



Report for July 2017 – June 2018
Department of Art, Art History, and Visual Studies
Duke University

*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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DIRECTOR'S INTRODUCTION

Paul B. Jaskot

The Wired! Lab for Digital Art History and Visual Culture brings together an extraordinary group of scholars, staff, and students at Duke University to advance a wide range of research topics in art history and visual culture that involve diverse computational and digital visualization methods. It is my pleasure as Director to present this, our 2017-2018 Annual Report. The report documents key initiatives of the lab both within Duke and for the outside scholarly community, with special attention to pedagogic contributions and advances in the use of digital methods for cultural analysis. In addition, faculty and staff projects are detailed in their individual reports below showing the breadth and depth of our commitment to integrating our research and teaching goals.

Since 2009, Wired! has fostered and celebrated the involvement of collaborative teams of faculty, staff, and students for long-term research initiatives in art history and visual culture. I was honored to be chosen to join this group beginning Fall 2017 and can attest in my first year to the truly great span of our projects and the ambition of our scholarly teams. We continue to have particular historical strengths in ancient, medieval, and early modern European studies, which have been complemented this year with new projects in modern art history. The new [Building Duke](#) focus area (project leader: Sara Galletti) deserves special mention in this regard, as this multi-year initiative was successful in its application for a Bass Connection Project Grant that will sustain the combination of pedagogy, archival research, and digital exploration. In addition, we continue to expand our contributions to contemporary visual culture, especially through the innovative use of digital media and visualization. The Spring Semester launch of alumna Elizabeth Baltes' [Statues Speak](#) app¹ that helps to engage the history of the university's statues was an exciting example of how public history using digital methods can take research in new ways. Finally, the extraordinary success of and energy behind the Nasher exhibition "[A Portrait of Venice](#)"² (project leader: Kristin Huffman) indicated the great complexity of methods used at Wired!, as it showcased not only visualizing archival research but innovative digital methods of analysis. Huffman's core research and scholarship helped form a strong spine for subsequent projects by other scholars, staff, and students that supplemented the central focus of the exhibition. The public, pedagogical, and intellectual success of this kind of work parallel our central commitments at Wired! We are grateful to all of our faculty, staff, and students for their continued interest in combining research and digital experimentation as a core aspect of our identity.

In general, it has become clear this year that this core identity is more and more wrapped up in spatial questions, starting from the individual scale of the object up to the urban and even continental analysis of cultural production. Whether we are looking at the "performativity" of an object at the intimate scale of how an anatomical model was handled or the vast scale of fortresses between Christian and Muslim forces on the Iberian peninsula, our faculty continue to focus on

¹ See also Ashley Kwon, "Wired! Lab 'Statues Speak' brings the legacy of campus monuments to life," [The Chronicle](#), March 28, 2018, <http://www.dukechronicle.com/article/2018/03/180328-kwon-statues>; and Jonathan Black, "Take a Walking Tour of Statues," [Duke Today](#), July 10, 2018, <https://today.duke.edu/2018/07/take-walking-tour-statues>.

² See also "A Portrait of Venice: Jacopo de' Barbari's View of 1500," [Nasher Museum of Art at Duke University](#), <https://nasher.duke.edu/exhibitions/portrait-venice-jacopo-de-barbardis-view-1500/>; and Stephen Schramm, "An Exhibition of Teamwork," [Duke Today](#), November 27, 2017, <https://today.duke.edu/2017/11/exhibition-teamwork>.

the analysis of objects *in* space as well as the computational and digital analytic approach *to* cultural space. In this regard, developing an app or an augmented reality intervention is just as critical for us as a more traditional scholarly or museological output. At Wired!, each project is grounded in historical and cultural research combined with rigorous engagement with digital methods. However different the balance between these two areas might be or how diverse our interests and our projects, they all share and contribute to these core values and objectives.

As we look ahead, there are exciting plans for the future not the least of which will be the celebration of our tenth anniversary in Fall Semester 2019. This will be a time to reflect on the contribution of Wired! to all of our constituencies and audiences. Wired!'s impact has been felt in the last year not only through our internal sharing of pedagogical and scholarly work but also externally. In particular, this summer saw the extraordinary organization of no less than three summer institutes: [“Advanced Topics in Digital Art History: 3D and \(Geo\)Spatial Networks”](#) (sponsored by The Getty Foundation); [“Virtual & Augmented Reality Summer Institute”](#) (sponsored by the NEH); and the second year of the [“Summer Institute on Objects, Places and the Digital Humanities”](#) (also sponsored by the NEH). Co-led variously by Caroline Bruzelius, Mark Olson, Victoria Szabo, and myself, these institutes also involved important input from many other Wired! core members, including Kristin Huffman, Hannah Jacobs, Lee Sorenson, Edward Triplett, and our newest colleague, shared with the National Humanities Center, Beth Fischer. As this makes clear, we really do have a sincere commitment to both pedagogy and research in our outreach to broad communities of scholars through these institutes and our work.

My thanks to all of those faculty, staff, and students who continue this year and every year to make Wired! a success. I am particularly grateful to my core administrative team members, which includes Kristin Huffman, Hannah Jacobs as well as myself. We look forward to another exciting year of scholarship in digital art history and visual culture.

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.

PEDAGOGICAL INITIATIVES

The Wired! Lab continues to support undergraduates from many different segments of the university and also draws on the talents and energies of our graduate student populations as well. Of note in this year has been the successful application for Trinity Research Enhancement Funds. This proposal for \$16,000 will help fund undergraduate research through the upcoming academic year. The goal is to improve student engagement with an eye towards channeling more students into Distinction projects for their senior year. Wired! is grateful to the College for these resources and hopes to make great use of them to expand our mentoring of student work.

In the past academic year, the following courses were offered in the Art, Art History & Visual Studies Department that also had Wired! related content and methods:

ARTHIST 225	Gothic Cathedrals (Fall 2017)
ARTHIST 290	Splendor of Renaissance Venice (Fall 2017)
ARTHIST 315	Historical GIS (Fall 2017)
VMS 490S	Visualizing Cultures (Fall 2017)
HCVIS 580S	Proseminar 1: Historical and Cultural Visualization (Fall 2017)
VMS 660S	Digital Places & Spaces (Fall 2017)
ARTHIST 256	Italian Baroque Art (Spring 2018)
ARTHIST 284	The Political History of Modern Architecture (Spring 2018)
ARTHIST 190S	Medieval Castles of Europe (Spring 2018)
ISS 356S	Digital Durham (Spring 2018)
HCVIS 581S	Proseminar 2: Historical and Cultural Visualization (Spring 2018)

INNOVATIVE UNDERGRADUATE MENTORING, TEACHING & LEARNING

Kristin L. Huffman

A New Teaching Model for Undergraduate Learning

The Wired! Lab's innovative approach to instruction, initiated almost ten years ago as an experimental enterprise, had a turning point in its curricular development beginning in 2013. In that year, the lab's faculty capitalized on funds from an internal Duke grant to support undergraduate student research and learning opportunities with fellowships. Select student fellows, working alongside faculty and multi-media and library staff, contributed to five long-term research projects hosted within our lab, a physical space embedded within the department of AAHVS.³ This unique approach to instruction has permitted an imaginative application of new types of closely mentored teaching and research outputs. These include a range of faculty-led research projects with public facing outcomes; independent undergraduate research opportunities, such as independent studies and projects for distinction; Wired! courses, including freshmen seminars and undergraduate/graduate level courses; as well as more integrated community based opportunities, such as workshops and project consultation.

³ The first five projects were: Digital Athens, Kingdom of Sicily, the Lives of Things, Operating Archives, and VIVA/Portrait of Venice.

