

CELEBRATING 10+ YEARS OF WIRED!

A Report of Duke University's
Digital Art History & Visual Culture Research Lab

Kristin L. Huffman, Hannah L. Jacobs, and Paul B. Jaskot, eds.

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We dedicate this work to the formidable vision of
Caroline Bruzelius
and to our other four colleagues who, with Caroline, taught the first Wired! class:
Rachael Brady, Sheila Dillon, Mark J. V. Olson, and Raquel Salvatella de Prada.

Celebrating 10+ Years of Wired!
A Report of Duke University's Digital Art History & Visual Culture Research Lab

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We are extraordinarily grateful to all the support we have received over the years without which we would not have prospered as we did. The lab's initial foundation and ongoing expansion have benefited from many individuals, offices, departments, and units across Duke University's campus. These have come in the direct form of financial support as well as the generous sharing of immeasurable resources, such as knowledge, equipment, and time. The list below highlights those who contributed to the foundational success of the Wired! Lab and its research initiatives, pedagogical innovation, and opportunities for undergraduate and graduate students as well as post-doctoral scholars:

- Office of the Provost, Duke University
- Office of the Dean of Arts & Sciences as well as the Dean of Humanities, Trinity College, Duke University
- Art, Art History & Visual Studies Department Staff (especially Marion Monson, David Massung, Alina Taalman, and Agnieszka Witczak-Das)
- Duke Global (especially Eve Duffy)
- Undergraduate Research Support Office (especially Sarah Russell and Ron Grunwald)
- Trinity Technology Services, especially:
 - Duke East and Smith Warehouse team (especially Antonio Fields and Brad Arthur, as well as former staff including Seth Garrepy, Ted Bebenek, Michal Kozluk, and Bill Broom)
 - AV Team (headed by Paul Zylowski)
 - Digital Humanities Specialist Brian Norberg
 - Senior Associate Dean Edward D. Gomes, Jr.
 - David Tremmel in Database Services
- Nasher Museum of Art at Duke University, especially: Sarah Schroth, Trevor Schoonmaker, Julia McHugh, Marianne Wardle, Molly Boarati, Brad Johnson, Douglas Vuncannon, and the incredible Nasher staff.
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- Duke University Research Computing (Mark DeLong)
- John Hope Franklin Humanities Institute
- Our colleagues and collaborators over the years at North Carolina Central University, North Carolina State University, and the University of North Carolina at Chapel Hill
- Our international partners:
 - Università Iuav di Venezia
 - Venice International University
 - Università di Padova
 - The American School of Classical Studies at Athens

FUNDING & SPONSORSHIPS

In addition to support across Duke's campus, the Wired! Lab has received targeted sponsorship and funding for its broader teaching agenda, research projects, and summer workshops. The following lists highlight our gratitude for funding received over the past ten years from an impressive array of both external institutions and granting initiatives at Duke.

External

- Andrew M. Mellon Foundation
- Council on Library and Information Resources (CLIR)
- Gladys Krieble Delmas Foundation
- Fondazione di Venezia
- Furthermore Foundation
- The Getty Foundation
- The International Center of Medieval Art
- Samuel H. Kress Foundation
- National Endowment for the Humanities (NEH)
- NEH-Mellon Fellowship for Digital Publication
- National Humanities Center
- Renaissance Computing Institute (RENCI)
- Renaissance Society of America
- U.S. Holocaust Memorial Museum

Duke University

- Department of Art, Art History & Visual Studies
- Bass Connections
- Data+
- Duke Digital Initiative
- John Hope Franklin Humanities Institute
- Humanities Writ Large Initiative
- Josiah Charles Trent Memorial Foundation
- Nasher Museum of Art
- Office of Information Technology
- Office of the Provost
- Provost Global Online Education Award
- Office of the Vice Provost for the Arts
- Office of the Vice Provost for Research
- Office of the Dean of Arts & Sciences, Trinity College of Arts & Sciences
- Office of the Dean of Academic Affairs, Trinity College of Arts & Sciences
- Office of the Dean of Humanities, Trinity College of Arts & Sciences
- Schiff Family Humanities Fund
- Trinity College Research Enhancement Funds
- Trinity Technology Services
- Undergraduate Research Support Office, Trinity College of Arts & Sciences
- University Libraries
- Visual Studies Initiative

INTRODUCTION

Paul B. Jaskot

We are pleased to present this volume as both a celebration of over ten fantastic years of the Wired! Lab for Digital Art History & Visual Culture at Duke University and as an introduction to our new name and forward-thinking position within the Digital Humanities: Duke University's Digital Art History & Visual Culture Research Lab. Wired! began in 2009 with the concept of vertically integrating digital methods of research in Art History and Visual Culture within all levels of pedagogy. Starting with student training—from first-year seminars, independent research, and senior theses for distinction on up to the professional and academic training of graduate students—our faculty and staff embed curricular strategies for mentoring students within the development of students' own rigorous research. As our previous mission, re-drafted in 2017, stated:

“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.”

Such an ambitious mission was enacted from its inception through the significant work and commitment of faculty and staff. This work prospered originally under the indefatigable leadership and vision of Caroline Bruzelius, Anne Murnick Cogan Distinguished Professor Emerita of Art and Art History, the founding Director of the Wired! Lab. We owe much to her creativity, her energy, and her vision for combining cultural



Caroline Bruzelius teaches students in the 2012 Museums Inside & Out course at the Nasher Museum of Art at Duke University. Image Credit: Nasher Staff

research and pedagogy with digital methods at Wired!, and I am pleased to thank her here for this extraordinary work and service.

Since our five-year anniversary, we have expanded in ambition and scope. Our work, we believe, has made a real impact not only on hundreds of Duke students but also on the broader study of Art History and Visual Culture as well as on the practice of the Digital Humanities. This influence has centered on rigorous research questions and agendas, and we have chosen to highlight the expansion of this agenda in our new name: the *Digital Art History & Visual Culture Research Lab*.



Logo for the Duke Digital Art History & Visual Culture Research Lab. Designed by Jack Edinger.

This name recognizes the forward-thinking impulse of the Wired! Lab from the beginning as well as the increasingly collaborative vision that unites our research efforts. Our projects have focused on many cultural and digital topics, but they have especially explored three principal approaches to Art History and Visual Culture: the investigation of the object, the interpretation of cultural spaces and systems, and the critical engagement with various scales of analysis. While our faculty, staff, and students are engaged with many other questions, the clustering of projects around these broad thematic areas generates not only energy within our various individual topics but also an intellectual synergy among them.

This led to the establishment of a new mission statement in 2020:

“Duke University’s Digital Art History & Visual Culture Research Lab is a dynamic research community of faculty, staff, and students. We engage and advance critical digital methods to promote new approaches to scholarship and pedagogy in the study and interpretation of the visual arts, architecture, cultural heritage, and urban environments.

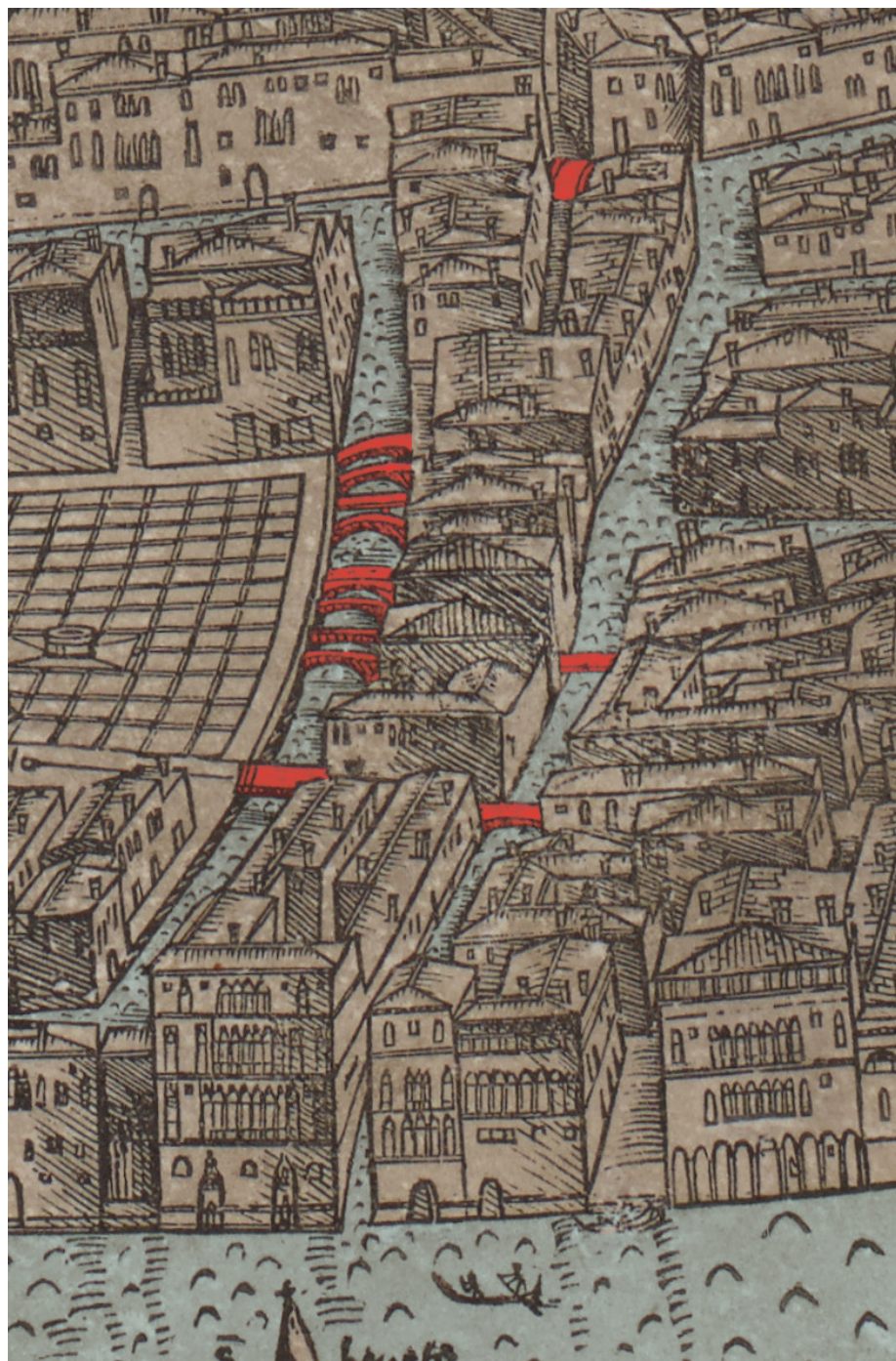
We believe in the importance of such intellectual work for sustaining the humanities in contemporary society.”

The wider agenda of collaborative approaches to Digital Art History and Visual Culture brought us together initially and thus spurs our development into the future. As a result, our name change and new mission statement reflect the intellectual and an-

alytical directions that guide our pedagogic initiatives and increasingly unify our public-oriented research. Indeed, to signal these two equally important legs upon which we stand, we will keep the name of the Wired! Lab internally for our physical space and for our famed Friday afternoons of collaborative research and mentoring between faculty, staff, and students, while externally promoting the new umbrella designation of the Digital Art History & Visual Culture Research Lab.

Our Digital Humanities work on Art Historical and Visual Culture topics constitutes a range of approaches to objects, buildings, and cultural spaces (whether physically extant structures, representations in a painting or a drawing, or even imagined locations). In addition, our lab's scholars have displayed an equally wide range of interests in diverse digital methods that themselves raise important intellectual questions about computational approaches to culture. From buildings to maps, objects to virtual environments, and cities ancient to modern, we continue to probe the issue of which digital methods are best suited to specific cultural questions. And, conversely, which intellectual issues central to computation might inform our understanding of the analysis of culture? The dialogue between the complex problems in cultural and computational analysis has led to highly productive results over the past decade and is also foundational to the challenges and debates that are relevant to scholars, our students, and the broader public for critical Digital Humanities work.

Finally, we are excited to harness the energy that comes from our students, our research, and our teaching into the next decade of innovative work. As we reflect on past successes, we also look forward to many further contributions to intellectual life at Duke and to the broader community of scholars and publics. This publication celebrating over ten years of Wired! (and now, the Digital Research Lab) is the most public expression of our mission to engage broadly. It marks our belief in the importance of such intellectual work for sustaining the Humanities in contemporary society. Such engagement is possible through our core commitment to advancing critical digital methods in the analysis of Art History and Visual Culture, a topic on which we have labored with rigor and energy for more than a decade.



Campo San Polo with water and bridges colorized. Detail from Jacopo de' Barbari's *View of Venice*, 1500.
Image Credit: *A Portrait of Venice*

HISTORY

Caroline Bruzelius, Mark J. V. Olson, John J. Taormina

Wired! began as a question: *what will happen if we apply digital technologies to historical inquiry?* What kinds of affordances and limitations do state-of-the-art technologies offer art historians to represent and interrogate the three-dimensional forms of architecture and sculpture as they change over time?¹ And, as time has gone by, and as the potential and affordances of digital technologies have expanded over the past ten years, what *new* initiatives and research questions could the faculty and students at Duke University undertake? These themes have dominated the Wired! enterprise ever since.



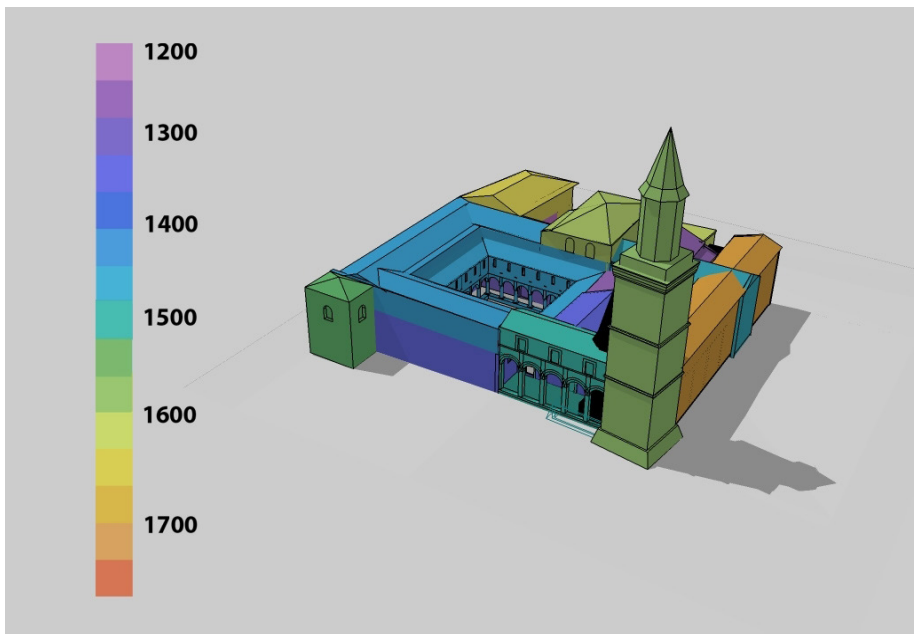
Faculty for the 2009 Wired! course. From left to right: Rachael Brady, Caroline Bruzelius, Sheila Dillon, Raquel Salvatella de Prada, Mark J. V. Olson. Image Credit: Umberto Plaja

We were able to do this at Duke because of a fundamental change in the Art & Art History Department, which, after much debate and discussion, had in 2006 changed its title to Art, Art History, and *Visual Studies*. With the addition of the words “Visual Studies” to the traditional title and practice of an Art History department, colleagues from other disciplines such as Media Studies (Mark J. V. Olson), Engineering (Rachael Brady), and Digital Humanities (Victoria Szabo) were invited into the program. This stimulated a series of conversations that led a core group of faculty² to design an experimental course to engage with and illustrate how digital visualization technologies might enrich the understanding and representation of research questions in Art and Architectural History. It was essential, however, to define an operational concept that would be equally stimulating to all partners in this conversation, regardless of their expertise and training. Our answer was *the visualization of time and change in the historical past*.

1. Our first questions had to do with the visualization of process and change in medieval architecture (Caroline Bruzelius) and the role and sequence of sculpture in Greek sanctuaries and urban spaces (Sheila Dillon).
2. Rachael Brady, Caroline Bruzelius, Sheila Dillon, Mark J. V. Olson, and Raquel Salvatella de Prada.

// The results were spectacular. It was clear to both students and faculty that with the success of the experimental course, “everything had changed.”

In Spring 2009, these conversations resulted in an investigational course, *New Representational Technologies for Historical Materials*. We experimented with visualizing the locations of ancient sculpture in the Hadrianic Baths of Aphrodisias and representing the building chronology of the Franciscan convent of San Francesco a Folloni. Students also developed projects on sculpture at the shrine of Apollo on the island of Delos, the construction of the Franciscan church in Piacenza, and the building phases of Santa Croce in Florence. The students worked in small teams of two or three, side-by-side with the faculty, on research questions that were of central interest to the faculty involved.



Still from the student animation of the construction of San Francesco a Folloni (2012). Image Credit: Michal Koszycki and Rebecca Wood



Rachael Brady demonstrates a photogrammetry setup with Elizabeth Baltes (PhD 2017) and Catherine Stanley (Duke, '09). Image Credit: Participants in the Wired! course

The results were spectacular. It was clear to both students and faculty that with the success of the experimental course, “everything had changed.” The discipline of Art and Architectural History exploded open to engage with questions that had to do with *process, change, time, and meaning*. The core group was galvanized; none could consider abandoning this effort to return to conventional teaching in our respective disciplines. We began to ask new questions of our research; we began to think of how we could engage the public in understanding important questions about our topics (works of art, buildings, and cities). This magical moment of revelation in turn inspired a series of new collaborative and international research initiatives, such as *Visualizing Venice*, *The Medieval Kingdom of Sicily Image Database*, and *Digital Athens*, as well as the conviction that the group needed to train the next generation of scholars, graduate students, and

“ Basic to the initiative were certain core concepts: team teaching (combining the expertise of those in Digital Media with Art and Architectural History), group projects (that engaged faculty working alongside students), public presentations, and peer-to-peer teamwork.

young professionals in the radical potential of these new technologies. To accomplish this latter endeavor, we inaugurated a series of summer institutes at Venice International University with support from the Gladys Krieble Delmas Foundation and The Getty Foundation. We realized that we should also offer a Master's degree that focused on the intersection of digital technologies and questions about material culture.

Basic to the initiative were certain core concepts: team teaching (combining the expertise of those in Digital Media with Art and Architectural History), group projects (that engaged faculty working alongside students), public presentations, and peer-to-peer teamwork. These operational principles entailed the reconceptualization of courses in order to make time for teaching the appropriate technologies and developing research projects, as well as the support of the administration for the creation of a designated space with appropriate hardware and software.

Also in 2009, the Wired! group received a Franklin Humanities Institute Discussion Grant for a year-long colloquium, *New Technologies and the Visual Arts: Reconfiguring Knowledge in the Digital Age*. The grant was renewed after the first year. The group planned to meet biweekly at lunchtime with the stated mission to, "expand and develop our collaborations, conversations, and reflections on the implication of new technologies on the field of material culture."

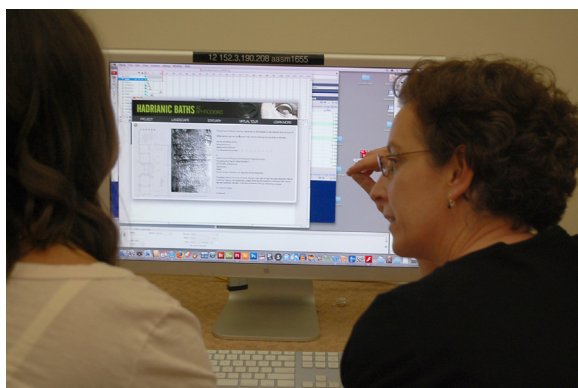
The colloquium theme focused on rethinking teaching with new technologies in both undergraduate and graduate programs. The core group consisted of Rachael Brady, Caroline Bruzelius, Sheila Dillon, Mark J. V. Olson, Raquel Salvatella de Prada, Victoria Szabo, and John Taormina. Depending on the topic of discussion, guests were invited to join various meetings to add their expertise. These included: faculty, staff, and students from Art, Art History & Visual Studies and other departments or other local universities; Lee Sorensen, Duke's Librarian for Visual Studies and Dance; the deputy director of IT, Julian Lombardi, and the scholarly communication officer from Duke Libraries, Kevin Smith; the editor of Duke Press, Ken Wissoker; and the University's digital strategist, Paolo Mangiafico, to name a few. Additional outside speakers, including Arne Flaten, Bernard Frischer, and Anselmo Lastra, were brought in for public lectures on digital technologies and art history.

