Report for July 2016 – June 2017
Department of Art, Art History, and Visual Studies
Duke University

Compiled and edited by Kristin L. Huffman

*Please note that this report contains only Wired! related activities and does not reflect the full spectrum of scholarly, teaching, and service contributions by members of the Wired! group.
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**Wired! 2016-17**

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**Wired! Activity by Core Members of the Wired! Group**

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**Appendix One: Undergraduate and Graduate Contributors**

**Appendix Two: Active Wired! Research Projects**
Introduction

The purpose of this report is to document the work of the Wired! program and its Core Members at Duke University during the 2016-17 academic year. This report includes a synopsis of who we are and what we do. In addition, specific reports from all Wired! contributors underscore high-level productivity and the complementary involvements of members in achieving our mission.

Wired! has become a model for humanities based research and teaching, developing a unique curriculum that invites undergraduate and graduate students to contribute to long-term research projects. These projects employ a variety of digital tools that generate new questions and make new discoveries in the field of art, architectural, and urban history, as well as in the range of fields related to visual culture. Moreover, as international leaders in the field of Digital Art History, members have organized a number of public workshops, presented in international venues, and published on a variety of Wired! research and pedagogical initiatives.

Wired! Mission

The Wired! Lab for Digital Art History & Visual Culture explores ways of thinking about visual and material culture through digital technologies. Wired! is a learning community of faculty, staff, and students. We engage visualization methods to prompt new approaches to pedagogy and scholarship in the study and interpretation of the visual arts, architecture, cultural heritage, and built environments. Wired! research teams are transdisciplinary, collaborative, vertically integrated, and long-term. As part of our intellectual process, we explore how critical engagement with digital tools can transform our capacity to interrogate and contextualize objects, buildings, data, and archival materials; to create narratives about works of art and architecture; to explore process and change over time and space; to redefine teaching and learning practices; to disseminate scholarship; and to engage the public in new ways.

Wired! Research Projects & Student Involvement: A visionary curriculum

The Wired! Lab has supported seven faculty led, long-term research projects to which students made contributions during the 2016-17 academic year: Alife Arch, Digital Athens, Kingdom of Sicily Database, Mapping Stereotomy, Paris of Waters, A Portrait of Venice, and Statues Speak (See Appendix One). These projects received grants from a variety of external and internal funding sources, including the Kress Foundation, the NEH, the Delmas Foundation, Bass Connections, and Duke Digital Initiative.

A total of 18 undergraduates and 4 graduate students have made contributions to Wired! research projects. These students span a spectrum of majors, including Chemical Engineering, Computer Science, Visual and Media Studies, as well as Art History. Several undergraduate students received prestigious internships or jobs beginning summer 2017. These include appointments at the Frick Museum of Art in New York, the Metropolitan Museum of Art, Microsoft, and Apple. Contributing Ph.D. students have received professional appointments this past year at the American Academy in Rome, Rice University, and Colgate University. Please see Appendix Two for a list of student contributors.
Wired! research projects offer a unique opportunity to students at Duke University. They learn side by side with faculty, graduate students, multi-media and research staff, and other undergrads. Together these teams build, present, manage, and discuss art historical material in a way that contributes to public-facing, scholarly outcomes. An innovative way to teach and learn, the Wired! Lab has a high retention rate among our student contributors (this year from fall to spring maintained 100% with the addition of students in the spring, many of whom worked in the lab the previous year but had studied abroad in fall). Once committed to a project, many of these students remain affiliated with Wired! throughout their undergraduate careers.

**Wired! Courses: Integrating Art History, making, and learning**

In keeping with our commitment to creating a unique learning curriculum within the Department of Art, Art History, and Visual Studies, faculty and post-docs taught a total of 7 Wired! Digital Art History courses. These include a range of five undergraduate and two graduate courses with varying emphases on digital visualization tools for semester-long research projects. The research outcomes, a composite of traditional scholarly research methodologies prompted by new digital applications have been presented on digital platforms, such as Neatline, Omeka, and Sketchfab. This means that the semester-long student research projects are available to a public that extends well beyond the confines of the classroom, potentially reaching the wider Duke community and beyond.

**Wired! MA Program: Digital Art History**

2016-17 marked the third year of the Master’s program in Digital Art History in the Department of Art, Art History, and Visual Studies. While we enrolled two strong candidates with a variety of interests and backgrounds this past academic year, we continue to matriculate low numbers. Support from the Dean’s Office enabled us to do massive publicity and outreach, but the high expense of a Master’s Program at Duke has hindered the growth we expected. As a result, the parallel MA in Computational and Media Studies has helped sustain the MA in Digital Art History.

**International Outreach: Service within and beyond Duke University**

Wired! has gained an international reputation for Digital Art History. Faculty-led workshops both at home and abroad have helped other humanities scholars learn basic digital tools for application within their own teaching and research. In addition, presentations by Wired! core members at international conferences, symposia, and invited lectures have promoted specific research projects based in the Wired! Lab.
Research

Projects

Digital Athens. The aim of this project is to produce a database and digital map of the archaeological remains of ancient Athens. This project involves students at Duke as well as international colleagues based in Athens. The construction of an interactive open-source map of the archaeological remains and the visualization of how the city changes over time are major aims of this project. This semester Nikos Gkiokas, Evangeline Marecki, and myself began work on mapping the remains from the Kerameikos excavation. This project will continue next fall. Upon completion of this part of the project, Nikos and Evie will move to mapping the remains found during the construction of the Athens Metro.