Our innovative model has thrived these past six years and received national and international recognition. At present, we have more than doubled the number of projects and the number of students. Our educational program translates humanities-based research into useful skills for a variety of future career objectives. Outputs—in the form of interactive exhibitions, shared repositories of engaging data, and digital immersive reconstructions— have resulted in internationally acclaimed public-facing scholarship. And our undergraduate students have consistently and enthusiastically been at the center of this work. Their contributions have helped them land high profile jobs, internship opportunities and post-graduate degrees.

Results have demonstrated that the lab has nurtured students' academic and future career trajectories in ways that were unprecedented at Duke within the humanities. Creating a model whereby promising undergraduate students work alongside faculty, graduate students, and trained visualization and library instructional staff on long-term research, has facilitated a different type of engagement and forward-thinking investigation of humanities content. Typically, Wired! faculty and staff mentor students for multiple years, at times over the course of their entire academic careers, from first to senior year, and our student numbers remain close to full capacity, approximately 20 per semester. The relationships forged could be likened to the close relationships with advanced students in traditional doctoral programs.

Curricular Pathways

We engage our undergraduates in intentional, yet flexible curricular ways. Immediately students can recognize the importance and relevance of their contributions, fully aware that there is a broader public for their work that extends far beyond the typical class-room experience. Our team-designed approach deepens and broadens intellectual capacities for thinking about humanities scholarship, computational and computer scientific analysis, and scientific methods and inquiry. At this intersection of research and scholarly interests, faculty and students have increased their scholarly rigor and expanded their imaginations as well as that of their audiences through parallel and interchangeable learning.

Through Wired! courses, our program has served as a linchpin for students moving along different curricular pathways within AAHVS: art history, visual and media studies, and visual arts. In addition to the department and other humanities programs on campus, we have consistently shared a synergistic exchange with departments in the School of Engineering, and with disciplines such as Computer Science. Since each student brings her or his expertise and unique trajectory to Wired! projects, they come prepared with a range of skills, methodological and theoretical models, as well as disciplinary questions. These result in rich opportunities for bi-directional shared learning— from faculty and staff to students AND from students to faculty and staff.

Due to this open and constantly unfolding type of investigation in the Lab as well as the classroom, there is a mutual investment that results in deeper connections formed with faculty, staff and students. These include not only connections with independent courses and/or research teams, but also those formed across the various Wired! Lab projects. This is particularly evident as students' curricular pathways evolve and projects complete a phase of their development. Students may help one project reach a stage of completion and then roll onto another research team. This means that

the physical space of the lab itself and working together at designated times, such as our Friday open lab sessions, fosters additional faculty and staff mentoring opportunities and exchanges for students.

Integrated & Global Learning

Learning opportunities for undergraduates extend far beyond the sphere of AAHVS faculty and staff. Team collaborators often include and/or involve scholars and highly specialized staff across campus, from OIT to Duke Libraries, from Engineering to the Medical School. Research acquisition for undergraduates includes both on-site field research and library research. This has taken our undergraduates abroad to Venice, Athens, Naples, in addition to various cities in England and France, in addition to culling the archives here in our own backyard at Duke University and other national recognized libraries.

Because of the international profile of many of our projects, students frequently work with faculty and students from institutions abroad, such as the American University in Athens, Greece, and the University of Padua. The lab co-authored a grant to enable the exchange of graduate students who could work alongside undergraduates through the Erasmus Program with the University of Padua. The steady stream of global learning opportunities exposes undergraduates to other experts and professionals, expanding the exchange of ideas beyond the lab and Duke's campus, and opening yet another unique panorama for undergraduate learning.

DIGITAL ADVANCES

Hannah L. Jacobs

An unprecedented 11 new projects and project expansions were begun in the Wired! Lab this year. With them came a range of technological innovations from structuring data on collaborative cloud-based platforms, to visualizing GIS in 3D, to developing interactive virtual and augmented reality experience. These include

[Alife Arch App](#)

[Augmenting Scoletta del Carmine](#)

[Book of Fortresses](#)

[Building Duke](#)

[Dictionary of Art Historians](#)

Dictionary of Art Historians Mapping German Exile Networks

[Digital Public Buildings in North Carolina](#)

[Imagining Venice](#)

[Mapping German Construction](#)

[Venice & the Museum of the City](#)

As continues to be our methodological practice, all of these projects began with historical data collection and organization. For example, students in Mapping Stereotomy, Digital Public Buildings in NC, and Mapping German Construction mined historic documents and maps for

spatial and temporal information about architecture and infrastructure that will form the basis of their GIS analyses and 3D reconstructions. How we structure and share this data among team members is advancing. The Book of Fortresses project is combining [Airtable](#) and [Zapier](#) for both collaborative data collection and task management to build a database to describe the project's 55 Portuguese fortresses and fortified towns. Meanwhile, visiting University of Padua students developing [Augmenting Scoletta del Carmine](#) used building information modeling (BIM) software to create a database fully integrated with their project's 3D model of a Carmelite confraternity in Padua, Italy. This practice, known as Historical BIM or HBIM, is transforming how we create and analyze 3D models of historic architecture.

From architecture to objects, we are also engaging new methods for scholarly interpretation and presentation. Kristin Huffman and her collaborators are exploring ways to use 3D data capture to study early modern wood blocks used to print a large-scale *View of Venice* and 360 image capture to build a dataset of prominent Venetian sites as they appear today. Some of these analyses will be included in an exhibition at the Correr Museum in Venice, building on the 2017 exhibition, [A Portrait of Venice](#). Huffman's engagement with the public via visual storytelling and curation is also expanding through [Imagining Venice](#), a project in which students are developing a narrative of early modern Venice using the latest animation practices in Adobe After Effects to bring to life a 1729 map of Venice.

From animation and model rendering to virtual and augmented reality, we are pushing the boundaries of public engagement through digital storytelling. Mark Olson and MA in Computational Media student Angelina Liu are advancing the types of custom-built location-based augmented reality experiences we create for museum settings. Organizing workshops like the Institute for Virtual and Augmented Reality for the Digital Humanities has afforded us new opportunities to theorize this work with colleagues from across the humanities.

The expansion of existing projects has also brought new opportunities in how we present research. Hannah Jacobs worked with Lee Sorensen, editor of the Dictionary of Art Historians, to launch a new website, <http://arthistorians.info/>, in Drupal that aims to make the Dictionary's unique resources available to a new generation of art historians. The coming year will see this project join other Wired! initiatives in using visualization as research method as the team employs tools such as Python, ArcGIS, and Tableau to study the intellectual networks and patterns of scholarship that form the history of Western art history.

These information structuring activities are not only challenging scholars to rethink historical and stylistic arguments—such as in the work of [Mapping Stereotomy](#)—but also leading to exciting new visualization possibilities such as using [ArcGIS](#) to see 3D viewsheds, exploring architectural models at scale in the [Duke Immersive Virtual Environment \(DiVE\)](#), and integrating historical images with multimedia in public interactive augmented reality experiences. For example, we continue to experiment with gaming engines like [Unity3D](#) and [Unreal Engine](#), as well as Javascript libraries like [A-Frame](#), to create custom augmented and virtual reality experiences that enable us to analyze and present our research.

Likewise, our roles in coordinating three summer institutes have enabled us to test other nascent platforms, which we will be integrating into our ongoing projects in a number of ways in the

coming year. For example, we will be attempting to integrate our separate work in augmented reality and 3D GIS in a new platform, [VGIS](#), in which we hope to be able to view our 3D georeferenced historical data in the field. As we look to the year ahead, we are excited by the prospects of continuing to engage the wider scholarly community around these types of innovative practices, bringing new digital methods to our students in the lab, and continuing to push beyond what may be thought possible in digital art history, digital humanities, and new media studies.