We addressed various broad issues involving technologies and humanities:

- that assumptions about how knowledge is organized and taught are being shattered by the possibilities of new technologies;
- how the evolution of a site/building could be represented over time;
- the potential of new technologies to communicate scholarly research;
- how topics could be taught in new and more effective ways through digital technologies;
- how students acquire new technical skills while engaging with primary research materials to create new representations of historical data;
- how students become active rather than passive learners by engaging in hands-on digital reconstruction of a site/building.



Raquel Salvatella de Prada and Akara Lee (Duke '09) in the 2009 Wired! course. Image Credit: Participants in the Wired! course



Sheila Dillon and a student in the 2009 Wired! course. Image Credit: Participants in the Wired! course



Alexandra Dodson (PhD 2016) and Michael Koszycki (Duke, '09) measure a sculptural object at the Nasher Museum of Art at Duke University. Image Credit: Participants in the Wired! course

// The group realized that all of the pertinent discussions about digital literacy, pedagogical practices, and scholarly viability had concurrently solidified a viable curriculum in the process: the creation of two required proseminars and appropriate electives taken over an eighteen-month period, culminating in a thesis project.

Specifically, the group decided on the following colloquium topics:

- **Digital Literacy:** learning the technical tools, presentation of the product
- **Pedagogical Practices:** IT training issues, evidence and attribution, spatial history (movement through time), participatory learning, public workshops
- **Scholarly Viability:** academic validity, collaborative teaching and research, promotion and tenure, scholarly communication

During the colloquium's two-year period, it was determined that a dedicated physical space with the appropriate equipment—a lab, if you will—would be necessary to properly enhance teaching with digital technologies, conduct group research projects, offer workshops and demonstrations, and provide a sense of community among engaged faculty, staff, and students. After a proposal was written, one-time funding was provided from the Offices of the Provost and Research, space was identified in Smith Warehouse across from Duke's East Campus, and the new lab took physical shape. It opened on November 10, 2011. Since then, core membership within the lab's space and its initiative has expanded through the hiring of Kristin L. Huffman, Hannah L. Jacobs, Edward Triplett, and most recently, Paul B. Jaskot and Augustus Wendell.

One of the unexpected outcomes of the *Reconfiguring Knowledge* discussions was the development of a new Master's degree with two tracks: "Digital Art History" and "Computational Media." The group realized that all of the pertinent discussions about



Medieval Color Comes to Life project collaborators Mark J. V. Olson, Caroline Bruzelius, Guillermo Sapiro, and Mariano Tepper at the installation's opening October 4, 2015.
Image Credit: Lucas Giles



A Nasher visitor experiences the *Lives of Things* app for the first time at the installation's opening October 4, 2015. Image Credit: Lucas Giles

digital literacy, pedagogical practices, and scholarly viability had concurrently solidified a viable curriculum in the process: the creation of two required proseminars and appropriate electives taken over an eighteen-month period, culminating in a thesis project. The new MA was launched in Fall 2014.

Over the second half of its first ten years, Wired! has both built on its longstanding strengths and expanded its engagements with data, issues of scale, and public-facing scholarship. In 2015, the *Medieval Color Comes to Life* project, led by Caroline Bruzelius and Mark J. V. Olson, opened its first public exhibition at the Nasher Museum at Duke University, a light-painting application that reminded museum-goers of the vibrant polychromatic origins of the medieval Apostles in the Brummer Collection.

In February 2016, the Wired! Lab organized its first international symposium, *Apps, Maps, and Models: Digital Pedagogy and Research in Art History, Archaeology, and Visual Studies*, with a standing-room-only attendance of over 150 people from more than forty institutions. One of the speakers at this symposium was Paul B. Jaskot, Professor of Art History at DePaul University, who, with the 2017 retirement of founding member and Wired! Director Caroline Bruzelius, became the new Wired! Director and Professor of Art, Art History & Visual Studies at Duke.

A second Wired! exhibition filled the Nasher's Incubator Gallery in Fall 2017. Entitled *A Portrait of Venice* and curated by Kristin L. Huffman, this multimedia exhibition brought the city of Venice to life through interactive displays and augmented reality experiences of Jacopo de'



SYMPOSIUM

APPS, MAPS, & MODELS:

Digital Pedagogy and Research in Art History, Archaeology & Visual Studies

8:30 AM - 6:30 PM
Monday, February 22, 2016
Nasher Museum of Art at Duke University

Introductory Remarks
Caroline Bruzelius
A. M. Cooper, Professor of Art History, Duke University
Sarah W. Schneider
Mary D. E. and James H. Smith, Director, Nasher Museum of Art at Duke University
Richard J. Powell
John Spencer, Assistant Professor of Art History & Dean of Humanities, Duke University

Speakers
Parvati Rector, Bowdoin College
Digital Art History/Visual Studies Center, Princeton University and the Center for the Study of Digital Art History
Historical Journal of Digital Art History/Archaeology in Germany, 1914-24
Dorothy Wong, University of Virginia
Power of Comparison: Sites of Intersection in Archaeology and Art
Philip Simon, University of Kansas
Reflections: Documenting the Past and the Future of Archaeology and Art
Michael T. Davis, McNeese College
Evidence and Invention: Reconstructing the Past from the Future of the Past
David Cooper, University of Cambridge
Thinking Architecture and Urbanity in the Twenty-First Century: The Global Reconfigurations of South China and the East
Suzanne Preston Blier, Harvard University
Digging (Out) Unsettling: The Archaeology of the Past in the Present (G. A. G. A. G. A. G.)
Fabrizio Nevola, University of Eastern Piedmont
The Italian Renaissance: The Past and the Future
Ingrid Dubach, Duke University
Historical Journal of Digital Art History/Archaeology in Germany, 1914-24
C. Griffith, Penn. Metropolitan Museum of Art
Museums in a Digital World: Engaging Audiences in the Collection

Sponsored by the Department of Art, Art History & Visual Studies and the Wired! Lab
With generous support from the Duke University Office of the Provost, the Nasher Museum of Art at Duke University, the Office of the Vice President for the Arts, and the Center for the Study of Digital Art History

sites.duke.edu/digsymposium





Poster from the 2016 symposium Apps, Maps, & Models: Digital Pedagogy and Research in Art History, Archaeology & Visual Studies.
Design Credit: Jack Edinger

// These experiences deepened our collaborations with colleagues at the University of Padua and opened up new exchanges with partners at the University of Exeter, highlighting the further international impact of Wired!'s work.

Barbari's iconic *View of Venice* (1500). This was followed in 2019 with *Senses of Venice*, another exhibition curated by Huffman at The Jerry and Bruce Chappell Family Gallery in Duke's Perkins Library, which introduced the first accurate map of Venice, created by Ludovico Ughi in 1729. Each of these exhibitions showcased the development of Huffman's central art historical research questions and the dynamic ways in which such research could be incorporated into new digital methods as well as student-centered contributions.



Lab directors Paul B. Jaskot and Caroline Bruzelius explore an interactive installation in *A Portrait of Venice* with the Dig@Lab's Postdoctoral Fellow Nevio Danelon, September 7, 2017. Image Credit: Hannah L. Jacobs

Meanwhile, with the addition of Jaskot's work on Krakow to the lab's ongoing research on Venice, Athens, Durham, and Paris, the *Visualizing Venice* project broadened its remit to *Visualizing Cities*, culminating most recently in a Humanities Unbounded Mellon grant to interlink departmental courses through that theme (to which Wired! faculty and staff are central contributors). As we were expanding our cities related projects, the success of our *Visualizing Venice* summer institutes also brought additional funding from The Getty Foundation, the NEH, and the Mellon Foundation to host several institutes on advanced topics in Digital Art History at Duke, Venice International University, and the National Humanities Center in summers 2017, 2018, and 2019.

Centering Art History & Visual Culture in the Digital Humanities

A SYMPOSIUM CELEBRATING TEN YEARS OF
THE WIRED! LAB FOR DIGITAL ART HISTORY & VISUAL CULTURE, DUKE UNIVERSITY

Thursday, 17 October, 5:00-6:30 PM

NASHER MUSEUM OF ART AT DUKE UNIVERSITY

WELCOME

Sheila Dillon, Department Chair and Professor of Art, Art History & Visual Studies

KEYNOTE

Digital Architectural and Art History: A View from the Field
Patricia Morton, University of California, Riverside

Friday, 18 October, 9:00 AM-6:00 PM

sites.duke.edu/centeringdh

REGISTRATION & COFFEE (9:00-9:30 AM)

WELCOME (9:30-9:45 AM)

Sarah Schreier, Mary O.B.T. and James H. Semans Director, Nasher Museum
Neil McWilliam, Interim Dean of the Humanities and Walter H. Annenberg Professor of Art, Art History & Visual Studies
Paul B. Jaskot, Director of Wired! Lab for Digital Art History & Visual Culture and Professor of Art, Art History & Visual Studies

MORNING SESSION: SPATIAL PROBLEMS ACROSS TIME (9:45-11:45 AM)

Chair: Hannah Jacobs, Digital Humanities Specialist, Wired! Lab

No One of Us Is Them: Diverse Privacy Phenomenology in Pompeii

David Frederick, University of Arkansas

Experiencing Temporality: Space and Place in Late Ottoman Istanbul
Burak Otuslu, New Jersey Institute of Technology, and Augustus Wendell, Duke University

The Rules of Engagement: Thoughts about Prolonged User Interaction with Virtual Environments

(The Case Study of the 1893 Chicago World's Fair)
Lisa Snyder, University of California, Los Angeles

LUNCH (11:45 AM-1:15 PM)

On your own

AFTERNOON SESSION: DIGITAL METHODS IN THE EARLY MODERN MOMENT (1:15-3:15 PM)

Chair: Kristin Huffman, Lecturing Fellow of Art, Art History & Visual Studies

Mapping Social Context: The DECIMA as a Platform for Spatial Art History

Colin Rose, Brock University

The Mind of Michelangelo on Paper

Mauro Mussolin, Ecole Polytechnique Fédérale de Lausanne, and Leonardo Pilli, Graphic Designer

Visualizing Lost Landscapes: Sources, Stratigraphy, and Close Reading in Mapping Qing Imperial Parks

Stephen Whiteman, Courtauld Institute of Art

ROUNDTABLE: PASTS AND FUTURES OF SPATIAL HUMANITIES FOR ART HISTORY AND VISUAL CULTURE (3:30-4:30 PM)

Chair: Mark DeLong, Director, Office of Research Computing, Duke University

Duke Wired! Lab Faculty & Staff

RECEPTION (4:30-6:00 PM)

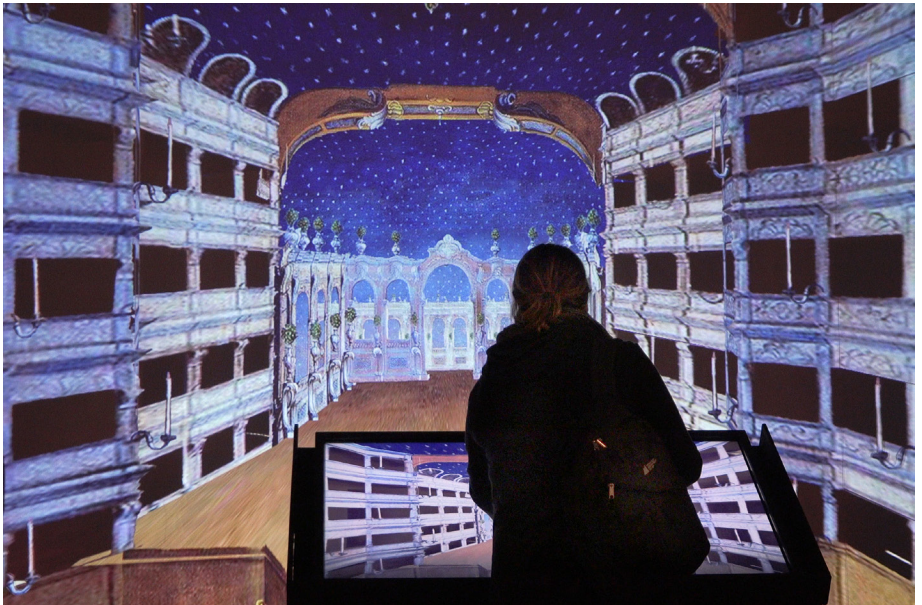
Sponsored by the Department of Art, Art History & Visual Studies and the Wired! Lab for Digital Art History & Visual Culture.
With generous support from the Duke University John Hope Franklin Humanities Institute, Duke Research Computing, Nasher Museum of Art,
Timothy College Office of the Dean, Humanities Division, Office of the Provost. ~ This conference is free and open to the public.



ART, ART HISTORY
& VISUAL STUDIES



Poster for the 2019 symposium, Centering Art History & Visual Culture in the Digital Humanities.
Design Credit: Jack Edinger



A visitor to Senses of Venice explores an immersive installation that sends viewers on an interactive exploration of early modern Venice, September 12, 2019. Image Credit: Alina Taalman

These experiences deepened our collaborations with colleagues at the University of Padua and opened up new exchanges with partners at the University of Exeter, highlighting the further international impact of Wired!'s work.

In October 2019, Wired! hosted its second digital symposium at Duke, *Centering Art History and Visual Culture in the Digital Humanities*, which brought core contributions of art historians and visual culture scholars to the spatial Digital Humanities. Looking at objects and environments at a wide variety of scales, panelists asked: What kinds of spatial and temporal cultural problems can be addressed with digital methods? Con-

// in the current moment of the COVID pandemic and social instability around questions of justice around the world, the Wired! Lab has dealt with the same challenges that have faced students and universities globally; yet our previous years of employing digital methods, collaborative research, and teaching practices have also allowed us to serve the university and art historical community in new ways.



The Wired! Lab team for the National Gallery of Art's inaugural Datathon. From left to right: Mark J. V. Olson, Victoria Szabo, Paul Jaskot, Ed Triplett. Hannah L. Jacobs not pictured. Image credit: National Gallery of Art

// With the continuation of classes online in the current moment, Wired! contributes to the dynamic exploration of the central importance of art historical and visual cultural questions to the education of Duke students and to the broader world, from its long history of digital methods, research, and pedagogy.

versely, speakers addressed how art and visual culture extend and complicate developments within the Digital Humanities. This conference also signaled our interest in being at the forefront of current Digital Art History and Visual Culture debates.

During this same time period, Wired! complemented its geospatial visualization efforts with archive building and data visualization. The *Dictionary of Art Historians*, an independent research project led by Lee Sorensen and Hannah L. Jacobs which joined the lab in 2016, had significant infrastructural development and expansion, launching a new website in 2018. In January 2019, Sorensen and Jacobs were invited to present their database work at the Getty Research Institute.

In November 2019, a team from the Wired! Lab represented Duke University at the National Gallery of Art's inaugural Datathon—over two days of intensive data visualization development, brainstorming what new research questions might be explored in relation to the NGA's massive collections dataset. Both of these opportunities highlight the importance of expanding collaboratives for Digital Art History as well as Wired!'s leadership role in that subfield.

Finally, in the current moment of the COVID pandemic and social instability around questions of justice around the world, the Wired! Lab has dealt with the same challenges that have faced students and universities globally; yet our previous years of employing digital methods, collaborative research, and teaching practices have also allowed us to serve the university and art historical community in new ways, especially as our research and courses went online. Mark J. V. Olson helped to spearhead the Nasher's first foray into virtual exhibitions with *Virtual Cultures of the Sea*. Hannah L. Jacobs, our Digital Humanities Specialist, organized and distributed multiple resources for our program on digital pedagogies. In addition, she and other members of the Wired! Lab began organizing Friday seminars around the specific theme of *Visualizing Cities* that engaged other members of the department and kept our student community together. Our Wired! students also participated in online workshops that skilled them up in new digital methods, such as the use of the digital visualization software Tableau. With the continuation of classes online in the current moment, Wired! contributes to the dynamic exploration of the central importance of art historical and visual cultural questions to the education of Duke students and to the broader world, from its long history of digital methods, research, and pedagogy. In all of this work, we continue to search for the best in critical Digital Humanities methods to help our researchers and students face the daunting challenges of understanding the cultural past and present, and prepare for the future.

A NEW LAB MODEL FOR ART HISTORY & VISUAL CULTURE

Kristin L. Huffman

RESEARCH PRACTICE AS A VEHICLE FOR INTEGRATING PEDAGOGY AND SCHOLARSHIP

The Wired! Lab's innovative combination of expert-led scholarly research and student training has had a strong impact on how we practice Humanities-based scholarship. The lab's model, implemented as a highly experimental enterprise within Art, Art History & Visual Studies at Duke (see History), has established a paradigm for how to combine, effectively and meaningfully, humanities research, pedagogy, and scholarly output. It has done this through practice-based, team-built teaching and learning. The Lab's research teams and classes make and do scholarship in ways that translate into completed outcomes, which not only enhance the process of learning in semester increments, but also contribute to and result in long-developed public-facing outputs.



Teams at work during a Friday lab session, Fall 2019. Image Credit: Hannah L. Jacobs

The research drives the pedagogy and has resulted in a new methodology. The process, an accomplishment for its contributions to the field, has led to a variety of scholarly work. This work includes traditional formats, such as articles and edited volumes (*Visualizing Venice*) along with newer forms of public-facing scholarship, such as engaging, digitally-driven exhibitions (*A Portrait of Venice* and *Senses of Venice*), augmented-reality cultural interventions (*Statues Speak* and *Digital Durham*), and online platforms with vast repositories of data and visualized knowledge (*The Medieval Kingdom of Sicily Image Database* and the *Dictionary of Art Historians*).

A MODEL FOR PRACTICE-BASED LEARNING

The Wired! Lab's research-teaching model has led the way among Digital Art History programs within academic research institutions across the country since its founding more than ten years ago. The year 2013 marked a turning point in its integrated teaching/learning strategies. In that year, the lab capitalized on funds from an internal Duke grant (Humanities Writ Large Mellon Funds) to support undergraduate student research and learning opportunities through fellowships connected to specific research projects. Student fellows, working alongside faculty, Digital Humanities staff,

“ It is here that the magic happens and the collaborative, ongoing process of making reveals new lines of inquiry and, at times, pushes collaborators (students, faculty, and staff) to engage with the material in creative, critically unexpected, and imaginative ways.

and librarians as well as graduate students, contributed to five long-term research projects hosted within our lab, a physical space embedded within the Department of Art, Art History & Visual Studies.³ Since then the number of research projects has more than doubled, the number of digital methods expanded, and the opportunities extended to students have exploded.

Signature courses, such as the survey course developed in Neatline by Caroline Bruzelius and Hannah L. Jacobs with Lee Sorensen and Joseph C. Williams, *Gothic Cathedrals* (Caroline Bruzelius), and a first-year seminar on early modern Venice (Kristin L. Huffman), have attracted students to come work in the lab on long-term research projects following the completion of their coursework. In addition, student research within the lab has led to tailored independent studies and senior thesis projects (distinction). Finally, and most importantly for department and inter-departmental programs of



Members of the Digital Athens team at work, Fall 2014. Image Credit: Hannah L. Jacobs

3. The first five projects were: *Digital Athens*, *The Medieval Kingdom of Sicily Image Database*, *The Lives of Things*, *Operating Archives*, and *A Portrait of Venice*.