Statues Speak. This project, which seeks to tell the history of the statues on Duke Campus, was begun by Elizabeth Baltes. We have restarted this project in order to bring it to completion, with Prof. Baltes and myself as faculty advisors. This project is now a collaborative endeavor between Duke and Coastal Carolina University. The undergraduate students involved are Jessica Williams, Christy Kuesel and Mary Kate Weggeland of Duke, and Darrah Panzarella of CCU. The project website has been updated, and the students have drafted biographies of the remaining statues. The students have gotten President Brodhead to voice one of the statues. Mary Kate is working on a mobile app. Both Jessica and Christy will be on study abroad in the fall of 2017, but both are keen to return to the project in the spring of 2018.

Lectures and Presentations


“Public Sacred Space, Private Portrait Statues: the case of the City Eleusinion in Athens” conference on Public Statues throughout History and across Cultures, Oxford University, 28-29 September 2016.

Publications


Teaching & Mentoring

I team-taught The Art and Archaeology of Ancient Athens (ARTHIST 208/CLST 228) this spring with my colleague, Elizabeth Langridge-Noti of the American College of Greece for the second time. We taught the course as a Wired course, with team projects that involved the use of Omeka and Neatline for the students’ final group projects. The classes teleconferenced nearly every week via WebEx. We also put together videos for the students about various topics covered in the course that they were assigned to view before the relevant class. The highlight of the class was the Spring Break trip to Athens, during which we visited most of the archaeological sites the students had been studying in class. We received the following funding for the class –
the Provost’s grant went to making the videos, and the HWL grant help to fund the trip to Athens. I also used funds from Digital Athens to support the trip to Greece.

**Teaching Grants Awarded**
Provost’s Global Online Education Fund, to develop online lecture modules for a team-taught undergraduate course ($10,000)

Humanities Writ Large Grant (Mellon-Duke), course enhancement grant ($16,150), spring 2017 in support of Spring Break trip to Athens (co-PI Elizabeth Langridge-Noti, DEREE The American College of Greece).

**Service**
Interim Director


**Research**

**Projects**

**The Arch from Alife in the Nasher Museum of Art: An Interactive Display.** This project is developed by our Digital Art History MA graduate, Lucas Giles, together with 5 freshmen and sophomore in order to engage the museum public with the origins, history, and iconography of this wonderful work of Romanesque sculpture. Project was presented by the team in the Nasher Museum on April 27.

**The Kingdom of Sicily Image Database.** The website went live October, 2016, after 5 years of project development (design of the database, gathering information, co-ordinating and managing international research team), fund raising, etc. Although there remain thousands of images to gather, we are experiencing success: in the month from March 8 to April 5 there were 183 active users of the site, and we received a very positive review a few weeks ago: [https://arlisna.org/publications/multimedia-technology-reviews/1155-the-medieval-kingdom-of-sicily-image-database](https://arlisna.org/publications/multimedia-technology-reviews/1155-the-medieval-kingdom-of-sicily-image-database). Awaiting the results of an application to the ACLS “Digital Continuation Grant” for the Kingdom of Sicily project.

**Lectures and Presentations**

“The Choir Screen of Sta. Chiara in Naples,” a collaborative research project with the Universities of Naples (Federico II) and Suor Orsola Benincasa, Naples; the University of Salerno, and the University of Padua. Presented in Naples March, 2017, and in Barcellona in June, 2017.

**Publications**


**Teaching & Mentoring**

Gothic Cathedrals Course, Fall 2016.

Mentoring of Jessica Williams and Michael O’ Sullivan with the Kingdom of Sicily.

**Service**

Lectures about Wired! at Iowa State University, UCLA, UNC, Austin, Kenyon College, Penn State, Duke (Humanities Futures); The Courtauld Institute of Art; Duke alumni in Napa Valley; Naples, Italy; Barcelona, Spain.

Graduate Advisor for MA in Digital Art History.
SARA GALLETTI
Associate Professor of Art History

Research
Projects
Mapping Stereotomy (in collaboration with Dr. Huffman) is a database dedicated to stereotomy, the art of cutting stones into particular shapes for the construction of vaulted structures. Stereotomy is best known for the variety of acrobatic masterpieces produced in early modern France and Spain. Yet the art is neither early modern nor European; it has been practiced over a wide temporal span, from Hellenistic Greece to contemporary Apulia, and across a broad geographical area, centered on the Mediterranean Basin but reaching far beyond—from Cairo to Gloucester and from Yerevan to Braga. Mapping Stereotomy consolidates and visualizes information on stereotomic vaults from antiquity through early modernity, with the aim of furthering and broadening research in the fields of construction techniques and Mediterranean studies.

Paris of Waters is a research project that focuses on the impact of water on the demographic, social, architectural, and urban development of the city of Paris through time. The project is concerned with water in a wide array of forms—as resource, as commodity, as means of transportation, as funnel for the city’s waste, and as cause of disaster and death—and with making it visible as a powerful agent of urban change. Paris of Waters challenges traditional urban history narratives—which tend to focus on design, monumentality, and the stylistic features of the built environment—by highlighting the role of infrastructure, underground works, and hydraulic management and engineering as defining elements of a city’s development and history.

Publications

Teaching & Mentoring
In the past half year (I was on sabbatical until January 1st 2017), I have mentored two undergraduate students in the Wired Lab: Angela Tawfick, who contributed secondary-source research and database population to the Mapping Stereotomy project, and Gabriella Bloom, who contributed secondary-source research and database design to the Paris of Waters project. Gabriella Bloom has chosen to continue her work on Paris of Waters next year, when she will write an honors thesis under my direction.