INTERNATIONAL OUTREACH: SERVICE WITHIN AND BEYOND DUKE UNIVERSITY

Core members of the Wired! Lab have organized and participated in a number of local and international workshops and symposia in 2017-18. See their individual presentations and contributions listed below. However, in addition to their own individual presentations at digital humanities, art historical, and other disciplinary conferences:

[Stories about Venice and de'Barbari's Marvelous View of 1500: A Symposium](#)

Organizers: Kristin L. Huffman with John Taormina

October 12-13, 2017, Nasher Museum of Art, Durham, NC

[Sessions at the Digital Matters in Medieval and Renaissance Studies: A Symposium on Medieval and Renaissance Studies and Digital Humanities at Duke University:](#)

April 6-7, 2018, Durham, NC

- “The Medieval Kingdom of Sicily Image Database Project: From Conceptual Design to Management”
- “The Wired! Lab and Digital Art History at Duke”

[The Getty Foundation Advanced Topics in Digital Art History: 3D & \(Geo\)Spatial Networks](#)

Organizers: Paul Jaskot, Mark Olson, Victoria Szabo

June 3-14, 2018, Venice, Italy

#DAHVenice2018 Twitter Archive: [Week 1](#) | [Week 2](#)

[NEH National Humanities Center Summer Institute on Objects, Places and the Digital Humanities](#)

Organizers: Carolina Bruzelius, Mark Olson

July 16-20, 2018, Research Triangle Park, NC

[NEH Institute for Virtual and Augmented Reality for the Digital Humanities \(VARDHI\)](#)

Organizers: Victoria Szabo, Philip Stern

July 23-August 3, 2018, Durham, NC

[#NEHVARDHI Twitter Archive](#)

Wired! Activity by Core Members of the Wired! Group

CAROLINE BRUZELIUS

Anne Murnick Cogan Professor Emerita of Art and Art History

<http://www.dukewired.org/person/caroline-bruzelius/>

SHEILA DILLON

Professor of Art, Art History and Visual Studies

On Leave, 2017-2018

<http://www.dukewired.org/person/sheila-dillon/>

LUDOVICA GALEAZZO

Postdoctoral Fellow

<http://www.dukewired.org/person/ludovica-galeazzo/>

SARA GALLETTI

Associate Professor of Art History

Research

Currently, I am working on three Wired! projects: Mapping Stereotomy, Paris of Waters, and Building Duke. Mapping Stereotomy 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 a 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.

Building Duke (in collaboration with Valerie Gillispie, Kristin Huffman, Mark Olson, Victoria Szabo, and Ed Triplett) explores the history of the conception, design, and construction of Duke

campus as well as its changes and expansions through time. The project has two principal aims: first, to offer a historical narrative of the physical environment that the Duke community inhabits; second, to explore the desires and visions that, through time, have materialized in the making of Duke campus. The project combines historical research with digital technologies and is articulated in two main components: 1) a chronological timeline of Duke's buildings, landscape, and infrastructure; 2) a series of historical narratives along thematic axes such as patronage and financing, architectural and landscape design, techniques, materials, and labor as well as issues around identity, gender, class, and race.

Publications

Sara Galletti, "Stereotomy and the Mediterranean: Notes Toward an Architectural History." *Mediterranea. International Journal on the Transfer of Knowledge* 2 (2017): 73–120, <http://dx.doi.org/10.21071/mijtk.v0i2.6716> .

Conferences/Lectures Paper

"Stereotomy: A Mediterranean History" presented at the Annual International Conference of the Society of Architectural Historians, Saint Paul, MN April 18–22, 2018.

Paper "Mapping Stereotomy: Vaulting in the Ancient and Medieval Mediterranean" presented at the symposium Digital Matters in Medieval and Renaissance Studies, Duke University, April 6–7, 2018.

Teaching, Courses, & Mentoring

In the past year, I have mentored seven undergraduate students in the Wired! Lab, all of them for two semesters and all supported through fellowships from the Undergraduate Research Office. Margarete Calmar and Hannah Wolfe have contributed secondary-source research and database population to the Mapping Stereotomy project. Thomas Aubert, Gaby Bloom, Andrew Lin, Dryden Quigley, and Irene Zhou contributed primary- and secondary-source research and database population to the Paris of Waters project. Margarete Calmar and Hannah Wolfe have both chosen to continue their work on stereotomy next year, and to develop their research into honors theses under my supervision.

Service

As the PI of the Building Duke project, I have conceived the project, designed the 500-level research seminar paired with it (Building Duke ARTHIST/HVIS 504SL, offered in the spring of 2019), and raised \$22,000 through Bass Connections for year-one implementation.

KRISTIN L. HUFFMAN
Lecturing Fellow

Research

Projects

A Portrait of Venice: Jacopo de' Barbari's View of 1500, completed December 2017

A Portrait of Venice was a multi-media exhibition based on Jacopo de' Barbari's iconic *View*. Printed in 1500, the mural-sized woodcut presented a bird's eye view of the city that was instantly recognized as a technological and artistic masterpiece, a portrait of an urban marvel. No other city view rivaled its grandeur, ambition, or detail. With staggering precision, the *View of Venice* visually describes the dense fabric of Venice—thousands of buildings, hundreds of bridges, and a complex network of islands, canals, narrow streets, squares, and wellheads. The original print from the Minneapolis Institute of Art was on display alongside six interactive digital displays. These told the stories of one of the wealthiest, most powerful, and greatly admired cities in the early modern world.

De' Barbari's Wooden Blocks in Venice, ongoing

In collaboration with the Correr Museum in Venice, this research project involves supporting a reinstallation of the permanent collection. We will begin with work developed for *A Portrait of Venice*, an exhibition hosted at the Nasher Museum of Art at Duke University, September-December 2017. The first phase focuses on Jacopo de' Barbari's *View of Venice*, 1500, and the light laser and photogrammetry scans of the six original wooden blocks housed in the Correr Museum. Study and analysis of captured data have led to new discoveries regarding the process of making as well as insights into the mysteries of this important historical document.

Imagining Venice, ongoing

This project celebrates the first accurate map of Venice, created in 1729 by Ludovico Ughi, through a series of digital stories. Printed in sections, the map included sixteen vignettes of notable sites and a legend of important locations within the city. Sold to visitors, especially those coming to Venice as part of the Grand Tour and lavish parties of Carnival, it was printed in a transportable album format that could be cut out and reassembled upon arrival back home. Working with the document in its original format, the team will animate and contextualize the newly acquired version at the Rubenstein Library at Duke University. The map and its story will form the centerpiece of an exhibition in June or July 2019 at Duke Libraries that celebrates the collection's rare Venetian books.

Peer-Reviewed Publications

Kristin L. Huffman, editor. *Stories about Venice and Jacopo de' Barbari's Marvelous View of 1500*, Duke University Press, pending peer review.

The premise of this edited volume is that even though scholars have always used de' Barbari's mural-sized woodblock print as a visual document of Venice as it appeared in the Early Modern period, this book project is the first time that the *View* forms the centerpiece for engaging with the life and lived experience of the city. The 10-page essays by twenty-four scholars address a range of themes and include new and exciting information about Early Modern Venice. Accompanying these essays will be the experience of seeing and examining the original print in a deep-zoom, high resolution format; it will form the basis for links to details discussed in the *View*. In many ways, 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.

Co-authored with Iara Dundas, "San Geminiano: A Ruby among Pearls," submitted to the *Journal of the Society of Architectural Historians*, Findings Section, accepted pending revisions.

Huffman, Kristin L., Andrea Giordano, and Caroline Bruzelius eds. *Visualizing Venice: Mapping and Modeling Time and Change in a City*, (New York: Routledge Press, 2017).

"Preface" in *Visualizing Venice: Mapping and Modeling Time and Change in a City*," eds. Kristin L. Huffman, Caroline Bruzelius, and Andrea Giordano (New York: Routledge Press, October 2017): pp. xii-xiv.

"Digital Art History: Building a Model for Student Engagement" in *Visualizing Venice: Mapping and Modeling Time and Change in a City*," eds. Kristin L. Huffman, Caroline Bruzelius, and Andrea Giordano (New York: Routledge Press, October 2017): pp. 111-117.