Timothy Shea (PhD 2018) learns Medieval stone carving techniques with artist Simon Verity, January 2015. Image Credit: Kyle Wilkinson

study, in the lab's ten years, the team has developed new curricular pathways and professional development for both undergraduate and graduate students (see Teaching).

One example that underscores the various pathways of innovative research-based learning is the first-year seminar (VMS 89S *Mapping and Modeling Early Modern Venice* and later VMS 89S *Visual Culture of Venice*). This course was established as a means of exposing students to new teaching-learning strategies with an eye toward the recruitment of exceptional students to the lab. It began with a research question: how do we study lost architectural spaces both as independent spatial and relational objects, as well as within their original contexts as organic structures that change over time? The course included the training of a graduate student working closely with a Digital Humanities expert to generate modeling exercises that formed the foundation for the



Building Duke students Priya Parkash and Rayhan Jhanji comparing documents from the University Archives, 2018-2019. Image Credit: Amanda Lazarus



Paul B. Jaskot and Paloma Rodney (Duke '20) in front of the poster Paloma presented at the College Art Association Annual Meeting in February 2020, which shared research from her distinction thesis, *Political History of Prisons: The Architecture of People in Raleigh's Central Penitentiary*. Image Credit: Hannah L. Jacobs

development of student projects. Workshops, tutorials, and ongoing consultation for the course also included mentoring and training workshops with our colleagues Andrea Giordano and Cosimo Monteleone at the University of Padua's School of Architecture and Engineering. The research idea that led to the development of the course—a scholarly investigation into a demolished church in the most important public square of Venice: Piazza San Marco—resulted in a co-authored publication in the *Journal for the Society of Architectural Historians*, among other productive results.

FRIDAYS IN THE LAB: COMMUNITY & SHARED LEARNING

On Fridays the lab is filled with our faculty, staff, and students, brimming with energy and the constant buzz of animated intellectual exchanges. Since 2013, teams have been meeting in the lab's physical space to work out problems, build together, and apply collected research in an effort to advance scholarly projects. Here, graduate



Lab undergraduates, graduate students, and faculty work together on various projects at the lab's central seminar table, Fall 2014. Image Credit: Hannah L. Jacobs

students mentor and guide undergraduates, faculty and staff solve research questions with graduates and undergraduates, and undergraduates (to come full circle) offer their particular sets of expertise to inform the rest of the team. In this, every member contributes to the process of making; there is never a unilateral “teaching” but rather a multi-dimensional, constantly unfolding process of answering research questions—a process that is unique and to which every member contributes to arrive at an answer, new ideas, and final scholarly conclusion.



The tradition continues in Fall 2019. Image Credit: Alina Taalman

A WIN-WIN FOR FACULTY, STAFF, AND STUDENTS

This unique approach to the integration of ongoing research and adaptable instruction has permitted an imaginative application of new types of closely mentored teaching and research. For faculty and staff, there is innovation, creativity, the application of new digital methodologies along with traditional scholarly modes, making, and building. All this leads to new analyses and ways of thinking about well-studied material; new discoveries; new scholarly opportunities with engaging platforms, including reaching wider audiences than traditionally available; and, ultimately, new ways of developing our potential as the best possible scholar-teachers.

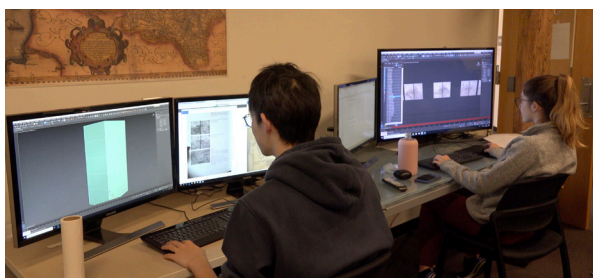


Angela Tawfik (Duke '19), Kristin L. Huffman, and Noah Michaud (Duke '21) at the opening of Senses of Venice, Fall 2019. Image Credit: Alina Taalman



Mark J. V. Olson works with Curator Julia McHugh and students Hanyan Li and Aisling Henihan (UNC-Chapel Hill, '19) to create photogrammetric models of artifacts for the Art of the Americas Interactive project, January 2019. Image Credit: J. Caldwell

For students, the lab has offered opportunities to engage with faculty and staff in meaningful ways. This includes public-facing scholarship (*Visualizing Venice*); team-based training; learning by doing; avenues for individual research; and possibilities for co-authored published material. It bears underscoring, however, that while the outcomes have been numerous and successful, it is the process that is so exceptional. The translation of traditional research into digital formats—be it the 3D modeling of a church, palace, or castle, or the creation of repositories of data—often opens up as many new questions as are answered. It is here that the magic happens and the collaborative, ongoing process of making reveals new lines of inquiry and, at times, pushes collaborators (students, faculty, and staff) to engage with the material in creative, critically unexpected, and imaginative ways. The “unknowns” and “uncertainties” come out into the open and can no longer be kept hidden, swept into the time-honored footnote for a later solution. It is from this making together—undergraduate and graduate students, faculty, and staff with specialized knowledge—that a new methodological model for both research and teaching has emerged.



Book of Fortresses team members at work in the XR Studio, Fall 2019. Image Credit: Alina Taalman

STUDENT TESTIMONIALS OF THE LAB EXPERIENCES

The proof of the Wired! Lab's--the Digital Art History & Visual Culture Research Lab's--success is visible in its testimonials. The students have recounted the impact the lab's innovative research-teaching model has had on their academic careers, future goals, and career development.

"The Wired! Lab is unlike any other space I have encountered on Duke's campus. When I first came to Duke as a freshman, I found one of my first communities amongst researchers, professors, and students devoted to the work that they do at the Wired! Lab. Each time I would come to work, I found myself engaged in fascinating conversations about new research theories and ways to reimagine how research has been done before. While Art History may not be my final career destination, the skills I have gained with the *Dictionary of Art Historians* have completely transformed my Duke experience."

Kerry Rork, Duke '22

Major in History and Political Science

Undergraduate Fellow with *Dictionary of Art Historians*

"The Wired! Lab has really taught me how Digital Humanities can help people see the past in a way they might not have otherwise. [...] The Wired! Lab has been a home away from home for me."

Jessica Williams, Duke '19

Major in Art History, Minors in Political Science and Psychology

Undergraduate Fellow with *The Medieval Kingdom of Sicily Image Database*

"I love coming in on Fridays and seeing everyone working and everyone talking and having that sense of camaraderie; seeing how different groups can use the same tools to tell different stories."

Evangeline Marecki, Duke '19

Majors in Classical Languages and Computer Science

Undergraduate Fellow with *Digital Athens*

"The amount of guidance that I have received from professors, PhD students, and just sitting in the room hearing all the collaboration happening -- that's just something that you can't pick up in a classroom."

Andrew Lin, Duke '19

Majors in Economics and History

Undergraduate Fellow with *A Portrait of Venice, Building Duke, and Paris of Waters*

"...being in that lab, where all of these different research projects are going on. It's a really interesting dynamic, and, I think, very unique on this campus."

Mary Kate Weggeland, Duke '19

Major in Art History, Concentration in Museum Theory and Practices,

Minor in French Studies

Undergraduate Fellow with *A Portrait of Venice* and *Senses of Venice*

“The most meaningful aspect of working in the lab has been finding that there are ways to combine different disciplines that I love in a really meaningful way.”

Annie Haueter, Duke ‘17

Major in Computer Science, Minor in Art History

Undergraduate Fellow with *A Portrait of Venice*

“The research skills I’ve gained by working on the Kingdom of Sicily project and access to librarians [...] and the vast resources through Duke Libraries, I’ve learned how to conduct searches, [...] how to organize metadata, and to conduct a professional and reproducible search through vast amounts of information that would have totally overwhelmed me before.”

Michael O’Sullivan, Duke ‘17

Major in Psychology, Minor in Classics

Undergraduate Fellow with *The Medieval Kingdom of Sicily Image Database*

RESEARCH

INTRODUCTION

The Wired! Lab leads with research, which is fundamental to our courses, our Friday working lab, and our scholarly output. Indeed, our research agenda's increasing profile has led us to our new name: the Digital Art History & Visual Culture Research Lab (see Introduction). This section briefly explores the core thematic areas of overlap in our research—the study of the object, the consideration of cultural spaces and systems, and the question of the scale of cultural analysis—and then turns to summaries of our sixteen active research projects. These projects are the dynamic center of our teaching, lab work, and outward-facing scholarship. They complement, in turn, the last part of this section, which lists previous Wired! projects. However specialized our research projects may be, they also highlight our broad and collaborative approach to the critical digital analysis of Art History and Visual Culture, the lab's fundamental mission.

RESEARCH THEMES

OBJECTS

Mark J. V. Olson and Paul B. Jaskot

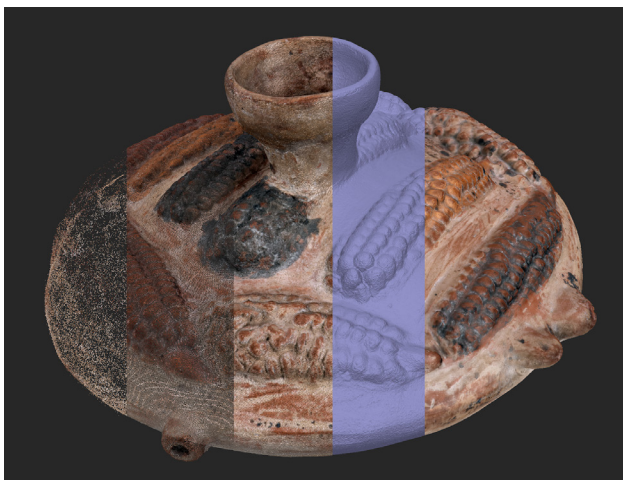


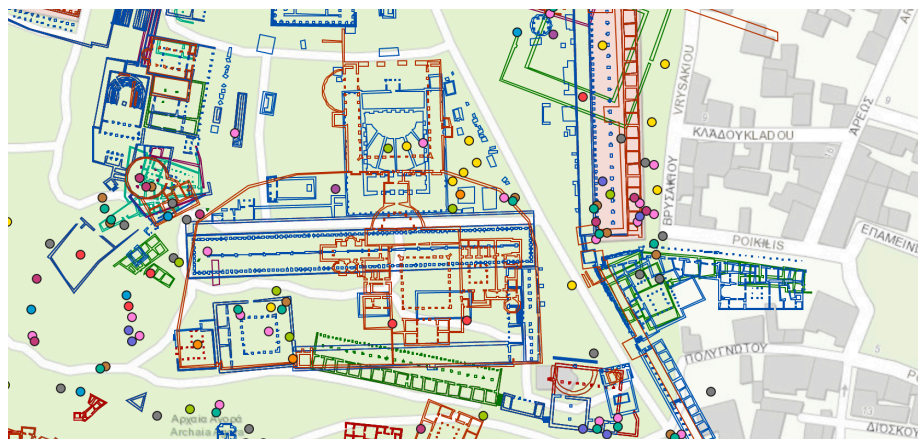
Image showing photogrammetric phases of creating a digital model. The object is a 15th-century Incan pacha in the Nasher Museum of Art's permanent collection. Image Credit: Edward Triplett

The fundamental subject of Art History and Visual Culture is inevitably the object. The work of art, the artifact, the building, the sculpture, the ceramic pot, the orphan photograph—the list of possible cultural objects is vast and infinitely varied, drawing us to their study as keys to exploring the great range of human creativity. Computational methods and digital visualizations have provided a unique and exciting way to analyze objects anew in order to raise new research questions and new analytic conclusions in Art History and Visual Culture.

While it has been feared that the digital distracts attention from, or worse, completely displaces the need to study physical objects firsthand, our experience has been the opposite.

Obviously, the object has not always been the center of culture analysis. For example, early Art History was much more likely to focus on the biography of the artist, and even in the opening of the twentieth century one could more easily find scholarship studying connoisseurship or the typological nature of artworks rather than their individual qualities or meanings. Yet, over the course of the last century, the focus on cultural objects as individual works worth studying has more and more taken center stage. Our scholarly work has contributed to this tradition and has added new methodological approaches with digital technologies that have pushed our understanding of cultural objects in new ways.

While it has been feared that the digital distracts attention from, or worse, completely displaces the need to study physical objects firsthand, our experience has been the opposite. On the one hand, the perceptual registers opened up by computation can yield new insights and pose new questions about the “thinginess of things:” their material composition, the conditions and techniques of their production, and their connection to other artifacts. On the other hand, and often simultaneously, any attempt to render digital an object confronts that object’s recalcitrant materiality and the inherent limitations of being digitally sampled or translated into a strict algorithmic logic. As such, the analytics place the object and its computational surrogate in a productive dialectic that foregrounds the materiality of both.



Representations of the vectorized phased archaeological plans of the Athenian Agora (drawn by Alex Smith) with the wells and burials organized by chronology (plotted by Casey Tissue). Image Credit: Alina Taalman

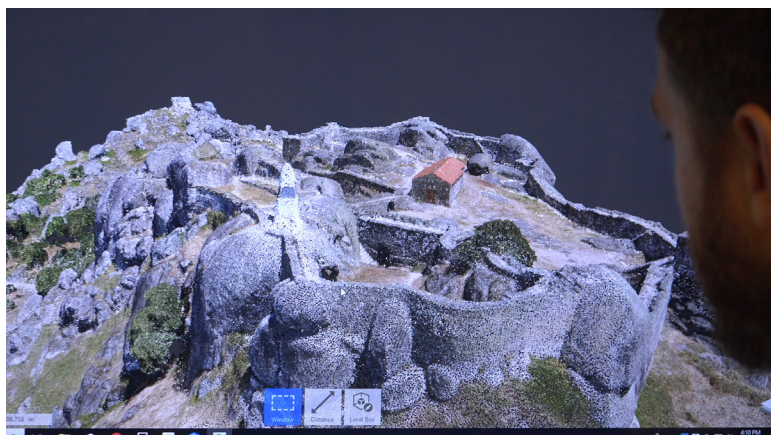
The thematic focus on the object as artistic or cultural evidence has led to a rich range of questions and approaches in the work of lab faculty, staff, and students. In *Digital Athens*, for example, constructing a database of the individual remains of sculpture in the Agora has led to thinking about the transient meanings of sculpture and change over time. Conversely, a focus on individual works of art and buildings in the Venice initiatives, as exemplified in such projects as the *A Portrait of Venice* exhibition related to the de' Barbari *View of Venice* (1500), has shown how a close concentration on a single work of art using digital methods, in particular the wooden blocks that were used to print the woodcut, can lead to an entirely new understanding of the object and the city itself. Digital methods have also been used by our teams to visualize the complexities of objects in new ways.

The *Book of Fortresses* project has shown the extraordinary finds that can be made by using digital means to visualize the spatial views of the important early modern Portuguese *Livro das Fortalezas*, even as the project lays bare the limitations of Cartesian perspectivalism embedded deep into the fabric of contemporary geospatial and

// Understanding artifacts on-site—how they operate, are experienced, and change over time—aids the processes fundamental to the analysis and interpretation of their cultural and aesthetic significance.

3D visualization tools. In a very different vein, the *Operating Archives* project has used 3D modeling to balance questions of preservation with the analytic need to physically explore Duke's rare collection of ivory anatomical models. In all of these cases, the centrality of the object as both the subject of study as well as the means of expanding other cultural questions has proven productive.

The lab's foundational concern with change over time has led to a sustained engagement with the storied "lives of things" and to fascinating new ways of telling digital stories about works, such as in the recent *Art of the Americas Interactive* project. In this extension of a Nasher exhibition on the value of the sea as a motif in the ceramics, textiles, and carvings of ancient Central and South American coastal cultures, the team developed an interactive digital platform that seeks to expand the history and analysis of these artifacts in creative ways. In all of this, though, the individual works of art take center stage. The intense interaction of digital methods, visualization, and object analysis are fundamental as a thematic core of many a Wired! project.



Edward Triplett examining a 3D point cloud of an historic Portuguese fortress. Image Credit: Alina Taalman

Digital mapping and spatial analysis have become important ways to contextualize and frame the production of visual culture and art historical objects, as well as their circulation and reception. Understanding artifacts on-site—how they operate, are experienced, and change over time—aids the processes fundamental to the analysis and interpretation of their cultural and aesthetic significance. Mapping networks of influence, charting flows of goods and services, or tracking cost-paths have become recognized approaches in the field. Adding a third dimension further enriches it by enabling researchers to place 3D models within such contexts, to perform viewshed analyses, and to construct spatially organized databases connected to rich collections of primary and secondary source materials. These latter benefits are not trivial as they allow researchers to aggregate their research projects and datasets, enabling the field to build more collectively than ever before. Further, by making these resources available via the web, we have the opportunity to use platforms for scaling up via integrated datasets. In addition, platforms themselves can be used for digital storytelling to reach broader publics—a complement to written scholarship.

// Venice has proven to be a particularly rich subject for publicly engaged, spatial storytelling via museum exhibitions and online videos of rendered 3D scenes.

It should not be surprising that spatial questions were some of the first asked as the Humanities experienced a “digital turn” in the 1990s. Geography is a natural bridge-field between social, material, and environmental evidence, and GIS (Geographic Information Systems) has a firm foothold in Digital Humanities as a common system for structuring spatial data about the past and present; it bears noting that Humanities work has also informed the ongoing capabilities of these technologies, underscoring how visualizing data remains a deeply interpretive act. The Digital Art History & Visual Culture Research Lab is no exception in its pursuit of spatial patterns through GIS and other digital mapping approaches. Early approaches such as those of *Digital Athens*, *The Medieval Kingdom of Sicily Image Database*, and *Visualizing Venice*, have all had place as central to their research questions, and over the last ten years each project’s collaborators have pursued iterative, structured processes that extend the challenging work of continuously adding sources to a spatially-aware system. This tradition of place-based digital research is continued in the exploration of the local context of architecture and spaces in *Building Duke*, *Digital Durham*, *Paris of Waters*, and the *Digital Public Buildings in North Carolina*, and more broadly through *Mapping German Construction*, *Mapping Stereotomy*, and the *Book of Fortresses* projects.



Jacopo de' Barbari's *View of Venice* shown in scale with other map representations of Venice.
Image Credit: *A Portrait of Venice*

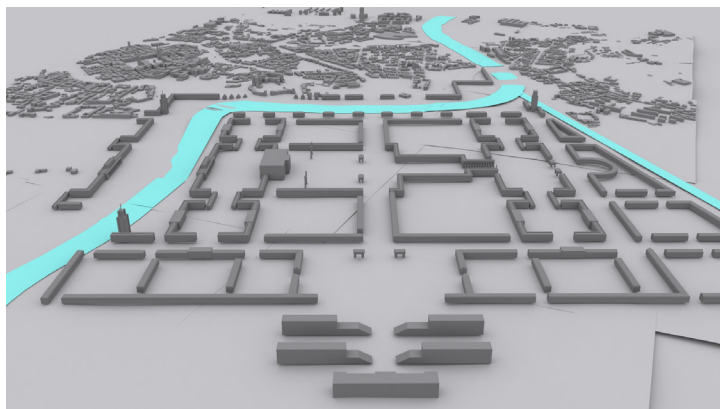
Venice has proven to be a particularly rich subject for publicly engaged, spatial storytelling via museum exhibitions and online videos of rendered 3D scenes. These projects have led to one of our most sustained group partnerships with the international *Visualizing Venice* research team. Alongside our partners in Italy, we have co-developed digital art and architectural history projects that rely on digital tools such as mapping, modeling, and data analysis to deepen research, open up new questions, and disseminate information through innovative presentation strategies such as exhibitions, virtual environments, and mobile applications. An edited volume from Routledge details the results of our collaboration through a variety of case study examples. As a community, we continue to produce “hybrid” art historical scholarship not only on Venetian subjects but also on other art historical and urban contexts, such as Krakow, Athens, and

Padua. While the modes of publishing our Venice research have varied considerably, each of them emphasizes close looking and reading of primary sources, a mindfulness to the socially constructed nature of space, and a commitment to pushing the boundaries of Art History and Visual Culture through additional research into ever-advancing technologies.