Undergraduate Research Fellows (2): Gabriella Bloom, Angela Tawfick.
Research

Projects

A Portrait of Venice: Jacopo de’ Barbari’s View of 1500 is an exhibition that will open at the Nasher Museum of Art at Duke University, September 7, 2017. This project will be the first time that the View is exhibited as a centerpiece for engaging with the life of the city. The experience of seeing and examining the original work of art will be enriched by a series of innovative digital engagements. This project addresses humanities-based questions that range from the production of this extraordinary print to the historical and social themes that appear in the image. A Portrait of Venice also involves the production of a scholarly publication. The book emerges from the scholarship and new modes of thinking produced in conjunction with the exhibition. The 8-10-page essays by 30 scholars in the field address a range of themes and include new and exciting information about Early Modern Venice. Via Jacopo de’ Barbari’s View of Venice, a revolutionary and cutting-edge accomplishment for its time, this book showcases new ways of thinking about humanities scholarship while also celebrating the extraordinary nature and life of the Early Modern period.

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Publications

Giordano, Andrea, Huffman, Kristin L. and Caroline Bruzelius, eds. Visualizing Venice: Mapping and Modeling Time and Change in a City (Routledge Press, forthcoming 2017). The volume includes sixteen essays, every one copy edited by me at least once and several translated by me from Italian. These essays form a compendium that collectively address how visualization technologies permit new narratives about the history of a city, its buildings, and people; the essays are both historical and technical in content.


Lectures and Presentations

“Digital Visualizations of an Early Modern Portrait of Venice,” Visualization Forum, Levine Science Research Center, Duke University, March 31, 2017

“A Portrait of Venice: a "Virtually" Digital Exhibition” University of Kansas, April 17, 2017
“The Civitates Orbis Terrarum,” co-presented with Wired! undergraduate student, Mary Kate Weggeland, Rubenstein Library, April 21, 2017.


**Grants for Research**

Gladys Krieble Delmas Grant: $15,000 in support of a scholarly symposium October 2017.

**Teaching & Mentoring**
Italian Baroque Art, Fall 2016. This course traced the development of Italian baroque art and architecture and considered a variety of themes relevant to artistic production including. It was developed in modular formats that balanced content delivery with discussion, visual analysis with critical study of scholarly sources (primary and secondary), “hands-on” learning exercises with independent reflection, public presentation with writing skills, and in class study with on-site museum and library learning. Each module built upon the knowledge and skills of previous sections, a continuum that prepared students for advanced engagement with art historical material for semester projects. This final project was an opportunity for students to think about mapping knowledge across places and time. The goal was to understand better the art history of seventeenth-century Italy, the appearance/construction and movement of ideas, artists, monuments, as well as an examination of the modular topic as understood in a broader historical context. Collaborating with Hannah Jacobs, Amanda Lazarus (Ph.D. Candidate), and Lee Sorensen, three in-class workshops prepared students for high level database research and the digital tools, Omeka and Neatline. The final project included the digital visualization of research conducted over the semester. Please follow this link for student research projects: [http://baroque.trinity.duke.edu/](http://baroque.trinity.duke.edu/)

**Curriculum Development in Wired! Lab**
During the academic year, I recruited, met, and placed undergraduate students on faculty led Wired! long-term research projects. These include placement on the following projects (other than my own): Alife Arch (Gabriella Salvatore), Digital Athens (Evie Marecki), Paris of Waters (Gabriella Bloom, Sydney Harrington), and Mapping Stereotomy (Angela Tawfik).

**Mentoring of Wired! Students**
My research projects in the Wired! Lab involve undergraduate & graduate students. *A Portrait of Venice* includes prominent public facing objectives that have scholarly outcomes. For this project in 2016-17, I mentored 9 undergraduate students (4 in both Fall and Spring), 5 Ph.D. students, and 1 post-doctoral associate. Two students collaborated with me to conclude the *Venice Virtual World* user study in December 2016.

**Student Advising for A Portrait of Venice:**
Undergraduate Independent Studies (4): Anne Haueter, Sierra Lorenzini, Charles Niebank, and Mary Kate Weggeland.
Undergraduate Research Fellows (11): Sophie Caplan, Lizzet Clifton, Jane Harrington, Anne Haueter, Andrew Lin, Xirui Liu, Sierra Lorenzini, Charles Niebank, Elizabeth Speed, Mary Kate Weggeland, and Zeren Zhang.

Graduate Research Fellows (3): Iara Dundas, Elisabeth Narkin, and Laura Moure Cecchini.

Wired! Teaching Assistants (2): Amanda Lazarus and Jessica Orzulak.

Awards
Nomination for Teaching Award for Trinity College of Arts & Sciences, Duke University, 2016-2017.

Grants for Teaching
Kress Foundation: $8,000 to support undergraduate work.

Duke Digital Initiative, $4500 for a 4k screen for study of works of art.

**Wired! Service**
Coordinate and manage the Wired! Lab’s undergraduate academic fellowship program. Help recruit and place students interested in working on Wired! long-term research projects. Write hire letters for students and liaison with office staff for fellowships, stipends, and payment.

Develop new courses with a view to the overall curriculum. Reinvent traditional art history courses with a goal toward semester-long digital research projects (Italian Baroque Art).

Coordinate grant proposals related to Wired!. Help to write and manage grants as related to Wired! research projects and undergraduate support.

Meet with Aga Witzcak-Das and Marion Monson to review various Wired! budgets and grants.

Wired! weekly meetings. Prepare agenda, coordinate, and run weekly meetings.

Annual assessment reports. Compile, write and prepare annual reports regarding Wired! faculty and staff, student statistics, figures, and analyses.