"Visualizing Venice to Visualizing Cities: Future Horizons" in *Visualizing Venice: Mapping and Modeling Time and Change in a City*, eds. Kristin L. Huffman, Caroline Bruzelius, and Andrea Giordano (New York: Routledge Press, October 2017): pp.128-136.

Exhibitions

A Portrait of Venice: Jacopo de' Barbari's View of 1500

The exhibition has been on display at the Nasher Museum of Art at Duke University, September 7-December 31, 2017

(see: <https://www.youtube.com/watch?v=MHaOhCQG9Ds&feature=youtu.be>). An agreement has been formed with the Civic Museums of Venice to move the exhibition material and continue its development for a permanent re-installation at the Correr Museum beginning in 2019.

Organized Symposium

Jacopo de' Barbari's Marvelous View of 1500. Symposium held at the Nasher Museum of Art, October 12 & 13, 2017. Thirteen scholars presented with many in attendance from Duke and UNC-Chapel Hill. Patricia Fortini Brown gave a final lecture December 7, 2017.

Invited Lectures

Jacopo de' Barbari's *Marvelous View*, University of Padua, Italy, November 2017

Jacopo de' Barbari's *View of Venice*, University of Washington at St. Louis, November 2017

Conferences and Symposium

The Wooden Blocks of Jacopo de' Barbari's Celebrated *View*, RSA, New Orleans, March 2018
500-Year-Old Wooden Blocks, Photogrammetry, and Light Laser Scans, Digital Matters
Symposium, Duke University, April 2018

Grant Support

The National Endowment of the Humanities-Mellon Foundation, *A Portrait of Venice*, 2017
The Gladys Kriebel Delmas Foundation, *A Portrait of Venice*, 2017
The Kress Foundation, *A Portrait of Venice*, 2017
Duke Digital Initiative, *A Portrait of Venice*, 2017

Teaching & Curriculum

My Wired! classes are developed in modular formats that balance 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 builds upon the knowledge and skills of previous sections, a continuum that prepares students for advanced engagement with art historical material for final projects regardless of their background or prior experience.

In Fall 2017, students created a virtual installation of works of art located at the Metropolitan Museum of Art: <https://sketchfab.com/models/0515e5835bba41479f8929c67f6dc638>. Spring 2018, both Italian Baroque Art and a freshman seminar, Visual Culture of Venice, included application of the digital platform StoryMap for the presentation of students' art historical research projects.

My curricular innovations have included the opportunity to mentor students over the course of multiple semesters on long-term research projects in the Wired! Lab. *A Portrait of Venice*, an exhibition displayed at the Nasher Museum at Duke, included prominent public facing objectives with scholarly results. I am currently at work on a new exhibition for Duke Libraries, *Imagining Venice*, that involves mentoring a team of four undergraduate students over the course of three semesters and one summer.

Advising & Mentoring Undergraduates

Wired! Lab Independent Studies

Matthew Nelson, Spring 2018

Angela Tawfik, Spring 2018

Wired! Undergraduate Research Fellows Mentored

Noah Michaud, Spring-Summer 2018

Daphne Turan, Spring-Summer 2018

Mary Kate Weggeland, Fall 2017-Spring 2018

Wired! Graduate Research Fellows Mentored

Iara Dundas, Fall 2017

Wired! Postdoctoral Associates Mentored

Ludovica Galeazzo

Emanuela Faresin

Mirka Dalla Longa

Giulia Piccinin

Service

Pedagogy & Curriculum Development in Wired! Lab, July 2017-June 2018

Coordinated the lab's undergraduate academic program. Recruited, met, and placed undergraduate students on faculty led long-term research projects. These include placement on the following projects other than my own: Digital Athens, Dictionary of Art Historians, Mapping Stereotomy, North Carolina Public Building, the German Construction Industry, Statues Speak.

Developed new courses with a view to the overall curriculum in Wired! Lab, Fall 2017

Reinvent traditional art history courses with a goal toward semester-long digital research projects: Splendors of Renaissance Venice

Coordinated international exchanges for Wired! Lab, July 2017-June 2018

The Memorandum of Understanding with the University of Padua constituted an opportunity for international faculty and students to come work for periods of time at Duke. Mentored and coordinated intellectual exchanges for four Italian post-docs (July 2018-March 2018). Coordinated Erasmus agreement to support three doctoral candidates from our department.

Wired! Annual assessment report (2017-18)

Compiled, wrote and contributed to the preparation of the Wired! report

Six public gallery tours of the *Portrait of Venice* exhibition at the Nasher Museum of Art, September-December 2017

Visualizing Venice, served as Associate Director November 2017-June 2018

HANNAH JACOBS

Digital Humanities Specialist

This year, my position title changed from "Multimedia Analyst" to "Digital Humanities Specialist" to better reflect my role within the lab. This position includes developing and maintaining the lab's website (<http://www.dukewired.org/>) and social media platforms ([Facebook](#) and [Twitter](#)).

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 2017-18, I provided advanced consultation and support for the following faculty-led research projects.

A Portrait of Venice (Huffman)

<http://www.dukewired.org/projects/a-portrait-of-venice/>

Coordinated with curators, Nasher and OIT staff exhibition installation, maintenance, and deinstallation. Maintained hardware and software and executed content updates throughout the exhibition (September-December 2017). Developed and maintained web interfaces for 3 touchscreens and an augmented reality interface. After the exhibition closed, I worked with Postdoctoral Fellow Ludovica Galeazzo to archive the project's many source files. These are currently stored in Duke Box. The interfaces used in the exhibition continue to be housed on a Reclaim Hosting server, which I maintain on behalf of Dr. Huffman and Professor Sheila Dillon.

Dictionary of Art Historians (Sorensen)

<http://arthistorians.info> | <http://www.dukewired.org/projects/dictionary-art-historians/>

Launched a new iteration of this public project in Drupal. Worked with Lee Sorensen to standardize the data structure for the 2,800 records and to create a workflow for accepting contributions from art history scholars and students. We conducted a soft launch of the site just before the College Art Association's (CAA) annual conference in February 2018, presenting this resource during [The Getty's Research Portal workshop](#). The site was officially launched in March 2018, and has received almost 18,000 unique pageviews from users in 87 different countries since its launch. I am now working to document the site's structure and to develop new features for the site, including better search functionalities, additional methods for browsing and filtering entries, and visualizing scholarly networks. A result of our presentation at CAA is continued data sharing and conversation with The Getty so that information from the Dictionary may be integrated with their [Research Portal](#). Lee Sorensen and I are also now collaborating on a research project with Paul Jaskot that will explore intellectual networks among German art historians who were exiled during World War II.

Testing "Flipped Workshops" with DukeExtend

With Ed Triplett, Liz Milewicz (Director, Digital Scholarship Services), and Femi Balogun (Field Experience Student, UNCG SILS) explored the possibility of using [DukeExtend](#) to train students in visualization technologies used in Wired! Lab teaching and research. Our initial use case involved developing a DukeExtend course to accompany Triplett's ISS 315 Historical Mapping with GIS course (Fall 2018). The online course materials would be assigned to students weekly to accompany in class work and other homework assignments and would enable students to learn GIS software on their own and to focus on questions and problem solving in class. The online content would also be modular and general enough that it could be assigned to other subject-oriented classes learning GIS without needing to tailor all tutorial materials to each individual class.

The project yielded an outline for the course and a series of tests for integrating video tools and tools for assessment (Playposit) with text, image, and embedded interactive examples, in

DukeExtend modules. We met as a group throughout the spring semester, and I provided consultation and feedback as Femi learned the basics of ArcGIS and began organizing the content in the DukeExtend platform. In the coming year, I plan to test this platform as a home for an online workshop series on creating archives and exhibitions in Omeka and Neatline.