As the Digital Art History & Visual Culture Research Lab moves forward, our spatial and place-based projects are beginning to cross lines that have unnecessarily been drawn according to technological choices. Just as it will eventually be unnecessary to add the prefix “Digital” to Art History, we look forward to the development of research that is not quickly categorized by the tools used to create it—as a GIS, CAD, or Augmented Reality project. Some of our own scholarly projects are already operating that way. Our work on space and place already moves between these methodological, but not theoretical, boundaries, and we will continue to draw from the collective variety of approaches we have used over the last ten years and to offer the broader field of Art History our insights and pathways as we move forward.

SCALE

Paul B. Jaskot



Model of an ideal plan, not completed, for Nazi-occupied Krakow. Created by Davide Contiero for the Mapping German Construction project. Image Credit: Davide Contiero

One of the most important contributions digital methods bring to the Humanities is the ability to work with historical evidence at a variety of scales. The chance to visualize thousands of buildings rather than a few, to analyze hundreds of primary sources in only a few minutes, or to work from a database of numerous artworks or art historical biographies each allow for radically different research questions. Part of the major research contributions of Wired! faculty and staff in these areas have included the production of database resources that have attracted the attention of scholars as well as led to invitations from key cultural institutions who are interested in our work and methods (*Dictionary of Art Historians* and *The Medieval Kingdom of Sicily Image Database*). The latter include, among others, the Getty Research Institute and the National Gallery of

Art in Washington, D.C. In addition to building new intellectual corpora, our research efforts have led to a range of new questions that arise only when one looks at evidence at scale. These include, for example, the transfer of architectural or cultural knowledge across vast geographic ranges (*Mapping Stereotomy* and *Mapping German Construction*), the comparison of large numbers of buildings or images to raise innovative issues of typology (*Book of Fortresses* and *Senses of Venice*), or the incorporation of significant quantities of images and primary documents to create a dynamic research environment through Augmented Reality apps (*Digital Durham* and *Visualizing Venice's Ghetto/App*) that open up and expand urban experience. Each one of these examples highlights our commitment not merely to add another project to the art historical universe, but rather to reimagine how computational methods and cultural evidence can relate in altogether new and radical ways. We aim to rethink our discipline and its relevant methodologies in order to create a more critical and engaged scholarship. A focus on scale helps us strive for that goal.

RESEARCH INITIATIVES & OUTREACH

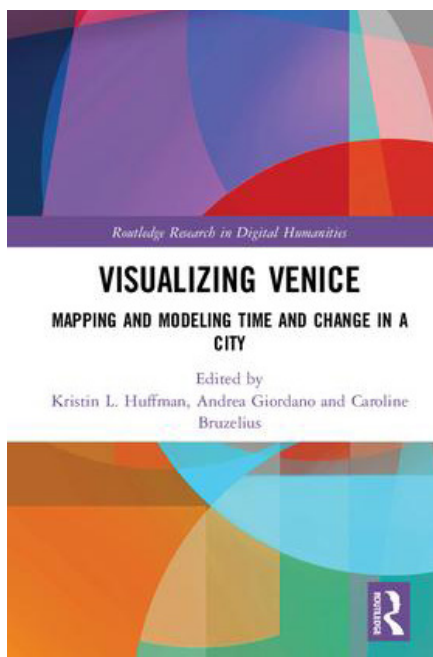
VISUALIZING VENICE TO VISUALIZING CITIES

Kristin L. Huffman

Visualizing Venice is a multidisciplinary, multi-year, cross-cultural collaboration research project that supports mapping, 3D modeling, digital storytelling, and representing change over time in Venice (<http://www.visualizingvenice.org>). The public facing projects have demonstrated a new approach to traditional art historical material and have prompted researchers and students to think about Art, Architectural, and Urban History in innovative ways. Its published scholarship--in the form of exhibitions along with traditional forms, such as books and articles--has translated archival study and onsite research into digital visualizations and has shown how it is possible to interpret, represent, and teach Architectural and Urban History in a dynamic and scientific way. It has also served as an umbrella research agenda and teaching curriculum for the Wired! Lab. Most recently, *Visualizing Venice* has expanded to become *Visualizing Cities*.

Our intention is to apply the methodologies developed to include a broader range of international sites, including Paris, Athens, Durham, and, most recently, Krakow.

The collaboration began parallel to the Wired! Lab in 2009 with three research institutions: Duke University (Department of Art, Art History & Visual Studies, Durham, NC); Università Iuav di Venezia, Italy (Dipartimento di Architettura Costruzione Conservazione); Università degli Studi di Padova, Italy (Dipartimento di Ingegneria Civile, Edile e Ambientale). Over the first several years, the scholars of these institutions established a rigorous methodology that mediates between traditional historical discourses and the many possibilities offered by visualization technologies. The history of places and architecture has engaged with the representation of change over time, and *Visualizing Venice's* (now *Visualizing Cities'*) purpose was to collect, maintain, and convey scholarly, archival research through more innovative visualization strategies, such as 3D reconstructions, inter-operable databases, animations, and augmented and virtual realities. *Visualizing Cities* is an example of how to interpret, represent, teach, and promote knowledge and artistic and architectural heritage related to the history of cities or territories over space and time.



Cover for *Visualizing Venice: Mapping and Modeling Time and Change in a City*.

RESEARCH OUTREACH WITH SCHOLARLY SYMPOSIA

Kristin L. Huffman

Over time, we have become a leader in the field with our established methodologies. For this reason, we have been uniquely positioned to host scholarly conversations in the form of symposia in addition to our workshops that provide foundational training for scholars in the field. Each of these symposia occurred at a pivotal point in the lab and coincided with the fifth- and tenth-year anniversaries of the foundation of the lab. For each, leaders in the field of Digital Art History convened to share their scholarship, discuss challenges, and mark a point in the conversation about how our scholarship links more broadly to the Digital Humanities. For information related to the speakers and their leadership in collaborative projects, please see the following links:

Centering Art History and Visual Culture in the Digital Humanities:

<https://sites.duke.edu/centeringdh>

Apps, Maps, and Models:

Digital Pedagogy and Research in Art History, Archaeology, and Visual Studies:

<https://sites.duke.edu/digsymposium>

PROJECT NARRATIVES

The following represent the sixteen active Digital Art History & Visual Culture Research Lab research projects. As indicated, each project is a collaborative involving two or more scholars, practitioners, and students. Collectively these groups visibly represent the commitment of our faculty and staff to addressing critical digital questions in the analysis of art and visual culture, along with the mentoring and teaching of students.



A PORTRAIT OF VENICE (2015-PRESENT)

PRINCIPAL INVESTIGATOR: KRISTIN L. HUFFMAN

This research project centers on Jacopo de' Barbari and Anton Kolb's *View of Venice*, a multi-sheet woodcut published in 1500 that exemplifies a high-point of printmaking innovation in Venice. Early scholarly outputs include an exhibition featured at Duke University's Nasher Museum of Art in 2017 (September-December). In spring of that year, the Civic Museums of Venice and *Visualizing Venice/Visualizing Cities* embarked on a study of the six original wooden blocks housed in the Correr Museum (Museo Correr) at Piazza San Marco, Venice. Ongoing initiatives comprise an installation of digital stories at the Correr alongside the original wooden blocks and one of twelve surviving first-state prints. In addition, an edited volume, *A Portrait of Venice: Jacopo de' Barbari's View* (forthcoming from Duke University Press), with essays by over 20 scholars, recounts various thematic narratives of early modern Venice, using the print as a point of departure. And finally, the investigative study is resulting in a scholarly analysis of the making of the *View*, realized by the comparative study of the woodcuts, wooden blocks, and digitally captured imagery. To access the high-resolution image, please see this link (a collaboration between the Digital Art History and Visual Culture Research Lab, formerly the Wired! Lab, and Duke Libraries): <https://repository.duke.edu/catalog/d405e086-a4cf-4bed-b1a2-37c44197fc42>

For further information on the *View of Venice*, digital approaches as part of a long tradition of art historical methodologies, and the conception of the exhibition, see "Jacopo de' Barbari's *View of Venice* (1500): "Image Vehicles" and "Pathways of Culture" Past and Present." <http://www.uco.es/ucopress/ojs/index.php/mediterranea/article/view/11530/10681>



Prototype for an augmented reality experience at Duke. Image credit: Victoria Szabo

AUGMENTING URBAN EXPERIENCES (2014-PRESENT)

PRINCIPAL INVESTIGATOR: VICTORIA SZABO

This project focuses on the conceptual framework and processes of digital city-making itself, drawing upon Technology Studies and Media Theory as well as historical documents, monuments, architecture, and other cultural artifacts. Researchers in this team are focused on the development of digital and mixed-reality experiences as tools for discovery and research presentation and exhibition. We focus on annotated digital maps, 3D modeling, augmented reality overlays, audio and video supplements, procedural narrations, data visualizations, and network flow diagrams in order to understand both the past of a city and its presence or effects in contemporary experiences of it. In close connection with partners in the international *Visualizing Cities* consortium, and with collaborative projects running in Durham, NC; Venice; Bremen; and Providence, RI, we are developing a mobile app framework for on-site exploratory and interactive experiences. The project goals are both to create multimodal research products that take advantage of the affordances of both analog and digital media forms, and to develop guidelines for an emerging genre for research presentation and transformative, affective experiences in real time and space. This approach includes abstracting principles from collaborative projects like the *Digital Durham* website and interactive exhibitions on-site in the city; the *NC Jukebox* exploration of NC folk music in the context of early 20th century North Carolina; the *Visualizing Lovecraft* project, which focuses on spatialized and exploratory forms of literary criticism and interpretation; *Ghett/App*, which focuses on the historical and architectural experience of the Venetian Ghetto; and augmented experiences in *Mapping Occupied Krakow*.

ART OF THE AMERICAS INTERACTIVE (2019-PRESENT)

PRINCIPAL INVESTIGATOR: MARK J. V. OLSON

Website:

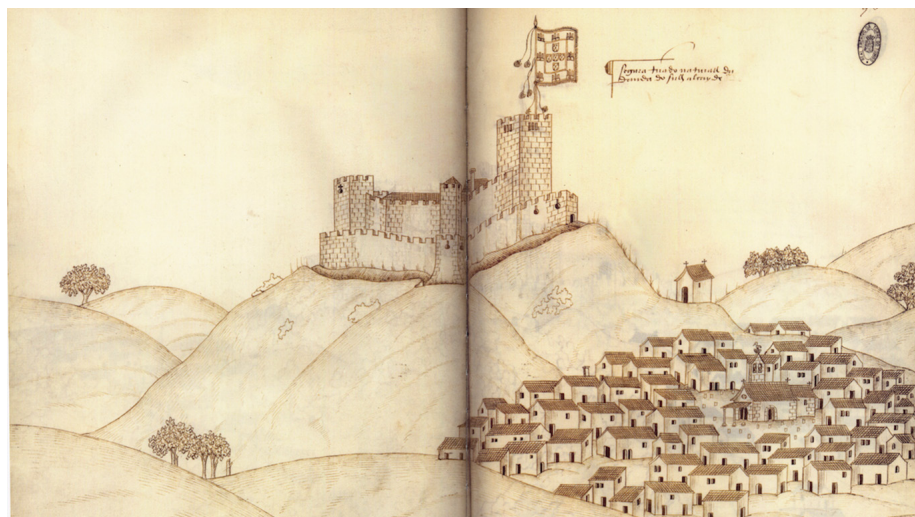
<https://nasher.duke.edu/exhibitions/cultures-of-the-sea-art-of-the-ancient-americas>

This project is a partnership with the Nasher Museum to re-imagine the exhibition of the museum's collection of ancient American Art, one of the best university art museum collections of work by Maya, Aztec, and Inca cultures. For over 25 years, this collection has sat largely untouched in museum storage. With a new specialist on staff, the museum has begun studying and preparing this collection for display. One exhibition, *Cultures of Sea*, opened February 1, 2020, and delves into the relationship of ancient Americans to the ocean, featuring ceramics, textiles, and bone and wood carvings of crabs, lobsters, sting rays, sea birds, shells, and other sea creatures. A longer term goal of the project is to mount a new reinstallation of the Art of the Americas gallery to feature artwork from South America. A crucial component of both of these exhibitions is the production of digital 3D models of pieces in the collection for both research and teaching purposes. We aim to use this technology and other digital means to move beyond the realm of vision to capture the full sensory experience of the ancient Americas, including the sounds, bodily sensations, and textures generated by artworks. The creation of a model of an Chancay ceramic vessel, for example, leads to critical discoveries about artistic process and original function: How does the study of its texture reveal the technique of ancient Peruvian ceramic artists? How does a replica allow us to study its performative use and the way it held liquid and emitted sound when poured?

With COVID-19 preventing in-person access to the Cultures of the Sea exhibition, an online, interactive 360 immersive version was created in summer 2020.



Double vessel. Chancay culture (Peru), 1000-1470. Image credit: Nasher Museum of Art



Drawing from Livro das Fortalezas (Book of Fortresses).

BOOK OF FORTRESSES (2017-PRESENT)

PRINCIPAL INVESTIGATOR: EDWARD TRIPLETT

Website:

<http://bookoffortresses.org/>

The aim of the Book of Fortresses 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 clear 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. At the architectural scale, the project team is constructing parametric 3D models of the fortifications according to Duarte de Armas' measured plans and perspective drawings in order to better understand his visualizations. 3D "billboards" of d'Armas' perspective drawings are also oriented to the landscape within a 3D GIS and in the Unity game engine. Finally, at the national/peninsula scale, Duarte de Armas' itinerary is plotted with viewshed analyses from each site in order to analyze whether it is appropriate to refer to the string of fortresses as a "chain" or "borderline." In January 2020, the Office of Digital Humanities at the National Endowment of the Humanities (NEH) awarded Ed Triplett and Phil Stern (Duke, Department of History) a level II grant to develop the methodologies implemented by the Book of Fortresses project into an applicable workflow for visualizing non-cartesian maps and views using a combination of GIS, CAD, and game engine software.

BUILDING DUKE (2018-PRESENT)

PRINCIPAL INVESTIGATORS: SARA GALLETTI, KRISTIN L. HUFFMAN,
HANNAH L. JACOBS, AUGUSTUS WENDELL

Building Duke is a three-year initiative that will be implemented in three phases: data collection and organization (first year); data analysis and interpretation (second year); data output (third year). It will explore the conception, design, and construction of the Duke University campus as well as its changes and expansions. The project has been supported by successive Bass Connections Project Grants. Principal aims are to offer an historical narrative of the physical environment that the Duke community inhabits and to explore the desires and visions that have materialized in the making of the campus. This project is especially relevant at a cultural and political moment when physical space and its historical connotations are at the center of a heated public debate. The three-year initiative will culminate in a relational database of textual and visual archival material on the architectural history of Duke campus; an interactive digital 3D model of campus developments since the 1920s; a series of multimedia thematic narratives on the history of the campus; and a series of augmented reality tours.

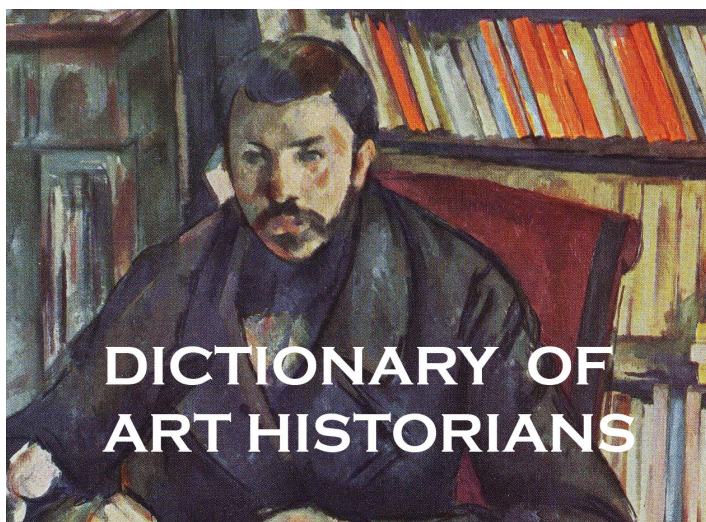


Panorama of the Duke Chapel. Image credit: Luca Vascon

*DECONSTRUCTING URBAN VISIONS:
COMPUTATIONAL ANALYSIS OF AERIAL ENGRAVINGS (2020-PRESENT)*

PRINCIPAL INVESTIGATOR: AUGUSTUS WENDELL

This project focuses on extracting quantitative data from the Barberi Map of Venice. Through the development of an open source computational toolkit the map is annotated with data linking urban features visible in the image and their associated geographic coordinates. For each feature a projected line of sight is calculated along which a conceptual viewpoint exists. Through the analysis of each viewpoint equation we aim to understand the deviation of viewpoints across the map. Analysis will be conducted on individual engraved panel sets, geographic regions of the city and image space regions of the city as translated into the final printed form.



Dictionary of Art Historians banner. Image credit: Lee Sorensen

DICTIONARY OF ART HISTORIANS (1989-PRESENT)

PRINCIPAL INVESTIGATOR: LEE SORENSEN

Website:

<https://arthistorians.info/>

The *Dictionary of Art Historians* was a long-standing private research tool which joined the Wired! Lab in 2017. As an open-source public database, it holds the largest public presence of the Wired! projects. The founding purpose was to trace methodologies of past art historians through their intellectual biographies. After joining the Wired! Lab, the *Dictionary* was reconfigured to a new CMS, allowing it to answer new questions about race, gender, national identity within art history and to visualize these relationships by presenting the data in unique ways.

Almost immediately after joining the Lab, undergraduates entered the project, initially by researching and writing new entries. Soon however, the questions they encountered led to self-directed research projects in Art History, most notably data mining women art historians, a traditionally overlooked but significant component of early twentieth-century art writing. Another project has involved tracing art historians fleeing Nazi Germany, the export of their German-style method, and their subsequent diaspora into the United States and England.

At Wired!'s ten-year mark, the *Dictionary* has engaged more students than any other Wired! program, cross-training students in the Humanities and STEM-concentrations with each other's area skills, including coding, archival research, visualization, and the history of the Humanities. Student researchers come from a wide variety of majors including Public Policy, Pre-Medicine, Economics, and History. Every entry in the *Dictionary* bears the student's name permanently on the site providing an internet presence documenting their work. Since its inception, the *Dictionary* has engaged nearly thirty Duke students and become a principal tool in art historiographical research, linked from over eighty research institutions and cited in numerous doctoral thesis.



Ancient Agora of Athens, Reconstruction/georectification from "Digital Athens" drawn in ArcGIS. Map credit: Alexandra Smith (Trinity '15).