Project Manager for *Visualizing Venice*. 
Research
Duke Campus History. I have been working with MA Student Ruby Hung on the history of the Duke Chapel and exploring how projection mapping might offer unique and compelling storytelling affordances for conveying that history to the public. Working in conjunction with Ed Triplett, postdoctoral associate, on the point cloud data produced by his crowd-sourced photogrammetry work, we have begun to move toward production of a 3D printed scale-model of the chapel interior vaulting and evaluated different projection mapping software applications. One offshoot of this project has been Ruby and my collaboration with the Chapel on their #FindSanctuary exhibition, where we created a looping display of cascading images and a chapel photomosaic as part of the closing ceremonies of the Chapel Renovation Celebration. https://chapel.duke.edu/FindSanctuary

Indoor localization. Essentially a form of indoor GPS, it has the potential of rendering precise indoor localization with a resolution of +/- 20cm. Working primarily with undergraduate Indrani Saha, we produced a custom circuit board for an “anchor-tag” system based on the Decawave’s ultra-wideband DWM1000 chip. Custom software was also written building off an open-source Arduino library (https://github.com/thotro/arduino-dw1000) to enable three DWM-1000-equipped Photon Particle microcontrollers to communicate their relative location. This was deployed as part of Indrani Saha’s senior exhibition focused on interactive LED color mixing. Future work will continue to refine the PCB design and develop multi-tag recognition with the ultimate goal of a platform for localization suitable for a delivering geo-aware content in a museum environment.

Ivory anatomical manikins. Talks are resuming in June 2017 on rebooting a research project involving the Rubenstein’s collection.

Publications


Lectures and Presentations


**Teaching & Mentoring**
Proseminar I / Comp Media Studio (Fall 2016). Part I of the core seminar for the MA; this Fall it was taught in conjunction with the Computational Media Studio for the MFAEDA program. Students were introduced to HTML markup and interactive Javascript programming, and the fundamentals of interactivity (Isadora and physical computing).

Proseminar II (Spring 2017). Part II of the core seminar for the MA; focus on 3D modeling with Autodesk Fusion 360 and the basics of Autodesk Revit; Augmented reality with awe.js and A-Frame; data visualization with Palladio and R Studio. Ongoing discussion about the affordances of digital tools for art historical and media studies research.

**Student Advising**
Undergraduate Independent Study (1): Jennifer Zhou
MA Students (3): Ruby Hung (Primary Advisor), Lucas Giles, and Stephanie Manning.

**Service**

Summer Institute on Objects, Places, and the Digital Humanities June 19- 23, 2017 National Humanities Center (with Caroline Bruzelius and Hannah Jacobs).

Grant proposal for the Getty Foundation (with Victoria Szabo) that will fund a 2-year advanced Visualizing Venice Summer Workshop, tentatively entitled Advanced Topics in Digital Art History: 3D Geospatial Networks.

Provided guidance on the Javascript and iPad kiosk components of the Alife Arch interactive app.

Steering Committee of Visualizing Venice.
Research Projects

The Ghett/App project is a mobile application supplement to the exhibition, “Venezia gli ebrei e l’Europa 1516-2016”, that opened in June 2016 at the Ducal Palace in Venice. The project continues to be revised by its organizers: Victoria, postdoc Ludovica Galeazzo, and Ph.D. candidate Paolo Borin. The goals of the re-organization are to improve the quality of the multimedia materials, to incorporate “stops” using materials produced by the graduate students in the VV 2016 summer workshop, and to explore the best platform for similar projects in the future. In June 2017, the team will continue to pull together materials and try out alternative platforms to Guidigo, as well as outline best practices for Visualizing Cities apps.

The NC Jukebox is a Bass Connections project is a collaboration between Information Science + Studies, Rubenstein Library and Wired!. Trudi Abel and Victoria Szabo have worked with students to create a digital archive and exhibitions focused on the 1930s folk recordings produced by Frank Clyde Brown. On September 1, 2016, at Rubenstein Library we opened a physical exhibition of Frank Clyde Brown/NC Jukebox materials, which included a physical display case and a digital kiosk. This was part of a larger exhibit that ran until October 22, 2016, [https://today.duke.edu/2016/10/exhibit-how-music-our-common-ground](https://today.duke.edu/2016/10/exhibit-how-music-our-common-ground). On April 22, 2017, we held a special live concert event in Spruce Pine, NC where we introduced some of our research to the mountain music community. Terry McKinney, one of our key contemporary music collaborators, gave a performance that included music from our collection. In Summer 2017, the team is organizing past research into a coherent and extensible Omeka archive and online exhibition.

Publications


Lectures and Presentations:


**Teaching & Mentoring**

Co-taught with Trudi Abel, NC Jukebox. The course focused on digital archive development and exhibition topics, and is co-supervising a graduate student, Meghan O’Neil and undergraduate student, Adriana LaPuerta, who are working on the project.

Co-mentoring with Trudi Abel one graduate student, Meghan O’Neil, and one undergraduate student, Adriana LaPuerta, who are working on the NC Jukebox project.

**Service**

Supervisor to Hannah Jacobs. This involves weekly meetings, feedback on projects and priorities and collaboration on Wired! Lab technology purchasing.

Coordinated technology use with other Smith Warehouse resources, especially the ISS Lab around 3d printers and other equipment.

Steering Committee of Visualizing Venice.
LUDOVICA GALEAZZO
AAHVS Postdoctoral Associate

Research Projects

A Portrait of Venice Exhibition. I am currently working with Kristin Huffman Lanzoni in the organization of the upcoming exhibition *A Portrait of Venice. Jacopo de’ Barbari’s View of 1500* at the Nasher Museum of Art at Duke University (September 7, 2017). My primary contribution consists in finalizing some of the historical and digital content related to the Jacopo de’ Barbari’s bird’s-eye view that will be displayed in the show. In particular, I am focusing on the early-16th century urban elements of the city (ancient islands, canals, bridges, monastic complexes and parish churches, as well as water cisterns, private and public gardens), and their possible representation in a video animation project. Secondly, I am interested in the analysis of the urban development of the marginal areas of the city, and the role of the monastic complexes settled along the periphery in the growth of the city. Finally, my attention is devoted to the study and the digital reconstruction of the ancient area of St. Mark’s Square before the construction of the Mint and the Sansovino’s Library, as it appears in the bird’s-eye view of 1500.