Project Consultations

I continue to provide project consultations, tool instruction and troubleshooting, and infrastructural support to a range of lab projects including [The Medieval Kingdom of Sicily Image Database](#) (Bruzelius); Bass Connections project [Building Duke](#) (Galletti); [Statues Speak](#) (Dillon, Huffman, Baltes); [Mapping Stereotomy](#) (Galletti); [Paris of Waters](#) (Galletti); [Digital Athens](#) (Dillon); [Digital Public Buildings of North Carolina](#) (Jaskot); [Mapping German Construction](#) (Jaskot); and [Imagining Venice](#) (Huffman).

Posters, Panels, & Presentations

Poster, [“Points, Lines, Polygons, and Pixels: A Framework for Teaching & Learning Humanities through Visualization,”](#) Digital Humanities 2017, McGill University, Montreal, Canada, August 8-11, 2017.

Poster, “Toward a Framework for Project-Based Learning with Visual Storytelling,” [HASTAC \(Humanities, Arts, Sciences, and Technology Alliance and Collaboratory\) 2017](#), University of Central Florida, Orlando, FL, November 3-4, 2017.

Presenter with Lee Sorensen & Paul Jaskot, “The Dictionary of Art Historians” during “The Getty Research Portal: A Virtual Library to Serve the Digital Era,” [College Art Association 2018](#), Los Angeles, CA, February 21-24, 2018.

Presenter with Lee Sorensen, [“Structured, Open, & Collaborative Publishing? The Case of arthistorians.info,”](#) Munch & Mull Discussion Group, Duke University, Durham, NC, March 19, 2018.

Panelist with Karlyn Forner and Charlie Cobb, “Getting Things Done: Nuts & Bolts of a Collaborative Project,” [SNCC Digital Gateway Closing Events](#), Duke University, Durham, NC, March 23-24, 2018.

Teaching

I collaborate with undergraduate and Master’s level instructors to develop and implement digital humanities assignments using a range of web-based and visualization tools. This process includes developing project goals and workflows that support instructors’ learning goals and course content, facilitating technical instruction, as well as designing tutorials and providing one-on-one consultations to students.

Fall 2017

ARTHIST 290 Splendor of Renaissance Venice (Huffman)

Provided workshops and consultations on visual storytelling using Microsoft Sway, SketchUp, and Sketchfab. Students created final projects in Sway that facilitated visual analysis of their topics through image comparison and interactive mapping and annotation. These Sway presentations were accessed via a [group virtual exhibition in Sketchfab](#). For this portion of the course, I designed the exhibition space and instructed the students in creating digital surrogates of the art objects.

HCVIS 580S Proseminar I (Szabo)

Participated in course discussions; assisted with tool workshops; led discussion on humanities data with Mark Olson; led workshop on digital archiving & exhibitions using Omeka; led discussion on museum exhibits with Iara Dundas; provided feedback and consultations on student final projects.

Spring 2018

ARTHIST 190 Art of Renaissance Venice & ARTHIST 256 Italian Baroque Art (Huffman)

Facilitated student projects that used historical mapping and visual storytelling in ArcGIS and ESRI Story Maps to study particular artists and historic sites. Led 3-4 workshops for each class covering techniques from georeferencing historical maps in ArcGIS to annotating historical images in Adobe Photoshop for presentation in ESRI Story Maps. Created supplementary tutorial materials for these workshops; consulted with students one-on-one; provided draft project feedback; submitted comments on final projects.

ARTHIST 284 Politics & Modern Architecture (Jaskot)

Consulted with instructor on formatting & scheduling in-class workshops; provided tutorial videos and handouts for students learning Omeka and Neatline for a class mapping project.

HIST 382S Digital Durham (Abel, Szabo)

Participated in class meetings; assisted students during archival explorations; provided feedback on digital projects.

MA in Digital Art History/Computational Media Thesis Projects

Jo Kwon

Provided initial consultation on her project proposal and continue to be available for consultation and troubleshooting as she works through the summer and fall on a project that will integrate mapping, augmented reality, and public exhibition tools and methods.

Emily Leon

Participated with Paul Jaskot in a thesis independent study in spring 2018 during which time Emily developed an intellectual framework and historiography for her project and experimented with a range of digital tools. Worked with Emily to develop a digital methodology for her project component; demonstrated tools for conducting data gathering, text analysis, and basic computer vision and machine learning and for creating data visualizations and network diagrams; assisted with tool-based problem-solving; provided feedback on prototypical work. I will continue to work with Emily over the summer and fall of 2018.

Service

In addition to the workshops and consultations listed below, I became a College Advisor this year. I advised 6 first-year students and will continue to advise them until they declare a major in the next academic year.

Workshops

Co-facilitator with Victoria Szabo, "Introduction to Digital Humanities," Franklin Humanities Institute – North Carolina Central University Digital Humanities Initiative, Duke University, Durham, NC, August 19-20, 2017.

Organizer, nVivo workshop & discussion with Kathryn Desplanque, Duke University, Durham, NC, October 18, 2017.

Participant, Franklin Humanities Institute External Review, October 2017.

Project Consultations

NEH National Humanities Center Summer Institute on Objects, Places, and the Digital Humanities

Provided remote project consultation as needed for National Humanities Center Fellows throughout the academic year.

Imaging Kantō (Gennifer Weisenfeld & Nicole Gaglia)

Consulted on the project's data structure, tools, and web infrastructure. Provided technology instruction in Omeka, Neatline, qGIS, and Trinity Technology Services Geonode geoserver. Facilitated the project's Omeka site hosting by Trinity Technology Services. Continue to provide troubleshooting support and testing as needed.

Individual Consultations

I also consulted on individual research projects for students and faculty affiliated with the lab and/or with the broader digital humanities community at Duke. Individuals include Amanda Lazarus (PhD Candidate, AAHVS); Kathryn Desplanque (PhD graduate in AAHVS); Adrian Linden-High (PhD Candidate, Classical Studies); Kasia Stempniak (PhD Candidate, Romance Studies); Adriana Lapuerta (Trinity undergraduate affiliated with NC Jukebox project); Meghan O'Neil (PhD graduate in English, graduate mentor for Story+); Professor Sumathi Ramaswamy (History).

External Consultations

Lab software & OS configuration with Duke Libraries IT; Lab physical space design with Emory University; example Gothic Cathedrals project for digital pedagogy initiative at Lonestar College.

PAUL JASKOT
Professor of Art History

Research

It was a great pleasure to join the Wired! Lab last summer. In getting started, I developed 3 projects all related through my scholarly interest in researching large-scale analyses of architecture and construction: mapping the Ghetto system in Nazi-occupied Europe; the related project of visualizing and analyzing the German and Jewish spaces of Nazi-occupied Krakow; and mapping the public buildings of the conceptual and analytical possibilities of digital mapping (above all, GIS), for extending art historical questions. In particular, I focus on how changing the scale of analysis from the single, exceptional building to, instead, the vast number of structures in the built environment both requires different (digital) methods as well as challenges canonical art historical choices. The first two of my Wired! research projects on occupied Europe are directly related to my work as part of the international Holocaust Geography Collaborative. My particular solo project in relation to this collaborative is a history of interwar German architecture through a focus on the construction industry. Such a 'history from below,' as it were, requires not only a diverse range of archival sources (there is, after all, no such thing as a single source on all buildings constructed, vernacular to high design). It also requires new methods, given the thousands of buildings that will be accounted for in the final study. The built environment of Krakow and the ghetto system more generally form the last two chapters of this project, intersecting as they do directly with Nazi building priorities in the east as well as the use of forced labor in construction activity.

My interest in this relationship between architecture and politics led me directly to the more local study of public building in North Carolina. This topic has helped me to familiarize myself with aspects of building in the state as well as key structures. But, more importantly, it is a critical attempt to highlight how public-patronized buildings often play central cultural, ideological, and economic roles outside of the dominant urban centers that are all-too-often the only focus of art historical analysis. To get at this problem, we have begun with developing a typological matrix for data related to buildings, beginning with the public prisons. I hope in the coming year to move to court houses and public libraries. I am assuming that this will both produce papers co-authored with my student contributors but also years of work that will feed directly into classroom analysis.