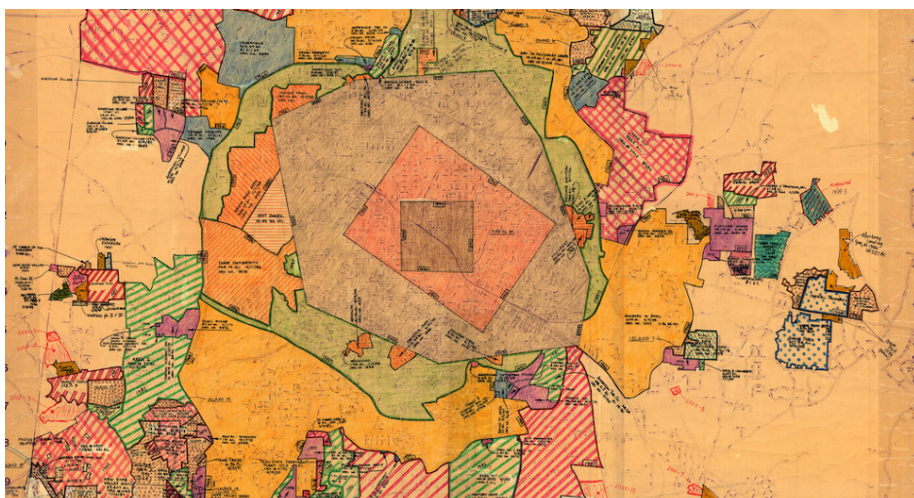
DIGITAL ATHENS (2014-PRESENT)

PRINCIPAL INVESTIGATORS: SHEILA DILLON, TIM SHEA, AND NIKOS GKIOKAS

The *Digital Athens* project began in the fall of 2014. The initial aim of this project was to produce a comprehensive digital map in ArcGIS of the archaeological remains of ancient Athens uncovered both in systematic and rescue excavations. The project began as a collaborative endeavor, and involved undergraduate and graduate students at Duke as well as colleagues based in Athens at the American College of Greece (Deree) and the American School of Classical Studies at Athens (ASCSA). The Duke team focused on digitizing and geo-referencing excavation plans and historical maps,

and plotting the locations of burials, wells, workshops, public buildings, and sacred structures. The visualization of how the city changed over time was a major aim of this project. In addition to the research cluster in the Wired! Lab, the *Digital Athens* project has also involved two iterations of the course, *The Art and Archaeology of Ancient Athens*, which was team-taught virtually between Duke and Deree in both 2014 and 2017 and included a spring break trip for the Duke students to Athens.

The next phase of the project, which began in the summer of 2020, is focused on the history of excavations in the Athenian Agora, which started in the 1930s under the auspices of the ASCSA. In this phase, we aim to visualize the houses, businesses, churches, and families that comprised the early 20th-century neighborhood known as Vrysaki, which occupied the site of the Athenian Agora and was destroyed to make way for the excavations. The aim is to build a content-rich website, with historical photographs and 3D models of the now-absent buildings, that will tell the history of this once vibrant area of the city that was one of the most densely populated neighborhoods of Athens.



Durham, North Carolina: Annexation Map. Durham (N.C.). Department of Public Works, Publisher. 2000. Image credit: Digital Durham

DIGITAL DURHAM (2006-PRESENT)

PRINCIPAL INVESTIGATORS: TRUDI ABEL & VICTORIA SZABO

Website:

<https://digitaldurham.duke.edu/>

The *Digital Durham* archive brings together numerous documents, maps, images, census data, and other primary source materials in a digital form accessible and searchable on the web. This project seeks to activate the archive as a teaching tool and public history resource through the use of annotated maps, multimedia-illustrated essays, and augmented reality tours of the city itself. Students in various Digital Durham related classes over the years have contributed not only to the archive itself, but also to deeper

dives into specific research questions about Durham history as localized phenomena of spatial and temporal significance as they relate to race, religion, culture, and economic status. This work is reflected on the site and in online projects. In addition, some of these essays are being translated to augmented reality experiences accessible via mobile device from specific GPS points in the city, an approach that highlights the importance of their physical materiality and experience of the space itself as we reflect upon historical change over time. Through partnerships with local history institutions, libraries, and schools, we are also exploring collaborative approaches to public history-making in various city neighborhoods as well, including the Walltown area adjacent to Duke's East Campus. This project was part of Bass Connections. Current expansions include georectified historic maps of the city, TEI-encoded letters from the Rubenstein Library's Charles N. Hunter collection, including the Richard Wright letters, and the development of an interactive digital scrapbook from Hunter's clippings from the late 19th- and early 20th-century African American press.



Distribution of Black employees & residents in downtown Raleigh, 1880s. Employees in red; residents in purple. Image credit: Paloma Rodney

DIGITAL PUBLIC BUILDINGS IN NORTH CAROLINA (2017-PRESENT)

PRINCIPAL INVESTIGATOR: PAUL B. JASKOT

Digital Public Buildings in North Carolina focuses on the public architecture of North Carolina, from the early Republic to today. Under a general interest in the political history of architecture, we research major building types (prisons, schools, museums, city halls, etc.) and develop digital maps to visualize the results. The point of the multiyear project will be to produce a dynamic and interactive digital map that allows art historians to query general patterns in publicly sponsored building activity across the state. In addition, specific research into key monumental structures will be highlighted through digital storytelling and other means.

THE LIVES OF THINGS (2012-PRESENT)

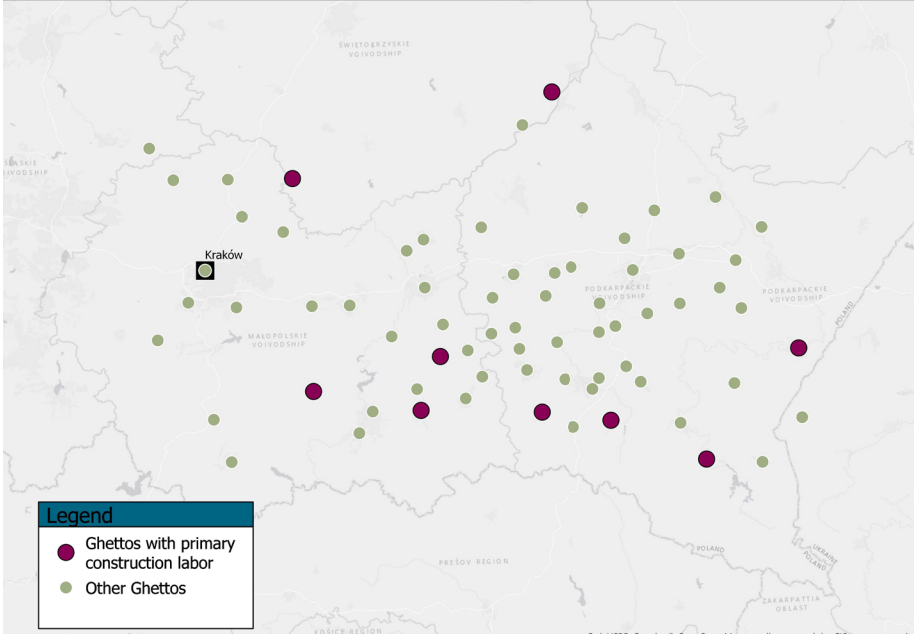
PRINCIPAL INVESTIGATOR: MARK J. V. OLSON

The goal of the *Lives of Things* project is to create new interactive displays and hybrid digital/physical exhibition platforms that reconstruct the location, color, and meaning of works of art in the collections of the Nasher Museum of Art. A wide range of interests and interdisciplinary expertise are sought for this project, from Art History and Visual and Media Studies to Computer Science and Engineering. Students will work in teams in close collaboration with professors and graduate students or post-docs, learning an array of techniques and technologies that include the following: 3D modeling and acquisition using laser scanning and photogrammetry, geospatial mapping, augmented reality, gaming platforms, projection mapping, spatial analysis, data visualization, web or app design, writing, graphic design, database design and management, computer programming, interactive sensors, and gesture recognition interfaces such as Kinect and Leap Motion. The first of these exhibitions was *Medieval Color Comes to Life*, an app that enabled visitors to digitally recolor medieval statues in the Nasher's collection in order to see for themselves how the statues might have originally appeared.



Screen capture from *Medieval Color Comes to Life*. Image credit: Mark J. V. Olson

Forced Labor Construction - Krakow (MAP: Antonio LoPiano)

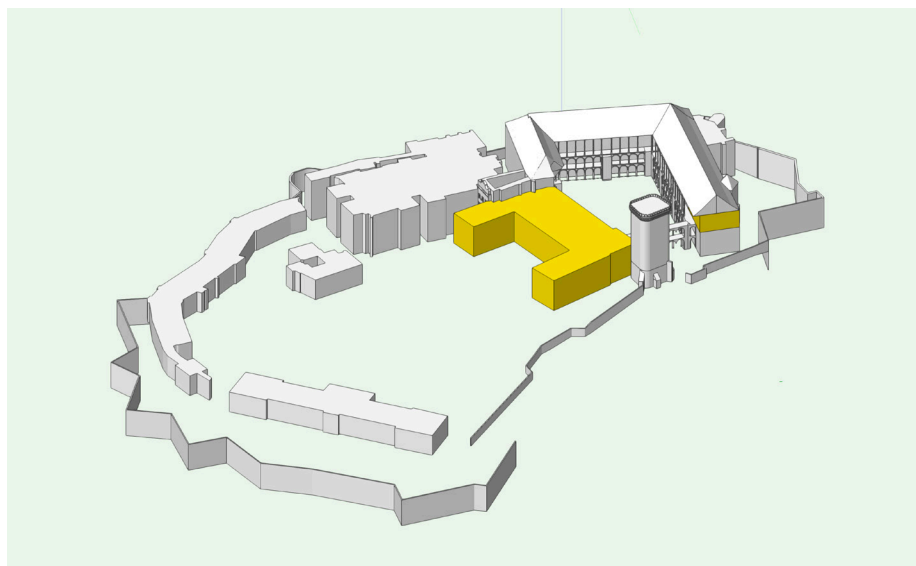


Map of Nazi forced labor labor camps around Kraków, Poland. Image credit: Antonio LoPiano

MAPPING GERMAN CONSTRUCTION (2017-PRESENT)

PRINCIPAL INVESTIGATOR: PAUL B. JASKOT

Few eras in Art History are as famous for their buildings as Weimar Germany (1918-1933) and none is more notorious than the Nazi period (1933-1945). Yet how are they related in terms of architects and architecture? This project seeks to probe the continuities and ruptures of cultural production between the two periods by looking at the German construction industry. This history from below (as it were) involves Art History in questions of labor, resource allocation, and the larger political economy of the state, among other issues. As such, the aim of the project is to gather and visualize large datasets of building campaigns throughout Germany to reveal patterns of construction that may raise other art historical problems. Special attention will be given to visualizing construction during World War II, such as in occupied Krakow, where construction, forced labor, and occupation policy came together. Overall, the project argues that making the invisible presence of construction visible in Art History through digital means helps us to expand and critique the canon of what has generally been considered “modern architecture.” At the same time, it will make the relationship of architecture and politics in modern society clearer.



Model of the Wawel Castle in Kraków, Poland. Sections in yellow denote Nazi era construction.

Image credit: Alan Carrillo

MAPPING OCCUPIED KRAKOW (2017-PRESENT)

PRINCIPAL INVESTIGATOR: PAUL B. JASKOT

As is well known, Krakow became a key location within the National Socialist plan for military expansion and the implementation of genocide in Eastern Europe during World War II. Here, Hans Frank and the General Government he led developed their policies of oppression and occupation by establishing a formidable military and SS presence as well as claiming Krakow as “Germanized” again. Yet, while these policies and ideologies have been analyzed by scholars, little attention has been spent on how they were enacted in the built form of Krakow itself. This project addresses the key urban planning and architectural initiatives meant to “Germanize” Krakow, establish military rule, and also rid the city of its Jewish population. In particular, it will look at an intersecting history of the built environment, comparing both the analog visual evidence of Nazi plans, drawings, and photographs with the digital exploration of the importance of victim spaces, above all the Jewish ghetto. The plans for rebuilding Krakow, led by architect Hubert Ritter, were ambitious and followed the goals of rebuilding cities established by Hitler for Nuremberg, Berlin, and elsewhere. So, too, of course, were the goals of concentrating and ultimately murdering the Jewish population of Krakow and the surrounding areas as part of the radicalization of the Holocaust. Spatial visualizations then and now help us to conceptualize these disparate histories together, seeing how the ambitions for establishing Nazi presence complemented and contradicted spatial planning for the Jewish community. In Krakow, the nationalist goals of a Nazi imperial East were imagined and enabled through architecture and control of the built environment. (This project is a sub-project of *Mapping German Construction*.)

MAPPING STEREOTOMY (2017-PRESENT)

PRINCIPAL INVESTIGATOR: SARA GALLETTI

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.



Image of a vaulted ceiling showing stereotomy in the stonework. Image credit: Sara Galletti

THE MEDIEVAL KINGDOM OF SICILY IMAGE DATABASE

The Medieval Kingdom of Sicily Image Database logo. Designed by Jack Edinger

THE MEDIEVAL KINGDOM OF SICILY IMAGE DATABASE (2011-PRESENT)

PRINCIPAL INVESTIGATORS: CAROLINE BRUZELIUS AND PAOLA VITOLO

Website:

<http://kos.aahvs.duke.edu/>

The Medieval Kingdom of Sicily Image Database is a geo-referenced database of historic images from the 15th through the mid-20th centuries that represents the medieval monuments and cities constructed by the rulers of the historic Kingdom of Sicily: the Normans, the Hohenstaufen, the Swabians, and the Angevins. The kings and queens of these dynasties, who ruled from the late 11th until the early 15th centuries, were active patrons of the arts, founding, building, and decorating hundreds of abbeys, churches, castles, and other kinds of monuments. Our database identifies, collects, and illustrates images that are found in museums, libraries, archives, and publications throughout Europe and the United States as an aid for travelers and scholars. The images, which were often produced by traveling artists and architects as part of the Grand Tour, document the appearance of these historic structures prior to their transformation (or destruction) as the result of Baroque remodeling, urban expansion, earthquakes, the tragic aerial bombardment of WWII, and dramatic restoration.

The database is organized topographically by location. Mapping components “Map View” and “Map Research Questions” permit users to visualize their queries of the database in relation to Roman roads and ports, many of which were still the primary means of access to the Kingdom in the Middle Ages. Information about the website is available both in Italian and English.

Our purpose is to make as many historic images available to the public for research and study as possible. This initiative was originally created with funds from 2011-2014 from The National Endowment for the Humanities; although we are currently not funded, we continue to receive IT and data management support from Duke University.

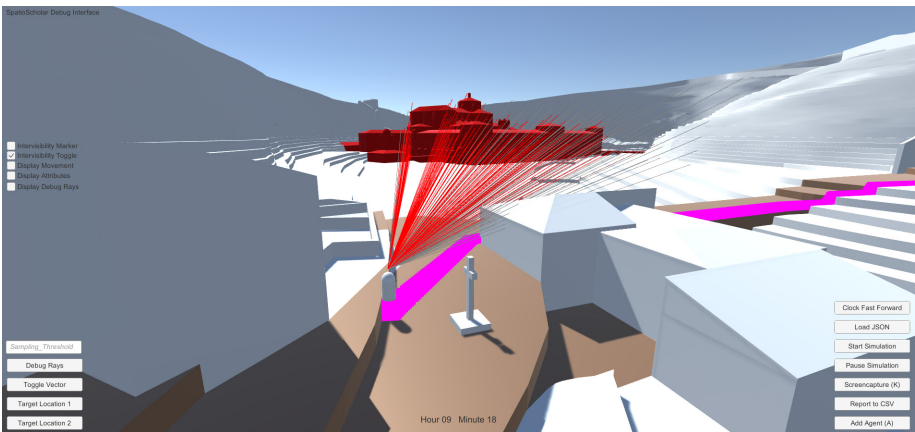
MODELING AGENCY:
HISTORICAL AGENT BASED MODELING (2019-PRESENT)

PRINCIPAL INVESTIGATOR: AUGUSTUS WENDELL

Agent Based Modeling (ABM) serves to computationally model populations within the built environment. Agents are placed within 3D spatial simulations and navigate the modeled space autonomously. Preprogrammed with a simple set of rules the agents evidence movement and occupation data through emergent behaviour and spatial occupation. ABM is highly scalable from individual buildings to large urban simulations.

This project continues the development of the SpatioScholar ABM system originated in collaboration with Dr. Burcak Ozludil at the New Jersey Institute of Technology. ABM simulations are being applied to three case studies. The interaction of patient cohorts with physicians and staff in the Toptasi Asylum in Istanbul, Turkey in 1911. The interaction of pilgrims on the St. James Way with the monastery at Samos in Galicia, Spain. And the visual identification of Jewish Ghetto residents in occupied Krakow of the historic Jewish landmarks while on forced labor movement. These three case studies present unique challenges to the use of ABM in historical research in terms of scale, population characteristics and data sets.

Undergraduate students from Art History and Computer Science are developing project simulations, researching and building 3D model data and developing programming code for the ABM system features. The goal of the project is twofold: to formalize the codebase of the ABM system for adoption by external scholars and to study the presentation of ABM data sets in conjunction with the staff at the Center for Data Visualization and Sciences.



Computational viewpoint analysis from an agent towards the monastery at Samos along the pilgrimage route to Santiago de Compostela.

OPERATING ARCHIVES (2013-PRESENT)

PRINCIPAL INVESTIGATOR: MARK J. V. OLSON

The *Operating Archives* project emerges out of a concern with the preservation of the “performativity” of objects in the digital archive. While digital archives afford access to historical texts, images, and objects to be read and viewed, often in a reconstituted contextual milieu, what about objects that were intended to be operated or manipulated? Taking the creation of a multimedia/multimodal archive of historical medical technologies as both case study and laboratory, this project explores different interfaces for interacting with digital objects that attempt to reconstruct contexts of use.

In conjunction with Duke’s History of Medicine Collection, one key focus of the project has been the processing, visualization, and 3D printing of Duke’s collection of ivory anatomical manikins, the largest collection in North America. Dating from the seventeenth and eighteenth centuries, the project aims to transform microCT scan data of each object into an interactive 3D model that can be manipulated virtually as well as displayed using augmented reality. 3D prints of the manikins also enable physical manipulation of artifacts otherwise too fragile to touch.



Two ivory manikins from the Rubenstein Library's History of Medicine collection.
Image credit: Mark J. V. Olson



Georg Braun and Frans Hogenberg, *Aerial view of Paris in the Civitates orbis terrarum* (Cologne, 1572).
Image credit: Rubenstein Library at Duke University

PARIS OF WATERS (2014-PRESENT)

PRINCIPAL INVESTIGATOR: SARA GALLETTI

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.



Digitally annotated medieval city view. Image credit: Edward Triplett

SANDCASTLE (2020-PRESENT)

PRINCIPAL INVESTIGATORS: PHILIP STERN AND EDWARD TRIPLET

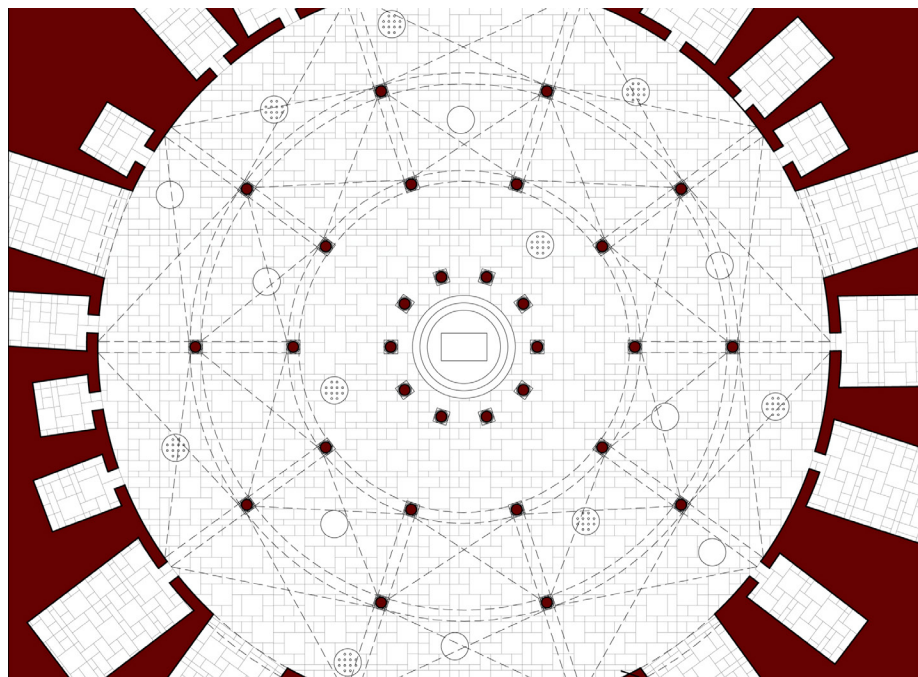
Website:

<https://sandcastle3d.org>

The primary goal of the *Sandcastle* project is to enable researchers to visualize non-Cartesian, premodern images of places in a comparative environment that resembles the gestural, malleable ones used by medieval and early modern cartographers and artists. This project focuses on perspectival images that are at times referred to as maps but are more accurately described as views or “chorographies.” The *Sandcastle* project aims to collect and annotate as many representative examples of chorographic views as possible in order to run the variations through a workflow that will procedurally generate experiential 3D environments from the images. With assistance from a Phase II Advancement grant from the Office of Digital Humanities (ODH) at the National Endowment for the Humanities (NEH), www.sandcastle3d.org will provide a toolkit created in “Houdini” (a procedural modeling software) that can be opened in either the Unreal or Unity game engines and that is capable of translating annotated (and traced) features from any chorographic view into 3D objects and terrain.