Ghett|App 2.0. The project concerns the implementation and overall revision of Ghett|App, an application jointly developed by Duke University, the University of Padua, and the University Iuav of Venice in 2016 on the occasion of the fifth centenary commemoration of the foundation of the Venetian Ghetto. The app allows users to explore the long-term history of the Ghetto through a series of interactive stops, offering a ‘real’ journey through space and backwards in time. Thanks to a series of digital itineraries people are welcomed to walk through space and, playing with some points of interests, to experience historical places through a variety of ‘bonuses’ containing augmented reality: 3D digital reconstructions, 360° panoramic images, as well as short videos accompanied by text. For the new stage I am working alongside with Victoria Szabo and Jung Eun Choi on integrating some of the 2016 Visualizing Venice Workshop materials (Neatline projects, 3D models, videos, and descriptions) into the app, transforming participant research into high-quality, public-facing digital humanities products.

Publications


Teaching & Mentoring

Getty Workshop Consultant. As an external consultant for the past two editions of the Visualizing Venice Summer Workshops held at VIU, I am currently in charge of the post-workshop follow-through. My role consists of exploring whether and how the workshop has affected past participants’ profiles as scholars, and how digital technologies might be useful and relevant for their own research. Information and data have been acquired through an online survey submitted to all participants of the past five years. In addition, I continue to offer participants from 2016 workshop ongoing and sustained help on developing their own scholarly research in the form of informal conversation or consultation by email.
A Portrait of Venice Exhibition. Within the project “A Portrait of Venice” I have been responsible for mentoring undergraduate students working on several projects related to the exhibition. In particular, I have given support to Anne Haueter, Lizzet Clifton, Sierra Lorenzini and Sydney Harrington in realizing a video animation project about the view.

Italian Baroque Art Class. During the fall semester, I attended Kristin Huffman Lanzoni’s course about Italian Baroque Art and had informal discussions and conversations with students regarding content and projects developed during the class.

Service
Visualizing Venice Website. As a member of the international research group Visualizing Venice, I am currently in charge of updating the website and revising both its content and layout. The recent internal changes have led to the need for a general revision of the appearance and the content represented on the online platform. In particular, I have been asked to create a new website structure’s layout that enables the implementation of new content belonging to a wider variety of public outcomes (such as exhibitions, PhD dissertations, and Master theses) than previously, as well as multimedia and interactive products. For this reason, I am collecting all the most recent data (textual and digital sources) related to each project, as well as setting a story-map project that can represent the gradual growth of the research group.
Research

Projects

**ADIMO – The Architectural Database of Iberian Military Orders.** This is an ongoing Historical GIS project based on my dissertation titled *A Wall of the Faithful: Spatial Analysis of Military Order Architecture on Medieval Iberia’s Religious Frontier.* Since Aug. 2016, I reprocessed all of the viewshed analysis and cost-distance analysis data in my database to reflect changes in the underlying data set. I consolidated most of the data and began optimizing it for display over the web. I also migrated the project to ArcGIS Pro, which has enhanced 3D capabilities. The new project is viewable with 3D terrain and icons in ArcGIS Pro, and I am working to upload the project to ArcGIS Online as a “Story Map” with 3D capabilities. The viewshed analysis data – which visualizes what parts of the Iberian landscape can be seen by viewers standing at more than 700 fortress locations – has proven challenging to optimize. I have done some research on optimizing the data, including using the online tool: [www.mapshaper.org](http://www.mapshaper.org) to simplify the edges. I have made some progress, but the solution may be the Vector Tiles technology developed by Mapbox for 2d maps, or alternately, transforming the data into 3D and using the 3D Tiles technology developed by Cesium. If 3D Tiles offers the best solution, I will likely need to migrate my project to a Cesium.js 3D Globe, instead of ESRI StoryMap.

**Duarte de Armas’ “Book of Fortresses.”** I am at the beginning stages of a digital project based on the early 16th century drawings and plans of Portuguese castles by a man named Duarte de Armas - a squire in the court of King Manuel I. I have purchased two different facsimiles of the original book, and I have translated the modern Portuguese histories at the beginning of each facsimile. I have located each of the 50 castles in Google Earth and I pulled the point-data into ArcGIS pro to begin populating additional data about each site. I plan to make Duarte de Armas’ drawings the central part of a Wired! Lab project where students can add their own research to the database and build 3D models from the plans and elevation drawings in the facsimile. I also intend to turn this project into a chapter of my manuscript about the architectural definition of medieval Iberian borders.

Publications


Lectures and Presentations


“Dissecting Humanities GIS Projects: Cross-sections, Guts and a Good Story.” Opening panel and discussion with Brian Norberg as part of the *Humanities GIS Summit* at Duke University, March 2017.
“3D Mapping with ArcGIS Pro” Paper presented as the introduction to a discussion on 3D Web Mapping with Todd Smith from the Cesium team. *Humanities GIS Summit* at Duke University.

“Recontextualizing Decades-Old Excavation Materials through 3D Visualization.” Paper delivered at CAA (Computer Applications in Archaeology), Atlanta, March 2017.


**Teaching and Mentoring**

Castles of Europe. I developed a new syllabus for this course, focusing almost entirely on non-British castles in Europe. I created eight customized tutorials for my students to help them learn how to create 3D models of castles in 3DS Max 2017. The students broke into four groups of three, and created very believable castle models on top of “real” terrain in Spain, Portugal, France and Italy that they uploaded to Sketchfab: Castelo de Setúbal, Castello de Maggiore, Castillo de Cañaveral, Castillo de Humilladero. Course [Website](#).

**Workshops**


**Student Advising:**

2 Digital Art History MA students (Ruby Hung & Stephanie Manning). Serving on both thesis committees.

**Service**

Consultation for *A Portrait of Venice* digital publication.