In a project unexpectedly related to my interest in the impact of Nazi cultural policy, I have also joined Lee Sorenson's team (with Hannah Jacobs) of the Dictionary of Art Historians. We hope to develop an article related to the relaunch of the site exploring both its digital capacities and its ability to analyze art historians exiled from Nazi Germany.

Publications

"Commentary: Art-Historical Questions, Geographic Concepts, and Digital Methods," Historical Geography 45 (2017): 92-99.

Paul B. Jaskot and Ivo van der Graaff, "Historical Journals as Digital Sources: Mapping Architecture in Germany, 1914-24," Journal of the Society of Architectural Historians 76, no. 4 (December 2017): 483-505.

Relevant Presentations

March 19, 2018: "A Plan, a Testimony, and a Digital Map: Analyzing the Architecture of the Holocaust." University of New Hampshire, Durham, New Hampshire.

March 12, 2018: "A Plan, a Testimony, and a Digital Map: Analyzing the Architecture of the Holocaust." Anne Tanenbaum Centre for Jewish Studies, University of Toronto, Canada.

Jan. 22, 2018: "Scale and Ambiguity in the Digital Analysis of the Spaces of the Holocaust (or Why Bother Making an Art Historian a Member of Your Team)." 2018 Duke Research Computing Symposium. Duke University, Durham.

Oct. 23, 2017: "GIS and Corpus Linguistics: Mixed Digital Methods for the Exploration of Forced Labor in Krakow District Ghettos." Digital Approaches to Genocide Studies conference. USC Shoah Foundation, Los Angeles.

Oct. 17, 2017: "The Architecture of the Holocaust: How Art History and Digital Humanities Help us Analyze Difficult Building Sites." Frick Museum of Art, New York.

Teaching, Courses and Mentoring

In relation to my Wired! research projects, I mentored five students involved in diverse projects and assignments. For the public buildings of North Carolina, I was joined by Paloma Rodney, who helped with the structure of the initial database and also the original research into prison building. She has since developed her own project related to the main penitentiary in Raleigh (Central Prison) and its spatial/social/architectural relationship to St. Mary's, a prominent girls' school within sight of the prison. On the ghettos of occupied Europe, I was joined by: Antonio LoPiano, who helped populate the database from the Encyclopedia of Camps and Ghettos as well as participate in the larger Holocaust Geography collaborative discussions; Atsushi Hu, who made a first pass at extracting information on the built environment of the ghettos in the Krakow District; and Jannis Stoeter, who helped summarize relevant secondary sources on the German economy and the construction industry. Finally, I worked on developing a focused research agenda for Brittany Halberstadt, who is developing a distinction project related to the question of exile central to my participation in the Dictionary of Art Historians.

In addition to this mentoring, I also added a Neatline component to my Political History of Modern Architecture survey in order to list this course as part of the Wired! curriculum. I plan on doing the same for my intro-level courses in the future.

Service

My primary service contribution has been to assume the role of Director of the Wired! Lab. In that capacity, I have attempted to open up discussion about the focus of our mission, a clearer structure to our curriculum, and a renewed emphasis on faculty research, among other initiatives. In this capacity, I applied successfully (with the help of my colleagues) for a Trinity Research Enhancement award that will cover \$16,000 worth of student research support for the coming year.

MARK OLSON

The Cordelia and William Laverack Family Assistant Professor of Art, Art History & Visual Studies

<http://www.dukewired.org/person/mark-jv-olson/>

Research

My Wired-related research focus for the 2017-18 year has centered around three projects:

Operating Archives

The Operating Archives project resumed in late 2017 with the History of Medicine Collection's efforts to capture the entire collection of ivory anatomical manikins using microCT scanning. As of the end of the year, 15 of 22 manikins had been scanned and efforts are underway to segment and analyze the meshes. The Operating Archives project is concerned with the preservation of the "performativity" of these objects in a digital archive. While digital archives afford access to historical texts, images, and objects at the level of the visual, often in a reconstituted contextual milieu, what about objects that were intended to be operated, manipulated, handled, played with? The project is exploring 3D-printed facsimiles as well as interactive digital environments and gaming platforms for re-activating an embodied relation to medicine's material culture.

Augmented Alife Arch

This Lives of Things project builds upon past efforts to create a compelling exhibition supplement for Duke's Alife Arch in the Nasher's permanent collection. Three historical narratives are the focus: the medieval iconography that decorates the Arch; the Arch's status as *spolia*, constructed from repurposed fragments from classical architecture; and speculation on the original context of use of the Arch. This year's contribution to the project largely focused on exploring the affordances of augmented reality for conveying these narratives *in situ* in the gallery, drawing visitors' attention to the object itself as a means of engaging its history. Technical research explored using 3D meshes as augmented reality anchors alongside image-based recognition, as well as emerging platforms for web-based delivery of AR content. Additionally, the original set of photogrammetric photographs were reprocessed to produce a cleaner, higher resolution 3D model based on current techniques.

Apostle Painting App 2.0

The original Apostle Painting application, Medieval Color Comes to Light, has been on display at the Nasher Museum since November 2015 and has been an immensely effective in engaging the public. The project's hardware and software infrastructure is in dire need of an upgrade, however, particularly in light of recent advances in WebGL delivery of physical-based rendering of textures. Research and development were conducted throughout the 2017-18 year on a new platform for the exhibition, something that can readily be translated to new exhibition contexts, new statuary, etc.

Finally, I published two Wired!-related essays on the Visualizing Venice project:

- Giordano, A. & Olson, M. (2017). “*Visualizing Venice: Developing a Methodology for Historical Visualization.*” In Giordano, A., Huffman Lanzoni, K., & Bruzelius, C. (Eds.). *Visualizing Venice: Mapping and Modeling Time and Change in a City.* (pp. 20 – 25). New York & London: Routledge.
- Olson, M. (2017). “Interactive Exhibitions: New Interfaces for Engaging Visualizations.” In Giordano, A., Huffman Lanzoni, K., & Bruzelius, C. (Eds.). *Visualizing Venice: Mapping and Modeling Time and Change in a City.* (pp. 92 – 99). New York & London: Routledge.

Teaching: Courses & Mentoring

Wired! courses taught:

- **Proseminar II** (Spring 2018)
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 A-Frame; web-based delivery of 3D with SketchFab. Ongoing discussion about the affordances of digital tools for art historical and media studies research.
- **Independent Study on 3D Modeling and Rendering** (Spring 2018)
Graduate-level independent study on the fundamentals of photorealistic rendering in the Unreal gaming engine.

Wired! Undergraduate Fellows Mentored:

- **Gaby Salvatore** (Alife Arch Project, Fall 2017) – Independent Study
- **Lucian Li** (Alife Arch Project, Fall 2017) – Volunteer
- **Stephanie Fiddy** (Operating Archives Project, Spring 2018) – Fellowship
- **Anna Cunningham** (Operating Archives Project, Summer 2018) - Fellowship

HCVIS MA Students Mentored:

- **Ruby Hung**, Primary MA Advisor (Fall 2017 / Spring 2018)
- **Angelina (Chang) Liu**, Primary MA Advisor (Fall 2017 / Spring 2018)
- **Luke LeGrand**, Co-MA Advisor (Fall 2017 / Spring 2018)
- **Stephanie Manning**, MA Thesis Committee (Fall 2017)

Service

Steering Committee, *Visualizing Venice*

Co-PI, *Advanced Topics in Digital Art History: 3D and (Geo)Spatial Networks*, The Getty Foundation. Venice International University, June 4 – 16, 2018

Co-Convener, *Summer Institute on Objects, Places, and the Digital Humanities*, National Humanities Center. (Planning for year 2 of the Institute throughout 2017-2018.)