The project website will contain tutorials and guides for walking scholars through the multiple-application process of annotating and converting images into 3D scenes. The project site also aims to host case studies that can demonstrate how the *Sandcastle* workflow leads to new knowledge about the use of hierarchical scale, perspectival flexibility, and cartographic decision-making in chorographic views from the medieval

and early modern periods. The *Book of Fortresses* project is also closely aligned with this project, and will serve as one of the most significant sources to test the application of the Sandcastle workflow.



Hypothetical floor plan for a setting in The Case of Charles Dexter Ward. Image credit: Victoria Szabo & Cosimo Monteleone

VISUALIZING LOVECRAFT'S PROVIDENCE (2019-PRESENT)

PRINCIPAL INVESTIGATORS: COSIMO MONTELEONE AND VICTORIA SZABO

This project explores the use of historical and cultural visualization techniques to instantiate the imagined Providence, Rhode Island of author H.P. Lovecraft. H.P. Lovecraft famously declared, "I am Providence," an epitaph inscribed on his tombstone. Drawing from detailed descriptions of city streets, vanished and current architectures, spooky interiors, urban denizens, and otherworldly intruders, Lovecraft creates a multi-layered, evocative, and at times disturbing imagined world of the city. By highlighting the spatial features of his writing, and the ways in which expressionist landscapes evoke an apprehensive appreciation of his world view, we are examining the potential of spatial media for a new kind of literary criticism and interpretive adaptation. Our first example will focus on *The Case of Charles Dexter Ward*, which combines early 18th-century action with early 20th-century scenes closer to Lovecraft's own experience of the city.



Visualizing Objects, Places, and Spaces Handbook: Graphics from Visualizing Objects, Places, and Spaces: A Digital Project Handbook. Image Credit: Hannah L. Jacobs

VISUALIZING OBJECTS, PLACES, AND SPACES: A DIGITAL PROJECT HANDBOOK (2019-PRESENT)

PRINCIPAL INVESTIGATORS: BETH FISCHER AND HANNAH L. JACOBS

Website:

<https://handbook.pubpub.org/>

Beth Fischer (Mellon Postdoctoral Fellow in Digital Humanities at the Williams College Museum of Art) and Hannah L. Jacobs (Digital Humanities Specialist, Wired! Lab, Duke University) have set out to gather and share a digital project handbook with researchers and instructors in the early stages of digital project development. The outcome-in-progress is a peer-reviewed open resource we are designing to fill the gap between platform-specific tutorials and disciplinary discourse in digital humanities.

This web publication offers guidance on workflows, resources, and computational principles; topics applicable to many types of projects, including those that arise in archival, dimensional, narrative, quantitative, spatial, temporal, and network visualization projects; modular, downloadable content, allowing users to build custom annotated guides.

PAST PROJECTS AND OUTCOMES

ALIFE ARCH APP (2016-2019)

Principal Investigators: Caroline Bruzelius, Lucas Giles, and Mark J. V. Olson

THE CRYSTAL PALACE (2009-2013)

Principal Investigator: Victoria Szabo

DEATH, BURIAL, AND COMMEMORATION IN ATHENS FROM ANTIQUITY TO THE LATE 19TH CENTURY (2013-2014)

Principal Investigator: Sheila Dillon

DUKE/DURHAM GHOSTS (2014-2020)

Principal Investigator: Victoria Szabo

GHETT/APP (2016-2017)

Principal Investigators: Paolo Borin, Ludovica Galeazzo, and Victoria Szabo

JACOBS UNIVERSITY, BREMEN, GERMANY COLLABORATION (2012-2013)

Principal Investigators: Timothy Senior, Victoria Szabo, Florian Wiencek

SENSES OF VENICE (2017-2019)

Principal Investigator: Kristin L. Huffman

Website: <https://sites.duke.edu/sensesofvenice/>

STA. CHIARA CHOIR SCREEN (2016-2017)

Principal Investigators: Andrea Basso, Caroline Bruzelius, Elisa Castagna, Lucas Giles, Andrea Giordano, Cosimo Monteleone

STATUES SPEAK (2015-2017)

Principal Investigator: Elizabeth Baltes

Website: <https://projects.dahvc.org/statuesspeak/>

VENICE VIRTUAL WORLD (2013-2015)

Principal Investigators: Kristin L. Huffman and Nicola Lercari

WATER AND FOOD IN VENICE:

STORIES OF THE LAGOON AND THE CITY (2014-2015)

Principal Investigator: Kristin L. Huffman

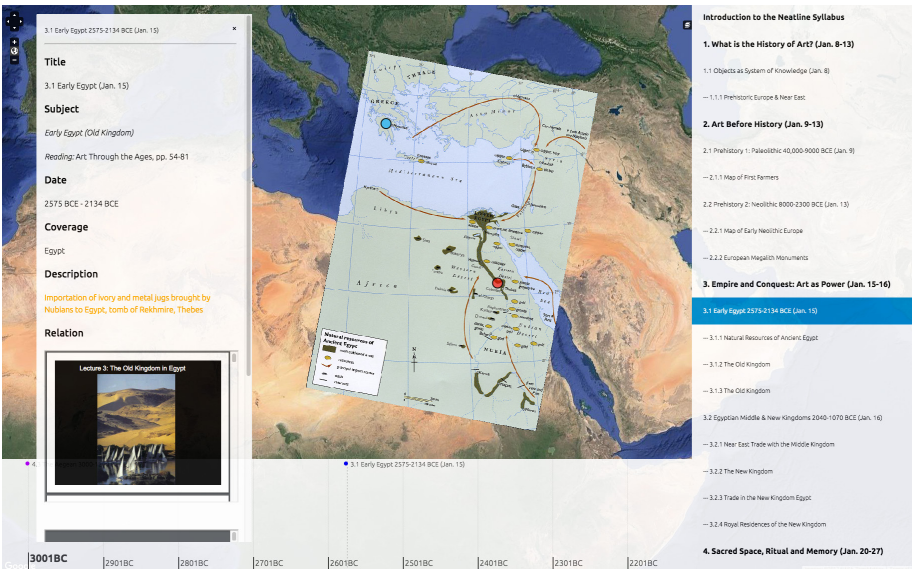
TEACHING

At the Digital Art History & Visual Culture Research Lab, teaching and research go hand in hand. There are several aspects of our teaching practices that help explain our commitment to specific research methods and our attention to critical digital analyses. In both classes and lab sessions, we are committed to the use of collaborative models of teaching, the incorporation of our research methods into every level of the curriculum, and the professional growth of graduate students. This section highlights those areas of commitment.

COLLABORATIVE TEACHING

Hannah L. Jacobs

Combining technologies and humanities in teaching requires knowledge from a variety of disciplines. Our first course, the 2009 *Wired! New Representation Technologies for Historical Materials*, brought together five faculty representing that necessary range of expertise from the historical to the computational, with ten undergraduate and graduate students. Working in an experimental learning environment, students engaged with primary source materials and explored the possibilities that technologies offer for advancing humanistic interpretations of these materials. The faculty’s various expertise enabled students to consider objects’ original contexts and select digital methods appropriate for reconsidering their composition, methods of making, and possible roles in larger built environments. This first collaboration formed a model on which Wired!



Screen capture from the Neatline interactive syllabus showing content from one class meeting including an historic map of the spatial region, lecture slides, and specific sites of interest.
Image Credit: Hannah L. Jacobs

courses have since been taught in which the inclusion of multiple instructional expertise form an integrated, creative, and active learning experience.

Notably, our teaching model has since expanded to also include the expertise of staff, librarians, and graduate students. These contributors are not simply offering technical instruction: they work with instructors of record to design and implement digital project assignments and with students to develop and critique those assignments. A quintessential example can be found in the Spring 2015 iteration of ARTHIST 101 *Introduction to Art History* in which Professor Caroline Bruzelius worked closely with Librarian Lee Sorensen, Graduate Teaching Assistant Joseph C. Williams, and Digital Humanities Specialist Hannah L. Jacobs to develop both a digital assignment and an interactive syllabus.

Implemented as an integrated map and timeline with embedded visual media and course materials, the interactive syllabus proved a creative way for students to build conceptual connections across vast time periods, spaces, and cultures. Sorensen and Williams identified appropriate research materials for the interactive syllabus. Jacobs brought these contents together in Omeka with Neatline to create an alternative, non-linear interface for navigating course content. For the digital assignment, Sorensen offered information literacy instruction critical to Humanities research, and Jacobs taught the students principles of data management in Omeka and visual storytelling through Neatline, which they used together with critical research skills to create digital projects that explored the movements of materials and culturally significant objects across the pre-modern world. This syllabus also served as a foundational example for the students' semester-long research project.

Williams provided one-on-one Omeka and Neatline support for students, a key instructional training opportunity that has become a core part of the Wired! Lab's



Model of the destroyed Palazzo Nani in Venice, created by students in Kristin L. Huffman's 2015 Visualizing Venetian Art and completed by Julia Huang (Duke '16) in 2016.

contributions to graduate education. The Digital Art History & Visual Culture Research Lab now regularly offers a teaching assistantship to a PhD student in Art History for the purpose of providing Digital Humanities training and instructional experience that extends our collaborative model. Through mentorship from, and collaboration with, Jacobs and other instructors, these teaching assistants learn how to create instructional materials and lead technical instruction, consult on and troubleshoot digital methods, and evaluate digital assignments based on both humanistic and technical rubrics.



*Students presenting their augmented reality app prototype, Spring 2017.
Image Credit: Caroline Bruzelius.*

This kind of collaborative teaching has formed the basis for courses that explore the visual culture of Venice, historical experiences of Durham, the construction of medieval castles, the archaeology of Athens, and much more. As we have applied our teaching model in different courses, we have found that the balance between digital and humanistic learning goals varies depending on course level, digital method, and historical content. The extent to which digital methods are engaged in a course impacts the overall shape of our collaborative teaching: a course with a small digital intervention, such as the creation of a timeline, requires a modular approach to technical instruction involving the Digital Humanities Specialist and a Graduate Teaching Assistant. These begin at the early design phase of the assignment and then continue for several class meetings focused on skill-based workshops, troubleshooting, and assignment critiques. Meanwhile, some courses are centered on semester-length projects, such as those in which students use 3D modeling software to reconstruct a historical building. Instructors often use this method to teach visual analysis skills: to create their models, students must closely analyze visual materials and develop a detailed understanding of architecture and its environment. The technical skills required to complete these kinds of analyses in the context of a one-semester course are extensive and require modular instruction spanning the entire semester. In some cases, continuous interaction with the lab's Digital Humanities Specialist and/or a Graduate Teaching Assistant is required to ensure that students gain a foundational understanding of a digital method and are able to apply it critically to their research questions.

Still other courses take a further step toward the technological and require a deeper collaboration that directly involves students in teaching. These courses are also project-based, center on questions of applying digital technologies to humanities research questions, and produce a single, experimental outcome. Examples have included a close analysis of scant historical materials to digitally construct a destroyed Venetian palazzo and the design of a narrative and augmented reality application to engage museumgoers with objects in the Nasher Museum of Art's permanent collection. Multiple faculty, staff, graduate teaching assistants, and/or librarians are embedded in these courses to guide a learning experience that draws on a range of disciplinary expertise, while advanced undergraduate and graduate students actively participate in the project's shaping and may contribute their own technical skills to instruction.

The flexibility in the level of engagement and range of expertise involved in our collaborative teaching model promotes active learning and innovative thinking for all involved. Our teaching practices creatively combine multiple knowledge domains to provide students with distinctive learning experiences that ask them to engage critically with both historical content and digital methods.

CURRICULUM

Paul B. Jaskot

The Digital Art History & Visual Culture Research Lab curriculum is both wide and deep. Its depth extends through the undergraduate curriculum from innovative and popular first-year seminars such as VMS 895 *Visual Culture of Venice* and entry-level courses such as ARTHIST 227 *Medieval Castles of Europe* and, one of our oldest core offerings, ARTHIST 225 *Gothic Cathedrals*. Students can further their engagement through intermediate and advanced seminars that also engage graduate students, such as ARTHIST 315 *Mapping History with GIS* and ARTHIST 551SL *Wired! The Lives of Things*. A number of these advanced experiences have been made possible through important initiatives such as the Bass Connections projects *Building Duke* and *Digital Durham*, to name but two.

Conversely, we support Art History and Visual Culture courses that have incorporated digital components for assignments or specific collaborative projects such as in ARTHIST 284 *The Political History of Modern Architecture* and ARTHIST 208 *The Art and Archaeology of Ancient Athens*. At the graduate level, *Wired!* contributes to the key core offering of a two-semester Proseminar sequence (HCVIS 580S & 581S) that introduces

“The Digital Art History & Visual Culture curriculum is both wide and deep. Its depth extends through the undergraduate curriculum from innovative and popular first-year seminars. Students can further their engagement through intermediate and advanced seminars that also engage graduate students.



The Medieval Kingdom of Sicily Image Database team at work in the lab, Fall 2019.
Image Credit: Alina Taalman

Digital Humanities methods within the context of Art History and Computational Media. Graduate students develop individual digital projects that extend from our faculty offerings including *A Cultural Analysis of Ghettos* or *3D Design and Programming in Art & Medicine*, the latter of which yielded *Medieval Color Comes to Light*. As this range shows, the Wired! faculty and staff cover a wide spectrum of student careers at Duke and also engage in a variety of topics across the Digital Humanities, while taking up innovative subjects in Art History and Visual Culture.

AN EXEMPLARY COURSE: GOTHIC CATHEDRALS

Caroline Bruzelius

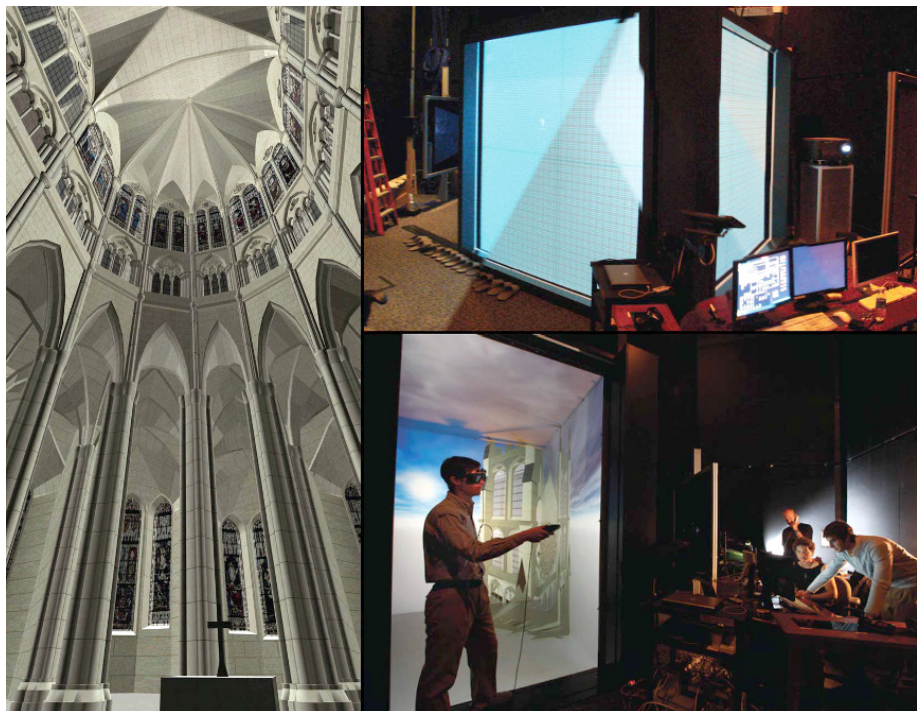
The Wired! Lab experience emerged from one course taught at Duke University that began with my arrival at Duke in 1981: *Gothic Cathedrals*. Because it attracted students from numerous disciplines (Biology, Political Science, and Economics, for example), it was hard to assign a meaningful research topic, so, instead, I developed a new type of assignment: a fictional cathedral with an “historical” narrative and design that included a ground plan, façade, elevation, section, and full decorative program. Students were encouraged to be as original as possible, while at the same time respecting historical facts, regional styles, and locally available materials. These new cathedrals had to “stand up in a strong wind,” so vaults and buttressing needed to be structurally sound. Each team also had to produce a budget, estimating sources of income (taxing peasants was always a favorite), and the costs and scale of the labor force. At the end of the semester, projects were presented in front of a jury of colleagues and graduate students and prizes were awarded by a dean, the provost, and once even then-president of Duke, Richard Brodhead.

How did technology get into the picture? Around 2002 I decided to try having students produce their design components using AutoCad, and the results were spectacular. Instead of pencil drawings, we had professional renderings of façades, ground plans,

“Students were encouraged to be as original as possible, while at the same time respecting historical facts, regional styles, and locally available materials. These new cathedrals had to “stand up in a strong wind.”

sections, and elevations; the integration of computer-aided design exponentially raised the level of the visual components of the project. That “floated” the other components upwards: the historical narrative, the decorative program, and budget and labor projections were produced with new levels of professionalism.

With this experience in mind, and with new faculty brought into the department as part of the Mellon-funded Visual Studies Initiative, I began to talk with a new colleague, Rachael Brady, whose primary appointment was in Engineering. We transferred one cathedral design (by Charles Sparkman, Duke '09) into Unity to present in the Duke Immersive Virtual Environment (DiVE): now a student-designed cathedral could be experienced as real space.



Images of Charles Sparkman's Gothic Cathedrals project in Duke's cave environment, the DiVE, from a 2011 presentation. Image Credit: Charles Sparkman

// Technology changes everything:
the questions that art historians ask of
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Rachael and I considered whether we might engage in other projects and found a common interest in the topic of representing *time*: could new digital tools enable us to narrate time and change in buildings and cities? Could we develop a narrative form that could tell stories about how the spaces and places of the past were repeatedly transformed? As a result of our experience in the *Gothic Cathedrals* course, in 2008 we began to plan an experimental course that would test the potential of digital visualization tools for historical topics. We roped in several colleagues—Sheila Dillon, Mark J. V. Olson, and Raquel Salvatella de Prada—along the way, and offered a course, *Wired! New Representational Technologies*, in Spring 2009 where we modeled the construction phases of a medieval monastery near Naples, San Francesco a Folloni; the construction of Santa Croce I in Florence; and the architecture and sculptural decoration of the ancient bath at Aphrodisias in Turkey, among other projects. We were so enthused we baptized our new initiative “Wired!”

Technology changes everything: the questions that art historians ask of their evidence, the ways we communicate narratives about time and process in cities and buildings, and the capacities of digital tools to generate new knowledge. Digital technology presented a bright future in our fields, and we had a responsibility to our students as well as to the discipline to keep exploring. It was a decisive moment, and there was no going back to traditional art history.

And that is exactly what the Wired! team has done for the past ten years.

