%
23.8%
Facilities
71.4%
28.6%
Lodgings
33.3%
42.9%
19.0%
4.8%
Food/Refreshments
52.4%
42.9%
4.8%
Participant emuneration process
36.8%
47.4%
15.8%
Informal activities
42.9%
42.9%
9.5%
4.8%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0%
Very Good
Good
Neutral
Poor
Very Poor

## Q17 - Please provide any additional information that would help us understand your responses.

| Please provide any additional information that would help us understand you... |
| --- |
| I think our 6 sessions over the last 1.5 days of the institute could have been handled well in 4 sessions. Coffee in the mornings would have been even better than a catered afternoon snack (hard to take advantage of the afternoon snack due to proximity to lunch). In general, a few more 10 minute breaks per days would have been welcome (and probably helped people like me to stay focused). |
| Lisa and Allyson did a wonderful job organizing this conference and finding good spaces for the group. |
| Great job! As before, lots of great planning of activities. |
| Everything was excellent so far. Holding judgement on remuneration -- need that cheddar! |
| Food at UMasss was better. |
| I know there were few options but the hotel was a little gross and expensive to boot. |

## Q18 - How convenient or inconvenient was the 2016 Institute's geographic location?

| Answer | % | Count |
|---|---|---|
| Very Convenient | 42.1% | 8 |
| Somewhat Convenient | 36.8% | 7 |
| Somewhat Inconvenient | 21.1% | 4 |
| Very Inconvenient | 0.0% | 0 |
| Total | 100% | 19 |



## Q19 - Please provide any additional information that would help us understand your response.

| Please provide any additional information that would help us understand you... |
| --- |
| Close to a major airline hub is great, but LAX is hellish and a long to very long flight for anyone east of the Mississippi. |
| It was nice to be in a location with a major airport. |
| Very accessible location with great airport options. |
| I put "somewhat convenient" simply because I had to fly. |
| loved being in Westwood |
| There was obvious public transit and shuttles to and fro. |
| Cross-country travel, but it was on my coast last year. |
| The flights were relatively direct; however, the reimbursement for travel was too low for travel costs. |
| Personally, switching the years (east coast 2016, west coast 2015) would have been easier.  That's completely a selfish choice, however. |

## Q20 - Please provide any additional information you would like to share with the conference organizers about your experience at the 2016 Institute.

| Please provide any additional information you would like to share with the... |
| --- |
| This was a fantastic opportunity to meet with some very accomplished DH scholars, both those who were running the institute and some of those who were in attendance. It was incredibly valuable both with respect to my current project and with respect to the continuing development of my own competencies as a DH scholar. |
| This experience has led directly to my engaging (with other conference participants) in advocacy for 3D in our professional organization; starting a co-authored article (with another conference participant, as well as someone who did not attend the conference) on 3D practice in our field; and I have within the year of the conferences submitted a born-digital book proposal for 3D. I think all of these things came either directly out of the participation here, or were influenced by my participation. So that means these were highly motivating and influential on my own engagement with 3D. |
| It has been great connecting with everyone again this summer. It would be great to have some way of continuing to formalize our connection with this symposium moving forward. Perhaps everyone could contribute to dirtdirectory.org, and we could call ourselves "NEH3D contributors" or associates, or affiliates. Something that continues to connect us. |
| If it were not for this Institute, I am not sure that my "idea" would have materialized any time soon. This gathering has provided a learning community that assisted me in the development of my project technically and conceptually. It has also helped me contextualize my experiences with modeling as a form of research. I am more confident and articulate in my explanation of my work to my peers in and outside my discipline. |
| Perfectly organized -- nice job! Everything was nicely streamlined, stimulated good conversation, and was not overly exhausting for three-and-a-half days for steady brain activity! |
| I would have like to see the gaming community part of the conversation. Many gaming companies are located nearby. |
| Lisa and Alyson have done a fantastic job! It was well organized and has been extremely helpful. |
| Thank you very much for the institute. It was very useful and helpful. |
| Really informative and collaborative environment. How do we keep the effort going... |
| The two-year format of the institute is excellent. It provided the ability to not only identify key challenges and plan our projects but the stimulus and community support to develop those projects throughout the year. The follow-up institute in 2016 has been fantastic as it has enabled us to reconnect physically and continue our conversations, learn about the status of other projects, and plan future action items. |
| This was a pivotal experience for me in many ways, including a number that I had not anticipated. Although I have mostly discussed one project in these sessions, I have also been able to integrate 3D material into my pedagogy in a way I had never thought possible, and I have been building new research materials with 3D content that I didn't even mention in the institute. This program has been a gold mine for me. I very much look forward to the continuation of the community in other formats and informally for many years. I no longer feel isolated in my 3D work. |
| Thank you! |

## Q21 - What, if anything, would you like to share with the NEH about the value of these types of Institutes?

| |
|---|
| What, if anything, would you like to share with the NEH about the value of... |
| These sorts of institutes are so essential to those of us who work in DH at universities without any real DH capabilities. Without this kind of support from the NEH, I think many of us would have either passed on DH to pursue traditional scholarship entirely, or done much weaker DH scholarship than we are currently doing. |
| Scholars working in non-traditional fields like 3D, where local support is often not available (no colleagues at my university working on these same issues), these types of meetings and networks are incredibly valuable. |
| Fantastic and important opportunity for moving this type of scholarship forward. Thank you for funding this! The impact will live well beyond the 2-year institute. |
| It is crucial to proceed with summer institutes like this to establish a community tackling the unsolved challenges of handling 3D content, scholarly approve it, preserve it, etc. There is still much work to be done... |
| The cross-disciplinary nature of this institute has been fantastic in making new connections and strategizing on how to move forward in my research. |
| 3D is very important but not well represented in DH initiatives |
| See previous answer. |
| Very valuable. Need to get some of my colleagues to go to similar! |
| Software and Hardware companies could have been brought into the discussion. FARO and Unity etc. |
| This summer institute has been very valuable. The computer resources were essential. |
| This was exactly what our group of researchers needed. We needed to gather, we needed support to gather to talk about issues. We needed to gather to develop ways to help each other. And allowed for dedicated time to do this. |
| Need to have more of them, especially with a focus on 3D/VR/AR. |
| The institute was extremely helpful because I've learned about a lot of new technologies and interesting ways in which people are applying them, and it's a great way to network with people facing similar issues as you when there aren't necessarily people at our home institutions doing similar work. |
| Move the scholarship forward by bringing people from different but related fields together. |
| The two-year format of the NEH Summer Institute has been extremely successful. Alyson and Lisa did an amazing job not only of organizing both years but facilitating ongoing conversations among participants throughout the year. Just as important, the group has a high level of energy that I have no doubt will carry our action items into the future. The institute has provided opportunities to meet scholars from other fields working with 3D Cultural Heritage Content, which has broadened my knowledge of tools and research applications. Importantly, it has not only inspired my individual research but helped me shape and formulate broader 3D interests for the Humanities. |
| I hope my previous answer will be shared with them. These types of institutes are valuable in inspiring new scholarship and pedagogy in the humanities and in encouraging scholars to continue their work. People working in cutting edge fields may feel isolated and/or alienated, and these institutes can help prevent that, in addition to spreading knowledge. |
| Crucial to my career development. |

Networking and collaboration opportunities are invaluable.