Collaborated with Edward Triplett on implementing an Emlid Reach (RTK GNSS) tracker for his Book of Fortresses Project.

Public-facing Service in Digital Humanities

DH Applicant Reviewer, 2018-19 Fellowship Competition, *National Humanities Center*, Fall 2017

- Manuscript Reviewer, *Digital Humanities Quarter*

LEE SORENSEN

Librarian for Visual Studies and Dance

<http://www.dukewired.org/person/lee-sorensen/>

<http://arthistorians.info/>

VICTORIA SZABO

Associate Research Professor

Research

Publications

Research Essay contribution to Kristin L. Huffman, Andrea Giordano, and Caroline Bruzelius eds. *Visualizing Venice: Mapping and Modeling Time and Change in a City*, (New York: Routledge Press, 2017).

Invited Talks (Wired! related)

“Collaborative Approaches to Modeling the Past in 3D/VR: The Interdisciplinary Lab Model for Teaching, Research, and Public Outreach.” Council on Library and Information Resources 3D/VR Symposium. Norman, Oklahoma. 8 March 2018.

“The Future of Digital Teaching and Learning.” NOWETAS Group Meeting: Is Powerpoint the Answer to Modern Learning and Teaching? HWK Delmenhorst, Germany. 15 November 2017.

“Humanities, Science & Technology: The Interdisciplinary Lab and the City.” PhD Academy on The Importance of Interdisciplinary Collaboration to Tackle Societal Challenges. Organized by KU Leuven, Belgium at Venice International University. 20 September 2017.

Grants and Fellowships

I was lead PI on two successful DH grants this year, both of which involve the Wired! Lab.

The Getty Foundation funded Advanced Topics in Digital Art History: 3D Geospatial Networks.

A Getty Foundation supported workshop to support interdisciplinary teams focused on the hard questions of Digital Art History as a discipline, a set of methods, and a host of technical and institutional challenges and opportunities. Participants will gather from June 4-16, 2018 in Venice, Italy at Venice International University, with follow-up activities taking place over the course of the 2018-19 academic year, and leading into a follow-on gathering in Summer of 2019 that will operate as a writing and digital publication workshop, building upon work done over the course of the year by the project teams and in collaboration with our wider network.

We are bringing together 8 teams of 2-3 participants drawn from an international set of collaborators focused on scaling up an existing Digital Art History project, with special attention to projects focused on the intersection of mapping and modeling, and those thematized around Visualizing Cities. Participants may include faculty, researchers, post-docs, advanced graduate students and academic staff and practitioners in the field. Alumni/ae of our previous Visualizing Venice workshops are especially encouraged to apply.

Support for this Visualizing Venice program is provided by the Getty Foundation, as part of its Digital Art History initiative. Organizing partners include Venice International University, Duke University's Wired! Lab for Digital Art History & Visual Culture, and the University of Padua's Architecture and Engineering program.

<http://dahvenice2018.org>

The National Endowment for the Humanities sponsored the Virtual and Augmented Reality for Digital Humanities Institute (VARDHI).

The Institute will take place July 23-August 3, 2018 at Duke University. Because we are developing a community of practice and critique together, participants are expected to commit to the full two weeks of the program. We will meet regularly in the historic Smith Warehouse on Duke's East Campus. Seminar discussions will take place in the PhD Lab for Digital Knowledge at the John Hope Franklin Humanities Institute, with hands-on activities in the Wired! Lab for Digital Art History & Visual Culture in the Department of Art, History & Visual Studies, in the Information Science + Studies Lab, and the Computational Media, Arts & Cultures FabLab. Additional sessions will take place at the Duke Immersive DiVE in the Pratt School of Engineering, and other west campus locations. Accommodations will be organized for a local hotel near downtown in the city of Durham, NC.

Each day will consist of a combination of presentation, demo, discussion, hands-on technology work, and critique. We will learn from the interdisciplinary team of organizers, guest presenters, and each other. Evenings will be devoted to staffed open lab periods or group activities, as noted in the schedule. Framing Conversations will be held at the beginning and ends of each week to address the meta-considerations our explorations bring up. Our goal will be to advance both our individual projects and discourse in the field.

Topics covered will include:

- VR and AR Fundamentals: Prehistories and Concepts
- VR and AR Authoring Tools, Systems, and Platforms

- Experience and Interaction Design Principles for VR and AR
- Digital Storytelling, Exhibitions, and Archives
- Historiographic, Theoretical and Critical Considerations
- VR/AR and Scholarly Publishing and Evaluation
- Aesthetic and Creative Approaches to the Field
- Project Management, Pedagogy, and Training

Engagement with participant projects will be of central importance to the work of the Institute. Some details of the final schedule will be based upon the subject areas, technical, and critical interests of the group members selected through the application process. The disciplinary focus is open, but the subject matter should fall broadly into the category of humanistic research and its expression. We anticipate applicant projects focused on history, archeology, literature, cultural heritage, architecture, media arts, classical studies, community-building, and more.

<https://sites.duke.edu/wardhi/home/>

Teaching

In Fall 2017 I taught the Proseminar 1 course for our 8 incoming Digital Art History/Computational Media Students. I also taught Web-Based Multimedia Communications, which some Wired! students took.

Our Bass Connections Digital Durham project and class focused on the history of the city from post-civil war to the mid 20th century. This semester we put out a mobile app, the Civil Rights Tour, and an interactive infographic related to Black Durham. The class is cotaught by Trudi Abel and Victoria Szabo and is cross-listed with Education, VMS, ISS, and History. Our Bass project/course site is here: https://sites.duke.edu/duke_digitaldurham/. This includes links to the semester projects from our class. Of especial note is the infographic created by two of our students about historic Black Durham.

<https://www.thinglink.com/scene/1047551342668677121>. We also have an app published on the Duke Explore channel called Civil Rights Tour. This is also undergoing some editorial review before we publicize it, but you can see it now if you download the Duke Explore app. Also, Morgan Hersh, one of our students, won the Holton Prize for her research on the history of education in Durham.

Students

Undergraduates

Healey, Helen
Xiao, Claire

Graduate Students

Hissong, Courtney: G-MALS-AM
Minai, Leanora: G-MALS-AM
Kwon, Jo: MA student in Digital Art History/Computational Media
Xie, Kira: MA student in Digital Art History/Computational Media

This is in addition to the students in the Digital Durham course itself.

Service

I will be implementing and teaching in the Advanced Topics in Digital Art History Summer Institute noted above.

I am Co-DGS for the Digital Art History/Computational Media MA and project advisor for students. The new CMAC website, which I coordinated with TTS, also includes an improved site for the MA, raising our profile.

I also reviewed some Getty Foundation Digital Art History proposals, which is indirectly Wired-related.

I also advocate for Wired! in my various other campus leadership roles: DGS of CMAC PhD and unofficial coordinator of the Smith Media Labs; Program Director of ISS: Co-Director of Bass Connections Information, Society & Culture theme; Director of the Duke Digital Humanities Initiative at FHI and Co-Director of PhD Lab in Digital Knowledge.

JOHN TAORMINA

Director, Visual Media Center

Research

I continued to develop my Digital Humanities bibliography. Michael O'Sullivan (T' 17) was hired as my assistant on the project during Fall 2017.

I am working on an article, "Developing a Database for a Kingdom: The Medieval Kingdom of Sicily Database Project," for the *Visual Resources Association Bulletin*.

Service

Assembled extensive information packet on Wired! for incoming Duke president, Vince Price, September 2017.

Developed website for symposium, *Stories about Venice and De' Barbari's Marvelous View of 1500*, October 12-13, 2017. <https://sites.duke.edu/venicesymposium/>.

I spoke on the Medieval Kingdom of Sicily Image Database project in the Wired! Lab for visitors.