Liaison with Sean Aery and Will Sexton at Duke Library IT department to embed the full-resolution image of the de’ Barbari *View* into the Duke Digital Repository and IIIF viewer.

Collaborated with Nevio Danelon and de’ Barbari team to create a full-resolution stitched image of the *View* using Photoscan.
HANNAH JACOBS  
Wired! Lab Multimedia Analyst

My role as Multimedia Analyst for the Wired! Lab includes developing and maintaining the lab’s website (http://www.dukewired.org/) and social media platforms (Facebook and Twitter). Additional interactive content from the activities listed in this report be found on these platforms.

Research
I provide consultation for digital scholarship and pedagogy, project planning, digital technology evaluation, mentorship for undergraduate and Master’s level students in digital humanities concepts and tools, and technical support as needed for all Wired! Lab research projects. In 2016-17, I provided advanced consultation and support for the following faculty-led research projects:

**A Portrait of Venice** (*PI* Dr. Huffman) – Provided technical assistance with project planning and development; identified funding and technical support sources both on and off campus; liaised with Duke IT colleagues and IT industry professionals; consulted on digital methods and technologies; provided feedback on student research and development; created prototypes and recommended hardware, software, and content creation workflows for discrete installations within the exhibition, contributed to technology problem solving; provided system administration and front-end development support for web-hosted projects; developed interactive touch interfaces for web-based installations; developed an augmented reality experience to connect Venice past and present for a public audience.

**Dictionary of Art Historians** (*PI* Mr. Sorensen) – In collaboration with Lee Sorensen, developed a plan for a new phase of project development; initiated the process of standardizing a dataset of approximately 2,500 records; began development on a Drupal site for a new publication of the dataset; began planning for additional phases in 2017-18 that will emphasize student research and contribution while developing new functionalities for the site.

**Kingdom of Sicily Image Database** (*PI* Dr. Bruzelius) – Provided user testing and user interface feedback; consulted on a new phase of project development that will include mapping, data export, and pedagogical components. Contributed to a ACLS Digital Humanities Extension Grant proposal.

**Statues Speak** (*PI* Dr. Dillon) – Provided system administration and front-end development for the project’s website, instruction in Omeka (digital archiving) and CurateScape (location-based narrative), and evaluation of methods for implementing this location-based audio tour.

Lectures & Presentations

Publications


**Teaching & Mentoring**
I collaborate with undergraduate and Master’s level instructors to develop and implement digital humanities assignments using a range of web-based and/or visualization tools. This process includes developing project goals and workflows that support instructors’ learning goals and course content and facilitating technical instruction.

**Courses**
**ARTHIST 190 The Medieval Castle in Britain** (Dr. Matthew Woodworth), Fall 2016 – Provided instruction in 3D modeling for critically imagining historic architecture using SketchUp. Two in-class workshop sessions, one-on-one consultations, and technical feedback on final projects.

**ARTHIST 225 Gothic Cathedrals** (Dr. Caroline Bruzelius), Fall 2016 – Mentored undergraduate teaching assistant Adair Jones who led in-class tutorials in AutoCAD for student class projects. Participated in project review.

**ARTHIST 256 Italian Baroque Art** (Dr. Kristin Huffman), Fall 2016 – In collaboration with Huffman and teaching assistant Amanda Lazarus, developed a digital assignment in which students examined spatial relationships between material objects and architecture in historic contexts. Also mentored Lazarus in digital humanities pedagogy. Digital assignment development, three in-class workshop sessions, one-on-one consultations, technical support liaising with Trinity Technology Services, and project feedback.

**ARTHIST 208 Art & Archaeology of Ancient Athens** (Dr. Sheila Dillon, Dr. Elizabeth Langridge-Noti), Spring 2017 – Worked with instructors and teaching assistant Nikos Gkiokas to develop a group digital assignment in which students created digital archives of archaeological finds and mapped those finds in historical and social contexts. Provided system administration support for class project website. Taught students at Duke and the American College of Greece via WebEx (with support from the Center for Instructional Technology) and participated in class’ field trip to Athens for project research and development. Digital tools included Omeka, Neatline, qGIS, and Duke’s Geonode geoserver. Four in-class workshops, one-on-one consultations, in-class question and answer sessions, project feedback.

**MA in Digital Art History/Computational Media**
Provided digital scholarship consultation, critical feedback, and technical support for 4 Master’s student theses and projects, including the *Sta. Chiara Choir Screen*.

**Other**
Supervised MFAEDA student Ran Xin, a lab graduate assistant, who created promotional videos for the lab and conducted interviews with lab members.
Service
In addition to supporting the Wired! Lab, I occasionally provide consultation or support for other digital humanities courses, projects, and initiatives at Duke and beyond.

Courses
Digital Humanities Instructor, VMS 334 Roman Spectacle (Dr. Alicia Jimenez), Spring 2017 – In collaboration with Dr. Jimenez, Digital Scholarship Services Graduate Intern Adrian High, and Digital Scholarship Services staff, developed a digital assignment in which students created a digital archive and spatial narrative of archaeological monuments in Rome using Omeka and Neatline. Also mentored High in digital humanities pedagogy. Digital assignment development, three in-class workshop sessions, one-on-one consultations, technical support liaising with Trinity Technology Services, digital project rubric development, and project assessment.

Workshops


Project Consultations
Imaging Kantō (PI Dr. Gennifer Weisenfeld) – Consulted on the project’s data structure, tools, and web infrastructure. Provided technology instruction in Omeka, Neatline, qGIS, and Duke’s Geonode service. Facilitated the project’s Omeka site hosting by Trinity Technology Services. Continue to provide troubleshooting support and testing as needed.

Respondent, Sonic Dictionary (PI Dr. Mary Caton Lingold) – Provided technical and critical feedback on the project’s current phase and participated in a visioning session for the future of the project.