PHD STUDENTS IN THE WIRED! LAB

Sheila Dillon

Since the lab's inception, graduate students have been an important part of Wired!. They can serve as co-PIs of various research projects, as project managers, or as research team members who also function as mentors to undergraduate participants following a vertically integrated model of teaching and scholarship (see *A New Lab Model for Art History & Visual Culture and Collaborative Teaching*). Many of these graduate students have gone on to write dissertations that incorporate visualization techniques that they learned in the lab. Some even developed their own research projects and recruited student teams to realize them (e.g. *Statues Speak*, Elizabeth Baltes, PhD 2016). Not only do the graduate students of Wired! learn visualization software, strategies, and methods that they can then deploy in their own research, but they also gain experience in project management, collaborative research, and teaching.



Amanda Lazarus with the Building Duke poster at the Bass Connections Showcase, April 17, 2019. Image Credit: Hannah L. Jacobs

In addition to participating in research teams, graduate students who have worked in the Wired! Lab can further develop the visualization skills they have learned by serving as teaching assistants for undergraduate courses, which have increasingly incorporated Digital Humanities projects in their curriculum. These teaching assistants are mentored by the lab's Digital Humanities Specialist, Hannah L. Jacobs, and lab faculty. For example, as a Digital Humanities TA for the courses VMS 89S *Visual Culture of Venice* and ARTHIST 255 *Art in Renaissance Italy*, Nikos Gkiokas helped students with their ArcGIS Story Maps and Omeka/Neatline projects. He also led a workshop on Neatline for ARTHIST 184D *History of Pre-Modern Architecture*. In a different context as the Wired! TA for the Friday open lab meetings, Felipe Alvarez de Toledo developed a resource for humanists to learn the Python programming language. As a TA for another iteration of VMS 89S *Visual Culture of Venice*, he taught students how to use Omeka for developing digital research collections and Neatline for visualizing this information in time and space. These Digital Humanities teaching opportunities allow graduate students to diversify and enhance their teaching portfolios, and to document in tangible ways the broad range of skills they develop during their graduate career.

“The Wired! Lab has played a pivotal role in my education and professional development at Duke, as it has allowed me to explore new and inspiring approaches to art historical and Digital Humanities research, pedagogy, and collaboration.”

In the words of Amanda Lazarus: “The Wired! Lab has played a pivotal role in my education and professional development at Duke, as it has allowed me to explore new and inspiring approaches to art historical and Digital Humanities research, pedagogy, and collaboration. Having access to and being part of this intellectual community has shown me a different way to be an art historian. Being trained on digital platforms such as Omeka, Neatline, and Airtable has changed the way I approach my research on ancient Greek sculpture and how I present my arguments, while the vertically integrated structure of Wired! research teams has provided me with a rich environment for intellectual and creative collaboration.

“As a graduate member of the Wired! Lab, I have participated in several projects: *Digital Athens*, *Paris of Waters*, and *Building Duke*. Each has afforded me the opportunity to perform novel research on a variety of topics in Art and Architectural History. In my role of project manager for Building Duke, under the direction of project leaders Sara Galletti, Kristin Love Huffman, and Hannah L. Jacobs, my contributions have focused on mentorship, research, and project outcomes. As the team continues to research and analyze the architectural history of Duke University, I work closely with undergraduate students, training them in digital tools, archival and secondary-source research, and data cataloguing and management. I also help develop intra- and interinstitutional research relationships, and perform research on the university’s landscape architecture.”



Elizabeth Baltes learning medieval stone carving techniques from artist Simon Verity.
Image Credit: Sair Goetz

Other graduate student testimonials also speak to this diversity of professional and intellectual experience. For example, Elizabeth Baltes (PhD 2016) states: “As a graduate student, I was part of the inaugural Wired! course in 2009, as well as several long-term research projects in the Wired! Lab. I never imagined how these experiences would change the trajectory of my research and career. The kinds of digital reconstruction technologies I learned in the Wired! Lab reframed my approach to the material culture of ancient Greece by allowing me to visualize—and question—the ways built landscapes have changed over time. Now a faculty member at Coastal Carolina University, I remain an active member of this vibrant learning community and an advocate for the critical use of digital tools in the service of Humanities research.”

“My time in the Wired! Lab was the highlight of my Duke graduate experience. It is hard to replicate the intellectual stimulation and sense of discovery that collaborative work in a place like Wired! generates.

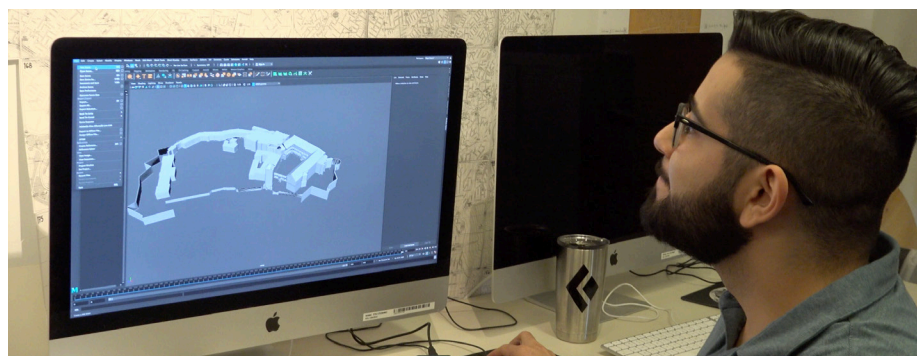


Evangeline Marecki, Professor Sheila Dillon, and Tim Shea at the archaeological museum in Olympia, Greece. Image credit: Elizabeth Baltes

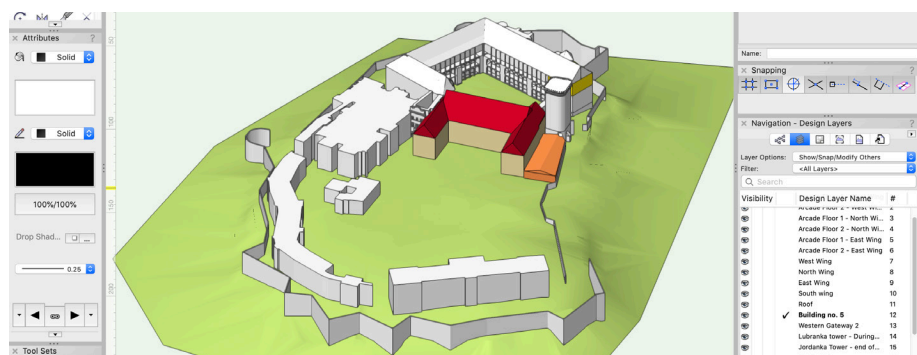
In a similar vein, Tim Shea (PhD 2018) reports: “My time in the Wired! Lab was the highlight of my Duke graduate experience. It is hard to replicate the intellectual stimulation and sense of discovery that collaborative work in a place like Wired! generates. Some of my most impactful teaching and learning experiences took place in the lab. My role as project manager of the *Digital Athens* project was to train students in the fundamentals of GIS through a regular series of tutorials. Our aim was to map the remains of the ancient city of Athens uncovered in large-scale, formal excavations and small rescue excavations throughout the city through georeferenced excavation plans and aerial photography and vector data of the locations of archaeological features.

“When I started working in the Wired! Lab, I was considering several possible dissertation topics, but I had yet to finalize my research plan. I went into the *Digital Athens* project with an open mind and a desire to learn new digital research methods.

One of the first tasks that we undertook was to map the find locations of tombstones uncovered in rescue excavations across the city. We began experimenting with GIS and other database platforms, and soon, I had mapped all of the tombstones excavated in the East Cemetery of ancient Athens. This dataset became the foundation of my dissertation research. I fleshed out the dataset to include information from the inscriptions on tombstones, such as whether the deceased was a citizen or immigrant and, if the latter, where they migrated from. I demonstrated that immigrant communities were buried together within the ancient city of Athens and that each group had different preferences for tombstone types that gave each cemetery of Athens its own particular character and appearance. My exposure to digital research methods in the Wired! Lab not only made it possible for me to draw the conclusions I did in my dissertation, but it shaped the very questions that I thought to ask.”



Alan Carrillo working on a model of the Wawel Castle in Krakow, Poland (above) with a model of Krakow's Wawel Castle highlighting Nazi-era construction (below). Image Credits: Alan Carrillo



MA STUDENTS IN THE WIRED! LAB

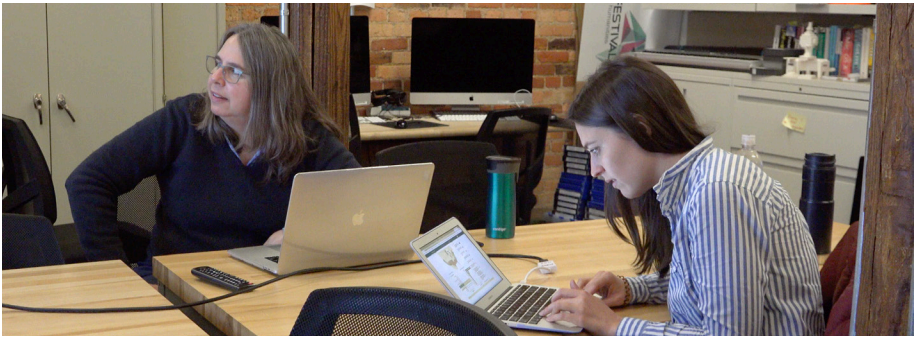
Paul B. Jaskot

In addition to the PhD program in Art History, the MA in Digital Art History & Computational Media has become a strong source of intellectual engagement for the Wired! Lab. This program is an example of the kind of dynamic integration of Humanities and computational questions that is a hallmark of our department. Wired! participates fully in this initiative and is a key site for engaging Master's students in training

// The MA in Digital Art History & Computational Media is an example of the kind of dynamic integration of Humanities and computational questions that is a hallmark of our department.

and mentoring activities. The MA in Digital Art History & Computational Media (originally titled “Historical and Cultural Visualization”) began in 2014 as a logical extension of our integration of undergraduates into Wired! research. Its goal was to be the unique Digital Humanities MA program in the United States specifically focused on art historical and computational media studies questions—with this degree we showcased the rigor of Digital Art History and Visual Culture!

The program has attracted students from both ends of the spectrum: those with significant digital experience who are looking to integrate these methods with Humanities questions; and those with a deep understanding of Art History and Visual Culture who want to extend their work with computational methods. Such a dynamic mix of experiences and interests means that students learn from one another and push each other in innovative ways. Thus, the MA draws on the same collaborative model and experience that forms the heart of Wired! faculty and staff commitments.



*MA student Caitlin Burke working with Victoria Szabo on her thesis project, Fall 2019.
Image Credit: Alina Taalman*

As part of their education, MA students are asked to align themselves with one of the department’s labs, and Wired! has greatly benefited from this experience. From *Digital Athens* to *Building Duke* to *Mapping German Construction*, MA students have contributed as part of the team research experience. This means that these students do not merely graduate with their own thesis work, but they also graduate with experiences informed by vertically-integrated teaching and research. In the past few years, MA students have also shifted from being primarily project contributors to becoming core parts of the Wired! mentoring environment.

With recent cohorts, we have engaged a new model of lab assistantship. Christine Liu (MA 2019), Andrea Brucculeri, and Clara Pinchbeck (MA 2020), who have filled this role up to this point, have learned new skills that are helping them in their own work but have also gained important leadership and teaching opportunities, while contributing to the scholarly value of projects. As a result, Wired! offers a crucible of knowledge and experience that helps MA students develop as professionals.

Previous MA students involved with the Wired! Lab have gone on to exciting opportunities that further develop their careers, including work with major firms in the tech industry, internships at major museums, further learning in PhD programs in both the United States and the United Kingdom, and, ultimately, jobs as university professors, among other opportunities.

WORKSHOPS AND INSTITUTES

Victoria Szabo

From its beginning, the Wired! Lab has engaged with Digital Art History's development not only through our own research and teaching but also through capacity building across Art History and adjacent disciplines. Within the Duke community we have offered workshops on topics like 3D modeling, interaction design in virtual environments, data visualization, digital mapping, and more—all with an emphasis on how digital tools and methods can be used to enhance the study, creation, and critique of the visual in an arts and humanities context.

As we have explored these topics in our own work, and taught them to others, it is clear to us that digital-spatial, visual, and temporal modalities enable:

- analytic comparisons of prospective, hypothetical, and counterfactual representation of past objects and structures
- contextual and embedded annotation and citation of primary sources, and explicit, well-documented argumentation and knowledge representation
- second-order statistical and relational analysis of collections of artifacts and phenomena that help to validate or challenge received historical narratives and hypotheses
- complex modeling of change over time, whether in terms of architectural morphology, artistic revision, or geographical dispersion

Central to all of these opportunities is close collaboration and communication of

“Throughout these workshops we introduced concepts and methods for Digital Art and Architectural History via hands-on tutorials and collaborative project development; these were based on research materials already collected from the archives by experts in the field.”

scholarly insights within and across disciplines. These may be effected through shared data and resources, helping to advance the field as a whole. If richly sourced, annotated, and framed content is made available online, the scholarly community can engage in a more ongoing dialogue than is made possible today through written critiques, conference presentations, etc. “Distant viewing” of individual reconstructions, hypotheses, and datasets in turn may facilitate a clearer set of standards and objectives for such work. With such insights in mind, we have extended our collaborative, lab-based approach to partnerships beyond Duke.



Victoria Szabo leading an Omeka workshop at the 2012 summer workshop. Image Credit: Mark J. V. Olson



The teaching team (Victoria Szabo, Mark J. V. Olson, Ed Triplett, and Hannah L. Jacobs, not pictured) prepare for the start of the 2016 Venice workshop. Image Credit: Hannah L. Jacobs



The Firenze Scomparsa team at work at the 2018 Advanced Digital Art History workshop. Image Credit: Hannah L. Jacobs

Initially, our series of workshops, institutes, and tutorials were created to educate our own community around the potential of digital technologies for art historical research. The first Wired! workshop took place in Durham in 2010 and introduced an array of digital practices to local faculty, staff, and students. We repeated this workshop in 2011. From 2012-2016, we worked with advanced graduate students, postdoctoral

// After five years of success with the Venice-themed summer institutes, we shifted gears towards more advanced topics in Digital Art History and expanded our focus from *Visualizing Venice* to the more capacious topic of *Visualizing Cities*, a research direction with broad and deep interest in our extended community.

fellows, and early-career faculty in intensive, two-week summer institutes held at Venice International University and focused on specific historical case studies drawn from our shared research in connection with our *Visualizing Venice* collaborative. Two of these workshops were supported by the Getty Foundation, with additional support from the Kress Foundation, the Delmas Foundation, and other organizations. Workshop themes included, *The Waters of Venice* (2011); *The Ghetto of Venice* (2013 and 2016); *The City and the Lagoon* (2014); and *The Biennale and the City* (2015). Two of the most recent introductory workshops, one focused on provisioning the city, the other on the Venetian ghetto, also coincided with major *Visualizing Venice* exhibitions at the Palazzo Ducale¹. Other workshops featured in-depth, expert-led discussions of historical, technical, and design elements associated with museum-based exhibitions located on-site in Venice and Padua.

Throughout these workshops we introduced concepts and methods for Digital Art and Architectural History via hands-on tutorials and collaborative project development; these were based on research materials already collected from the archives by experts in the field. Much of this pedagogical approach has also made its way into our teaching in the MA in Digital Art History & Computational Media, the Art History PhD, and the Computational Media, Art & Cultures PhD programs. We continue to build on these teaching methods through project-based learning around non-Venetian topics as well. Our studies of Duke and Durham, for example, serve as content for courses, workshops open to the broader community, and programs such as the Duke-NCCU Digital Humanities Fellowships.

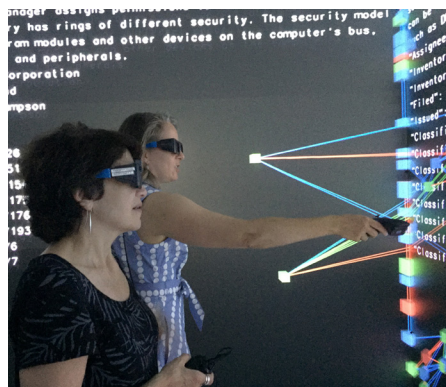
After five years of success with the Venice-themed summer institutes, we shifted gears towards more advanced topics in Digital Art History and expanded our focus from *Visualizing Venice* to the more capacious topic of *Visualizing Cities*, a research direction with broad and deep interest in our extended community. From 2018-2020, and with the generous support of the Getty Foundation, we facilitated the *Advanced Topics in Digital Art History 3D: GeoSpatial Networks Summer Institute*, again in partnership with our colleagues in Venice and Padua, but this time also enlarging the scope of case studies in question to include those brought by the institute participants themselves. This move occurred in parallel to our broader move towards *Visualizing Cities* as a core research theme emerging not only among our colleagues in *Visualizing Venice* (now *Visualizing Venice/Visualizing Cities*) but also in the Wired! Lab and in our Department

1. Venice, 500 Years of the Ghetto. 2016. <https://palazzoducale.visitmuve.it/en/mostre-en/archivio-mostre-en/major-exhibition-dogespale/2016/05/17279/venice-the-jews-and-europe/>; Water And Food In Venice. A history of the Lagoon and the City. 2015-2016. <https://palazzoducale.visitmuve.it/en/mostre-en/archivio-mostre-en/exhibition-water-and-food-in-venice/2015/08/16300/stories-from-lagoon-and-city/>

of Art, Art History & Visual Studies as a whole. This thematic shift reflects the diverse forms of expertise found within our core group, which includes not only art and architectural historians but also digital media specialists, technologists, and librarians with a shared interest in Digital Visual Studies.

During the institute, we considered the needs of projects that are already well-developed in focus, content, and technical direction, in order to establish a community of practice around an emerging field. In addition to two summer sessions together, this two-year program included monthly virtual meetings and ongoing communications across research teams around technical and conceptual topics. Numerous conference talks, including two panel sessions at the College Art Association annual meetings, multiple research collaborations, grants, and spin-off activities have resulted from this effort so far. During this period, we also led workshops at the National Humanities Center (*Summer Institute on Objects, Places, and the Digital Humanities*, 2017-2018), and facilitated an NEH Institute for Advanced Topics in the Digital Humanities focused on *Virtual and Augmented Reality in the Digital Humanities* (2017-2018) and cosponsored by Duke's John Hope Franklin Humanities Institute. Each of these experiences has in turn impacted the ways in which we are reimagining work within and beyond the traditional bounds of Art History and Visual and Media Studies as disciplinary practices.

Building on the success of our most recent summer institutes, we anticipate continuing to foster virtual communities focused on Digital Art History and Visual Culture through future institutes and the *Visualizing Venice/Visualizing Cities* collaborative. We will also continue to focus growing attention on the affordances of emerging media forms for digital scholarship and its communication. Through *Visualizing Venice/Visualizing Cities*, we are finding new synergies around such diverse spatio-temporal locales as ancient Athens, early modern Paris, nineteenth-century Durham, H. P. Lovecraft's imagined early twentieth-century Providence, and mid-twentieth-century Krakow under Nazi occupation. As we consider aesthetic objects and built environments contextualized within and comprising these environments, we are in turn developing innovative methods for the creation and transmission of new knowledge in Art History and Visual and Media Studies. All of these insights will form new city-based case studies for further exploration in our workshops and institutes.