I spoke on the Medieval Kingdom of Sicily Image Database project in the weekly Rendez-vous, March 29, 2018.

I participated in the session, “The Medieval Kingdom of Sicily Image Database Project: From Conceptual Design to Management,” in the CMRS symposium, *Digital Matters in Medieval and Renaissance Studies*. Topic: “Project Creation: Making Concept into Reality.” April 6, 2018.

I provided Wired! information packets for incoming MA and PhD students.

I continued managing the print publications for Wired! (advertisements, booklets, brochures, cards, exhibition panels, flyers, posters, etc.) used by both the Wired! Lab and the department.

The Visual Media Center developed and printed the Wired! poster for the Research Computing symposium.

I became a member of the Wired! research project team for *Building Duke: The Architectural History of Duke Campus from 1924 to the Present*. The project received a \$22,000 Bass Connections grant for 2018-19. Developed posters for the project.

I continued as metadata and image management consultant (since 2011) to The Medieval Kingdom of Sicily Database project.

EDWARD TRIPLETT
*Instructor**

Research

The Book of Fortresses (Begun August 2017, Ongoing)

The aim of this project is to spatially reconstruct an exceptional architectural source from early modern Portugal called the Livro das Fortalezas (Book of Fortresses). The book contains 120 perspective drawings and architectural plans of more than 55 fortresses and fortified towns along the border between Portugal and Spain. It also contains a brief but systematic textual itinerary followed by the book’s author (a Portuguese Squire named Duarte de Armas) when he traveled to each site in 1509. The digital project takes a multi-scale approach to the book by creating 3D models of each site according to Duarte de Armas’ specifications, a set of virtual billboards of each perspective drawing placed in a 3D landscape in ArcGIS Pro, and additional GIS analyses designed to understand how all of the castles were connected to each other. Thus far, 4 undergraduate students have created 8 parametric models of the castles at the beginning of Duarte de Armas’ itinerary and placed them into the 3D GIS system. They have also been building up a database of information about each drawing using a cloud-based software called Airtable. This database also forms the back-end of the project website: www.bookoffortresses.org

Summer 2018 research will add another level of spatial analysis to the project in the form of photogrammetric scans of the extant masonry of the sites that were modeled this year. This portion of the project is designed to discover the nature of the artist’s sense of perspective, how “panoramic” his perspective drawings were, and how many vantage points might have been required to capture the architecture and surrounding landscape in each image. This data will also

be added as a layer in the 3D GIS system to help align the 3D models and test wall measurements identified in Duarte de Armas' plan drawings.

Publications

Triplett, Edward. "Mapping Spheres of Influence on Medieval Iberia's Religious Frontier via Viewshed Analysis and Cost-Distance Analysis." *Historical Geography*, 2017.

Conferences/Symposia

The Spaces of Early Modern Architectural Production (May 2018)

Max Planck institute, Berlin Germany. [Description](#)

"Drawing Borders with Castles and Maps: Making sense of the 16th Century 'Book of Fortresses'"

*Volume of participant papers to be published in early 2019.

Digital Matters Symposium, (April 2018)

Duke University, Franklin Humanities Institute.

"The Book of Fortresses: An Early Modern Visualization of a Historical Buffer-Zone."

Forum: 3D/VR Content Creation and Publishing (March 2018)

Arlington VA. Hosted by Virginia Tech. [Description](#).

Teaching & Curriculum

[Airtable repository of past & future Gothic Cathedrals and Medieval Castles of Europe projects](#)
(Begun Fall 2017, Ongoing)

In the fall I worked with a UNC Library Science Master's student named Aubrey Klein on a database project designed to digitize and catalog a sample of final projects created by past students in the Gothic Cathedrals course. Over the course of the semester, we designed the structure of the database so that drawings of particular types (EX: rose window drawings, or CAD plans of the students' counterfactual cathedral) could be sorted and viewed by students as they worked on their own projects. This system is also how students from the Fall semester turned in their final projects. I intend to make a few subtle changes to the database so that *Castles of Europe* projects can also be added to this same database.

Historical GIS Duke Extend Course

In the spring semester I worked with another library science intern from UNCG named Femi Balogun. The original idea was to re-work the PDF versions the tutorials in my Historical GIS course (now re-named "Mapping History with GIS") and turn them into online videos so that we could free up time in class to talk about spatial theories, historical topics and processes. What ended up coming out of it was a deep dive into a relatively new content management system for creating online classes that Duke Learning Innovation has been pushing called "Duke Extend." Femi, Liz Milewicz and I met regularly throughout the semester and Femi was able to create a skeletal structure of the HGIS course into modules and units. She took the tutorial videos that I

made and entered them in the online course. Femi also used a second software called PlayPosit that stops the video at times and gives students an opportunity to follow along in ArcGIS Pro while they watch. I will be continuing to work with Duke Learning Innovation in July to create additional polished videos for the online course site.

Historical GIS – Tutorials in ArcGIS Pro

This course was/is especially tutorial-heavy. Below is a list of some of the things I covered in custom tutorials in the fall:

1. Georeferencing historical maps in ArcGIS Pro
2. Drawing Points, Lines and Polygon features on top of a historical map
3. Symbology and styling feature layers
4. Joining tables
5. 3D GIS – Placing scaled historic photos “upright” in an ArcGIS Pro Scene
6. Viewshed Analysis
7. Least Cost Path / Cost Distance analysis
8. Creating structured data in Google sheets and geocoding address columns.
9. Designing an ESRI StoryMap
10. Uploading and managing ArcGIS Online Layers

Gothic Cathedrals and Castles of Europe – Created Fusion 360 tutorials

I ended up making a switch from 3DS Max software to Fusion 360 in the Castles of Europe class in the Spring, and I also created a set of tutorials in this software in the Fall for the Gothic Cathedrals course.

Fusion 360 Tutorials for Gothic Cathedrals:

1. Creating a 2D Plan of Duke Chapel
2. Creating a barrel, groin, and rectangular rib-vault
3. Modeling the elevation of a nave-bay and cloning it
4. Designing a 3D Rose window with basic geometry
5. Assembling the final 3D model into 2D architectural plans, elevations and section drawings in Fusion 360
6. Importing topography data with the CAD2Earth plugin

Fusion 360 Tutorials for Castles of Europe:

1. Tracing the plan of Beaumaris Castle
2. Modeling a castle tower with spiral staircase
3. Modeling a gatehouse with portcullis
4. Creating vaulted spaces in the gatehouse

5. Assembling models into 2D architectural plans
6. Downloading 3D terrain with the CAD2Earth Plugin (Custom video)

Independent study courses

In the Fall I taught three independent study courses with two graduate students and one undergraduate. The topics included Gothic and Romanesque Architecture (Jason Chandra BA), Projection Mapping, Motion Graphics and Visual Narratives (Ruby Hung, MA), and Advanced GIS techniques (Stephanie Manning, MA).

Mentoring

Book of Fortresses Project: 4 Undergraduate Research Fellows – Hillman Han, Cyan DeVeaux, Stone Mathers, Cameron Esses

Trained students in Fusion 360 Parametric Modeling, Airtable software, and for some, a (brief) introduction to ArcGIS Pro.

Jo Kwon (MA) – Trained in Agisoft Photoscan and photographic techniques for photogrammetric models. (Spring 2018)

Stephanie Manning (MA) – Additional time beyond the independent study working through her thesis project. This work directly led to her being hired by Apple to work on a mapping project for them.

Service

Statues Speak – Created the final photogrammetry model of the statue in front of the Duke Medial Center. This took three return trips to the statue, and a lot of masking and post-processing of the images.

Coordination with other instructors for the Advanced Digital Art History Summer Institute (June 2018)

Research into VR and AR technologies for the VARDHI Institute headed by Victoria Szabo (July 2018)

Coordination with other instructors for the 2nd year of the NEH National Humanities Center Summer Institute for Objects, Places and Digital Humanities. (July 2018)