Respondent, Reading Cities (PI Dr. Edward Triplett) – Provided technical and critical feedback on project’s prototype and participated in a vision session for the future of the project.

Professional Organizations
Communications Officer and Interim Vice Secretary for the Alliance of Digital Humanities Organizations.
Lee Sorenson  
Art Librarian

Research  
Dictionary of Art Historians – DAH was adopted as a Wired! project in 2016. Kress grant awarded to migrate the database into a Drupal project with assistance of Hannah Jacobs. The data and metadata was moved in early 2017 to a spreadsheet for easy downloading. Student participation under my direction is scheduled for August 2017.

Teaching & Mentoring  
Wired!-sponsored classes - Fall, 2016 - ARTHIST 256 - Italian Baroque Art – met with each student individually to review and assist in research skills for their e-book presentations. Concentrated on tracking Vasari-referenced works. Emphasized the hidden art research sources, catalogues raisonnés, permanent holdings’ catalogues of museums and art-level scanning techniques.

Other image-research courses taught by Wired! faculty in the fall included Caroline Bruzelius’ Gothic Cathedrals, ARTHIST 225 and Ed Triplett’s 190S, Medieval Castles of Europe. These classes on medieval building included research on the activity of bishops, architects and iconographers of the medieval period. We located information sources as disparate as quarry maps, stained glass windows donated by specific draft guilds and schematic archaeological plans of churches. Spring digital-technology classes included Sara Galletti’s Renaissance art class in the spring, 2017, which revolved around writing and illustration Wikipedia entries on minor quattrocento artists. Like the baroque art class, students had to make use of non-e source material to provide information not found elsewhere on the web.

Wired! Lab Fridays – most Fridays, particularly during the fall semester, I was part of the drop-in hours of the Friday lab. This just-in-time (or as-needed) consultation proved effective for students with ongoing modeling issues. I focused on discovery issues, working in concert with other faculty and tech professionals to examine highly specific image details for projects, for example, locating interior images of architecture through mainstream searches.

MA in Digital Art History – This year I worked with two students intensely on their thesis projects. As some masters’ students enter the program without extensive art history backgrounds, we began by reviewing summary sources and then in one-on-one meetings assisted with scholarly apparatus for their thesis projects.

Kingdom of Sicily Project – advised research students on KoS. This required the broadest kind of image research techniques. In one case we determined photos of damaged buildings documented by occupation forces during World War II would provide unique information. Such government internet collections are not well described and were difficult for student researchers to locate. “Thinking through” the image acquisition process (“who would have documented architectural monuments?”) led us to determine the Australian army occupied Sicily and their photo archive proved to be a rich source—one outside the regular art or history image documentation. I also consulted and advised on the metadata for description of place names, user search experiences and publicity for the database launch.
JOHN TAORMINA
Director of Visual Resources

Research
Publications


Service
Wired! information packets for incoming Wired! director and faculty member Paul Jaskot during his visit to Duke Fall 2016 semester and to six visitors (two faculty members and four graduate students) from the University of Toronto in April.

Management of the print publications for Wired! (advertisements, booklets, brochures, cards, exhibition panels, flyers, posters, etc.) used to promote the lab.

Metadata and image management consultant (since 2011) to The Medieval Kingdom of Sicily Database project. The database went live in December 2016. The Visual Media Center scanned over 225 images for the project, and provided the associated metadata.

Metadata and image management consultant to Prof. Gennifer Weisenfeld for her new digital humanities project, “Dimensions of Disaster.” The Visual Media Center has also scanned over 300 images for the project.

Liaison with Prof. Richard Powell to bring his new digital course/exhibition/archives project to the Wired! Lab.

Co-organized (with Kristin Huffman) the retirement celebration for outgoing Wired! director Caroline Bruzelius on May 18.

Co-coordinator (with Kristin Huffman) of the scholarly symposium in conjunction with A Portrait of Venice, October 2017.
APPENDIX ONE
Wired! Research Projects

Projects with active student involvement 2016-17

The Arch from Alife in the Nasher Museum of Art: An Interactive Display (Caroline Bruzelius). This project is developed by our Digital Art History MA graduate, Lucas Giles, together with 5 freshmen and sophomore in order to engage the museum public with the origins, history, and iconography of this wonderful work of Romanesque sculpture. Project was presented by the team in the Nasher Museum on April 27.

Digital Athens (Sheila Dillon). The aim of this project is to produce a database and digital map of the archaeological remains of ancient Athens. This project involves students at Duke as well as international colleagues based in Athens. The construction of an interactive open-source map of the archaeological remains and the visualization of how the city changes over time are major aims of this project. This semester Nikos Gkiokas, Evangeline Marecki, and Sheila Dillon began work on mapping the remains from the Kerameikos excavation. This project will continue next fall. Upon completion of this part of the project, Nikos and Evie will move to mapping the remains found during the construction of the Athens Metro.

The Kingdom of Sicily Image Database. (Caroline Bruzelius) The website went live October, 2016, after 5 years of project development (design of the database, gathering information, coordinating and managing international research team), fund raising, etc. Although there remain thousands of images to gather, we are experiencing success: in the month from March 8 to April 5 there were 183 active users of the site, and we received a very positive review: https://arlisna.org/publications/multimedia-technology-reviews/1155-the-medieval-kingdom-of-sicily-image-database.

Mapping Stereotomy (Sara Galletti in collaboration with Dr. Huffman) is a database dedicated to stereotomy, the art of cutting stones into particular shapes for the construction of vaulted structures. Stereotomy is best known for the variety of acrobatic masterpieces produced in early modern France and Spain. Yet the art is neither early modern nor European; it has been practiced over a wide temporal span, from Hellenistic Greece to contemporary Apulia, and across a broad geographical area, centered on the Mediterranean Basin but reaching far beyond—from Cairo to Gloucester and from Yerevan to Braga. Mapping Stereotomy consolidates and visualizes information on stereotomic vaults from antiquity through early modernity, with the aim of furthering and broadening research in the fields of construction techniques and Mediterranean studies.

Paris of Waters (Sara Galletti) is a research project that focuses on the impact of water on the demographic, social, architectural, and urban development of the city of Paris through time. The project is concerned with water in a wide array of forms—as resource, as commodity, as means of transportation, as funnel for the city’s waste, and as cause of disaster and death—and with making it visible as a powerful agent of urban change. Paris of Waters challenges traditional urban history narratives—which tend to focus on design, monumentality, and the stylistic features of the built environment—by highlighting the role of infrastructure, underground works,
and hydraulic management and engineering as defining elements of a city’s development and history.

**A Portrait of Venice: Jacopo de’ Barbari’s View of 1500 (Kristin L. Huffman)** is an exhibition that will open at the Nasher Museum of Art at Duke University, September 7, 2017. This project will be the first time that the View is exhibited as a centerpiece for engaging with the life of the city. The experience of seeing and examining the original work of art will be enriched by a series of innovative digital engagements. This project addresses humanities-based questions that range from the production of this extraordinary print to the historical and social themes that appear in the image. *A Portrait of Venice* also involves the production of a scholarly publication. The book emerges from the scholarship and new modes of thinking produced in conjunction with the exhibition. The 8-10-page essays by 30 scholars in the field address a range of themes and include new and exciting information about Early Modern Venice.

**Statues Speak (Elizabeth Baltes with collaboration from Sheila Dillon).** This project, which seeks to tell the history of the statues on Duke Campus, was begun by Elizabeth Baltes. We have restarted this project in order to bring it to completion, with Prof. Baltes and myself as faculty advisors. This project is now a collaborative endeavor between Duke and Coastal Carolina University. The undergraduate students involved are Jessica Williams, Christy Kuesel and Mary Kate Weggeland of Duke, and Darrah Panzarella of CCU. The project website has been updated, and the students have drafted biographies of the remaining statues. The students have gotten President Brodhead to voice one of the statues. Mary Kate is working on a mobile ap.

**Projects in Development**

**Dictionary of Art Historians (Lee Sorensen)** DAH was adopted as a Wired! project in 2016. Kress grant awarded to migrate the database into a Drupal project with assistance of Hannah Jacobs. The data and metadata was moved in early 2017 to a spreadsheet for easy downloading. Student participation under my direction is scheduled for August 2017.

**Duarte de Armas’ “Book of Fortresses.” (Ed Triplett)** This represents the beginning stages of a digital project based on the early 16th-century drawings and plans of Portuguese castles by a man named Duarte de Armas - a squire in the court of King Manuel I. This project intends to make Duarte de Armas’ drawings the central part of a project where students can add their own research to the database and build 3D models from the plans and elevation drawings in the facsimile.

**The Ghett/App project (Victoria Szabo)** is a mobile application supplement to the exhibition, “Venezia gli ebrei e l’Europa 1516-2016”, that opened in June 2016 at the Ducal Palace in Venice. The project continues to be revised by its organizers: Victoria, postdoc Ludovica Galeazzo, and Ph.D. candidate Paolo Borin. The goals of the re-organization are to improve the quality of the multimedia materials, to incorporate “stops” using materials produced by the graduate students in the VV 2016 summer workshop, and to explore the best platform for similar projects in the future. In June 2017, the team will continue to pull together materials and try out alternative platforms to Guidigo, as well as outline best practices for Visualizing Cities apps.
APPENDIX TWO
Wired! Fellows 2016-17

Undergraduates
A Portrait of Venice
Lizzet Clifton
Project Role: Animating key locations within Jacopo de’ Barbari’s View.

Jane Harrington
Project Role: Animating key locations within Jacopo de’ Barbari’s View

Andrew Lin
Project Role: Researching specific aspect of the de’ Barbari View including the winds and other idiosyncrasies noted.

Charlie Niebank
Project Role: Creating a 3D model the Church of the Vergini; to be placed in Sketchfab for user interactivity.

Anne Haueter
Project Role: Principal Animator, responsible for managing the group of animators and completion of video loop with a composite of all the various animations.

Sierra Lorenzini
Project Role: Researching a developing web interface for exhibition

Elizabeth Speed
Project Role: Working on demolished churches and 3D models and conducting research for the annotations.

Mary Kate Weggeland
Project Role: Working on the Civitates Orbis Terrarum display for the exhibition

Alife Arch
Lauren Jones (Adair)
Project role: Research on re-contextualizing the Alife arch (how and when it was used). Will include a sketchup model of the church.

Gabriella Salvatore
Project role: Program development and coding. Will help to build the app for the project using Javascript.

Jessica Chen
Project role: Research on the geography of the object (where it comes from). Will include an interactive digital mapping component.
Lucian Li
Project role: Program development and coding. Will help to build the app for the project using Javascript.

Marina Frattaroli
Project Role: Development and coding.

**Paris of Waters**
Gabriella Bloom
Project role: Conducting research on various water sources in Paris to add to the database.

**Statues Speak**
Christy Kuesel
Project role: PI, with Jessica Williams - working on statue scripts etc.

**Stereotomy**
Angela Tawfick
Project role: Undertaking preliminary examination of stereometric vaults.

**Kingdom of Sicily**
Michael O’Sullivan
Project role: Working on WWII research related to monuments destroyed in the Kingdom of Sicily

Jessica Williams
Project role: Requesting images from American Archives.

**Doctoral Student Fellows**
Iara Dundas, A Portrait of Venice
Nikos Gkiokas, Digital Athens
Lis Narkin, A Portrait of Venice
Joe Williams, Kingdom of Sicily