Participants in the NHC's *Visualizing Objects, Places, and Spaces Summer Institute* visit Duke's cave environment, the DiVE, Summer 2017. Image Credit: Ashley Maynor



NEH VARDHI participant Micki Kaufman presents her project, Summer 2018. Image Credit: John S. Shelton



Photo mosaic of imagery from the Senses of Venice exhibition. Photo credit: Angela Tawfik and Kristin Huffman

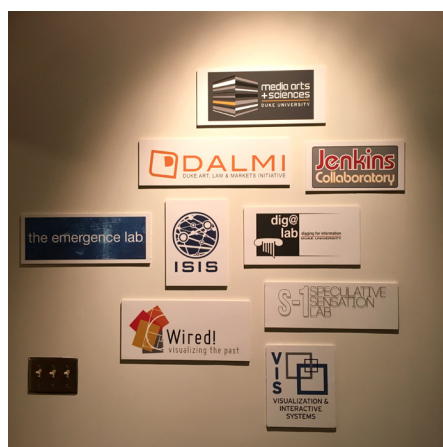
WIRED! WITHIN THE DIGITAL HUMANITIES AT DUKE UNIVERSITY

Victoria Szabo

The Wired! Lab, now Digital Art History & Visual Culture Research Lab, is one of several labs housed in Smith Warehouse and created in association with the Department of Art, Art History & Visual Studies as part of the interdisciplinary Visual Studies Initiative funded by the Mellon Foundation beginning in 2006. Wired! has carved out an identity at Duke as the home for Digital Art History and Visual Culture, foregrounding research questions related to art, architectural, and urban histories, and the ways in which digital tools and methods can be engaged in these areas. Each of the Media Labs has similarly developed its own research mission and focus.



Smith Warehouse. Image Credit: Victoria Szabo



Smith Media Labs logos. Image Credit: Victoria Szabo

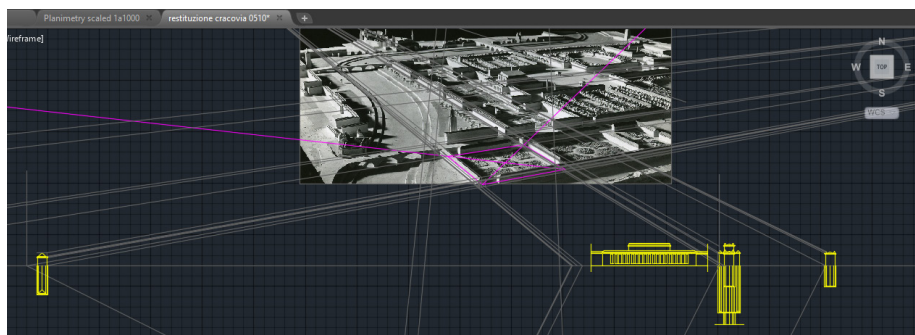
Aside from its specific, disciplinary objects of inquiry, the Digital Art History & Visual Culture Research Lab particularly emphasizes a sustained collaborative, project-based pedagogy as a part of the public-facing expression of team members' research. As such, it is the primary place at Duke where Digital Humanities and visual arts and cultures intersect in a fully and vertically integrated fashion, as is evidenced by the work our students, faculty, and staff produce and share every semester.

Wired! members are actively engaged with the other media labs around best practices for digital tools and methods, most notably around data analysis and visualization with the Duke Art, Law and Markets Lab; virtual and augmented reality with the DiG Digital Archeology Lab and the XR Studio; archives and exhibitions with the Information Science + Studies program; and critical media theories with the Speculative Sensation Lab. In addition, the Wired! Lab has partnered with the Digital Humanities Initiative at the John Hope Franklin Humanities Institute around research and training initiatives that support students in the PhD Lab in Digital Knowledge, faculty in the Duke-NCCU Digital Humanities Fellowship program, and colleagues in Duke Libraries.

“three immediate priorities come to the fore: the development of new collaborative teaching models; the integration of research projects; and the building of community.”

Wired! began creating its own workshops in part to address the gap in training opportunities on campus for 3D modeling and mapping, digital methods that address needs within Arts and Humanities disciplines. Through these workshops, we sought to highlight how disciplinary questions and perspectives shape the ways in which such methods and their products are understood and critiqued. These workshops, along with our teaching and research, have brought to light ways in which we can be advocates for Digital Humanities infrastructure at Duke. To that end, Wired! staff and faculty seek out opportunities to engage with these challenges alongside our colleagues in Trinity Technology Services, Duke Libraries, the Office of Information Technology, Digital Learning Innovation, and the Franklin Humanities Institute. These efforts have resulted in the creation of workshops for Responsible Conduct of Research, Bass Connections, and other programs; the proliferation of cross-unit conversations around access, expertise, and support; and the development of policies and tools that our units can invest in to better support Digital Humanities at Duke.

These aspects of our mission continue as we collectively explore new and emerging technologies such as extended reality, distant reading, the internet of things, and artificial intelligence systems. In the process, we take to heart the sometimes trenchant critiques of the digital turn in contemporary culture as it impacts questions of equity, access, and inclusion at every level of academic life, as well as the unintentional malformations and constraints new technologies place upon older disciplinary practices. Looking ahead, Wired! is eager to continue partnering with our colleagues in Computer Science and Engineering, in Public Policy and Ethics, and in other Arts and Humanities disciplines as we consider how the Digital Humanities can be a site of cross-disciplinary exploration and interdisciplinary invention at Duke.



Visualization of the modeling process for the Nazi ideal plan for Krakow. Image Credit: Davide Contiero

FUTURE DIRECTIONS

Kristin Love Huffman, Hannah L. Jacobs, and Paul B. Jaskot

As this celebratory volume attests, the successes of students, staff, and faculty in the Wired! Lab for Digital Art History & Visual Culture have been varied, deep, and meaningful over the past ten years. Such successes lay the groundwork for, and predict, more to come as we expand our scholarly agendas, all the while attending to our fundamental commitment of integrating teaching and research at all levels. For this future, three immediate priorities come to the fore: the development of new collaborative teaching models; the integration of research projects; and the building of community. Attention to each of these aspirations grounds our decision to highlight research as the central unifying term in our new name: the **Digital Art History & Visual Culture Research Lab**. These points of emphasis serve as building blocks upon which we can construct a critical approach to the digital analysis of art and visual culture.

To begin, we can pick up where our discussion of collaborative teaching left off (see Teaching). In addition to our current practices, there is a need to think more deeply about collaborative teaching not only within our research lab but also within the Humanities as a whole. Universities generally, and Humanities programs specifically, are going through yet another moment of transition in which questions of digital learning have taken center stage. Increasingly, the visual components of the digital are also being addressed as a media-specific point of analysis. In addition, the labor involved in both training students and sustaining research projects has further emphasized how crucial rethinking and extending the collaborative model may be. How can we share teaching modules that, for example, train students to use GIS as a historical digital mapping platform? Conversely, where does the intersection lie in our classes and in our research concerning a shared question of the tension between (humanities) evidence and (computational) data? Is modular teaching a way to address these questions, and, if so, how do we make that argument in an academic environment that institutionally privileges individual labor and pedagogic structures? In sum, to promote critical digital research for Art History and Visual Culture, we must extend our current practices while also addressing the need to rethink them fundamentally in order to be critical in the first place.

Second, our active research projects (see Project Narratives) point not only to overlapping thematic areas, but also, increasingly, to the possibility of formulating a truly integrated research agenda. This is perhaps best exemplified by the exciting

“Can we build a truly comparative analysis of cities? What are the critical questions for this kind of work? Why does it need to engage collaborative work in both the Humanities and computational scholarship?”

potential for Visualizing Cities as a way of allowing many of our projects to speak to each other (see Visualizing Venice to Visualizing Cities). As a serious agenda, we need to start thinking about overlapping conceptual issues such as how lost architectural and social spaces are imagined / developed and how digital platforms, and their capabilities, may speak to each other in critical ways. Can we build a truly comparative analysis of cities? What are the critical questions for this kind of work? Why does it need to engage collaborative work in both the Humanities and computational scholarship? “Interoperability” in this sense points to the multiple potential levels of integration in both digital and humanities terms. In many ways, it can be like the “grand challenges” of the sciences, i.e. a major research goal that is sustained by specific collaborative scholarly projects committed to a shared critical analysis. That is an exciting possibility, one we are eager to take on.

// digital and cultural studies are still only at the initial stages of truly addressing broader audiences, both within and without institutions. How do we engage with questions that are of earnest concern to our students and their post-graduate world?

Third, we see that the future holds the possibility of a much greater expansion of our publics through our scholarly output. We have shown over the past decade that we are able to develop and sustain a true learning community; we have also shown that such community has led to public-facing work ranging from mobile applications, to websites, to databases, to exhibitions, to articles and books. But digital and cultural studies are still only at the initial stages of truly addressing broader audiences, both within and without institutions. How, for example, do we engage with questions that are of earnest concern to our students and their post-graduate world? Are we speaking to Black Digital Humanities communities? To Feminist communities? To marginalized communities in general and to questions of access and the digital divide? Why is the digital analysis of art history and visual culture crucial to these publics, too?

Clearly, our current projects overlap with interests of a broad community, addressing as they do themes of gender and ethnicity, class and labor, and power and oppression, among other topics. Yet how can we help be a leader in bringing this work to an academic and non-academic public that is impactful, rigorous, and engaged? There have certainly been individual Wired! projects and outputs that have done just that. Our challenge is now, with a deeper focus on collaboration and research, to extend these project examples and to include broader communities as a whole. That seems very much a challenge worth pursuing in our next decade of work—the next exciting chapter of Duke University’s Digital Art History & Visual Culture Research Lab.

FACULTY AND STAFF BIOGRAPHIES

CAROLINE BRUZELIUS

Director Emerita, Wired! Lab, Anne M. Cogan Professor
Emerita of Art, Art History & Visual Studies



Caroline Bruzelius works on architecture, sculpture, and urbanism in the Middle Ages. She has published on French Gothic architecture (for example, the abbey church of St.-Denis and Notre Dame in Paris) as well as on medieval architecture in Italy, in particular Naples in the 13th and 14th centuries (in both English and Italian editions). She recently published a book on Franciscan and Dominican architecture, *Preaching, Building and Burying: Friars in the Medieval City* (Yale U. Press, 2014). Bruzelius has also published numerous articles on the architecture of medieval nuns and architectural enclosure, an area in which she did pioneering work.

Her 1991 catalogue of the Brummer Collection of Medieval Sculpture at Duke is now being revisited as a series of interactive display installations being developed in collaboration with Mark J. V. Olson. She has been awarded numerous grants and prizes, including grants from the Guggenheim Foundation, the National Endowment for the Humanities, the Max-Planck Institute (Hertziana Library), and the Fulbright Association. She is former Director of the American Academy in Rome, a Fellow of the American Academy of Arts and Sciences, and at the Medieval Academy. Bruzelius is co-Director of a database on images of the monuments in the medieval Kingdom of Naples, and is working on two new studies: a book called “The Cathedral and the City,” and a general study of architecture in the Medieval Kingdom of Sicily.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

Bruzelius, Caroline. “Imperialism, Orientalism, and the North European Encounter with Palermo.” Exhibition catalogue: *Chiaromonte. Lusso, prestigio, politica e guerra nella Sicilia del Trecento Un restauro verso il futuro*, Palermo. In press.

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- Bruzelius, Caroline. "Teaching with Visualization Technologies: How Does Information Become Knowledge." *Material Religion* 9 (2013): 246-253. doi:10.2752/175183413X13703410896654.
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PRESENTATIONS

- Baltes, Elizabeth P., Caroline Bruzelius, Hannah L. Jacobs, and Timothy Shea. "Digital Thinking and Art History: Re-Imagining Teaching, Research, and the Museum." Paper presented as part of the Intermezzo Speaking Series, Art, Art History & Visual Studies, Duke University, Durham, NC, September 29, 2015.
- Bruzelius, Caroline, and Hannah L. Jacobs. "Demonstration: Using a Neatline Syllabus in the Introductory Art History Survey." Paper presented as part of the panel "Art Historians Interested in Pedagogy and Technology: 'A Signature Pedagogy for Art History in the Twenty-First Century'" at the College Art Association Annual Conference, Washington, D.C, February 3, 2016.
- Bruzelius, Caroline, and Hannah L. Jacobs. "Wired! Full Immersion: Neatline and the Digital Syllabus." Paper presented at Media Arts + Sciences Rendezvous, Duke

- University, Durham, NC, March 19, 2015.
- Bruzelius, Caroline, and Rachael Brady. "Digital Technology and the Humanities," Paper presented at Mount Holyoke College and University of Massachusetts, Amherst, MA, 2012.
- Bruzelius, Caroline, and Victoria E. Szabo. "The Lives of Places and Cities: New models of representation and their conceptual implications for the past and present." Paper presented at Seminario Internazionale: Promosso dagli insegnamenti: Storia dell'architettura e Disegno edile, Università degli Studi di Padova, Padua, Italy, June 9, 11, and 16, 2014.
- Bruzelius, Caroline, Mark J.V. Olson, Donatella Calabi, Andrea Giordano, Victoria E. Szabo. "Visualizing Venice." Panel presentation at "Florentia Illustrata. Digital Mapping and Techniques of Visualizing the Pre-modern Italian City," Kunsthistorisches Institut in Florenz – Max-Planck-Institut, Florence, Italy, June 17, 2013.
- Bruzelius, Caroline, Mark J.V. Olson, Guillermo Sapiro, Mariano Tepper. "The Lives of Things." Paper presented at NED Talk, Nasher Museum of Art, Duke University, Durham, NC, October 4, 2015.
- Bruzelius, Caroline, William Broom, and John Taormina. "The Medieval Kingdom of Sicily Image Database Project: From Conceptual Design to Management." Paper presented at Digital Matters in Medieval and Renaissance Studies, Duke University, Durham, NC, April 6-7, 2018.
- Bruzelius, Caroline. "Apps, Maps, and Models –The Digital Revolution and History." Paper presented at Iowa State University, Ames, Iowa, March 27, 2017.
- Bruzelius, Caroline. "Digital Thinking and Art History: Re-Imagining Teaching, Research, and the Museum." Paper presented at University of Sydney, Sydney, Australia, November 5, 2015.
- Bruzelius, Caroline. "Digital Urban History: la storia della città tra ricerca e musei." Paper presented at the University of Turin, Turin, Italy, February 2-4, 2015.
- Bruzelius, Caroline. "Revolutionizing Teaching with Technology." Paper presented at Clark University, Worcester, MA, April 2010.
- Bruzelius, Caroline. "Robert Willis and Architectural Taxonomy." Paper presented at the International Congress: Sant'Andrea di Vercelli e il Gotico Europeo all'inizio del Duecento, Vercelli, Italy, May 29-June 1, 2019.
- Bruzelius, Caroline. "Teaching with Technology." Paper presented at the University of Vermont, Burlington, VT, January 2012.
- Bruzelius, Caroline. "Tecnologia visuale e la Storia dell'Arte." Paper presented at La Sapienza, Rome, Italy, April 2014.
- Bruzelius, Caroline. "Tecnologia e l'insegnamento." Paper presented at Ca'Foscari University, Venice, Italy, October 2011.
- Bruzelius, Caroline. "The Kingdom of Sicily Image Database: Creating a Scholarly Resource." Paper presented at Australia National University, Canberra, Australia, November 2, 2015.
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- Bruzelius, Caroline. "Transforming Art History in the Digital Revolution." Paper

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Bruzelius, Caroline. "Visual Space and Technology." Paper presented at TEDxDuke, 2012.

Bruzelius, Caroline. "Visualizing Venice: The Story of a City Through Maps and Models." Paper presented at Save Venice Boston, Boston, MA, February 6, 2018.

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Bruzelius, Caroline. "What Can Digital Technologies Do for the Humanities?" Paper presented at the Annual meeting of Art Libraries Society/Southeast, Duke University, Durham, NC, 2011.

Bruzelius, Caroline. "What Does Technology have to do with the Humanities?" Paper presented at St. Louis University, St. Louis, MO, 2012.

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Bruzelius, Caroline. "What is Architectural History? The Neapolitan Drawings of Robert Willis (1800-1875) and the Origins of Architectural Analysis." Paper presented at the Dipartimento di Architettura, Università di Napoli Federico II, Naples, Italy, December 2, 2019.

Olson, Mark J.V., and Caroline Bruzelius. "Learning by Making: Digital Methods and the Wired! Experiment at Duke University." Paper presented at the Inaugural Lecture, Wesleyan Digital and Computational Knowledge Initiative, Wesleyan University, Middletown, CT, March 6, 2013.

Szabo, Victoria E., Caroline Bruzelius, Maurizio Forte, Copper Frances Giloith, Louis P. Kaplan, Stefania Zardini Lacedelli, Radu Leon, Kerry Loewen, Diana Ndiaye, Mark J.V. Olson. "Digital Cultural Heritage as Public Humanities Collaboration." Session organized at the College Art Association Conference, Washington, DC, February 4, 2016.

PUBLIC-FACING SCHOLARSHIP

Bruzelius, Caroline, and Paola Vitolo. *The Medieval Kingdom of Sicily Image Database*. <https://kos.aahvs.duke.edu/>

DISSERTATIONS & THESES

Giles, Lucas. "Historic Architecture and Digital Modeling: The Reconstruction of the Choir Screen at Santa Chiara in Naples." MA thesis, Duke University, 2016.

Williams, Jessica Caitlin. "Robert Willis (1800-1875) and the Historiography of Italian Gothic Architecture." Undergraduate thesis, Duke University, 2019.

GRANTS & AWARDS

"The Medieval Kingdom of Sicily Image Database." National Endowment for the Humanities, Collaborative Research Grant. 2011-2014.

"Thume Medieval Kingdom of Sicily Image Database." The International Center of Medieval Art. 2018.

SHEILA DILLON

Professor of Art History and Classical Studies



Sheila Dillon received a PhD in Classical Art and Archaeology from the Institute of Fine Arts, New York University. She teaches courses on Greek and Graeco-Roman art and archaeology. Her research interests focus on portraiture and public sculpture and on reconstructing the statuary landscape of ancient cities and sanctuaries. Her books include *The Female Portrait Statue in the Greek World* (2010); *Ancient Greek Portrait Sculpture: Contexts, Subjects, and Styles* (2006), which was awarded the James R. Wiseman Book Award from the Archaeological Institute of America in January 2008; *Roman Portrait Statuary from Aphrodisias* (2006); and an edited volume *A Companion to Women in the Ancient World* (2012). Professor Dillon was a member of the Aphrodisias Excavations in Turkey from 1992-2004, has worked at the Sanctuary of the Great Gods on the island of Samothrace, and now spends summers doing fieldwork in Athens. Her current research includes a collaborative project to publish the portrait sculpture from the Excavations in the Athenian Agora with a group of current and former students, and a digital mapping project of the history of the archaeological excavations in the Agora, a collaborative endeavor centered in the Wired! Lab that involves undergraduate and graduate students at Duke. Professor Dillon was the Editor-in-Chief of the *American Journal of Archaeology* from 2013-2016.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

Dillon, Sheila, and Timothy D. Shea. "Statues as Artifacts: Towards an Archaeology of Greek Sculpture." In *Greek Art In Context: Archaeological and Art Historical Perspective*, edited by Diana Rodríguez Perez. New York: Routledge, 2017.

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DISSERTATIONS & THESIS

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- Shea, Timothy David. "Mapping Immigrant Communities Through Their Tombstones in Archaic and Classical Athens." PhD diss., Duke University, 2018.
- Trahey, Tara M. "Visualizing an Iconographic Network Between Athens and Vulci in the 6th Century B.C.E." Undergraduate thesis, Duke University, 2015.

SARA GALLETTI

Associate Professor of Art History



Sara Galletti is an Associate Professor of Art and Architectural History. She received a joint PhD in the History of Architecture and Urbanism from the Université de Paris IV-Sorbonne and the Università IUAV of Venice. Her main field of research and teaching is the history and theory of sixteenth- and seventeenth-century architecture in France. Her first book, *Le Palais du Luxembourg de Marie de Médicis, 1611-1631*, was published by Éditions Picard (Paris, 2012). She is currently working on two projects: (1) *Practice into Theory: Philibert Delorme, the Premier Tome de l'Architecture (1567), and the Profession of Architecture in Early Modern France*, which analyses the connections between architectural theory and practice in fifteenth- to seventeenth-century France; and (2) *Paris of Waters*, which focuses on the impact of water on the demographic, social, architectural, and urban development of the city of Paris through time.

SCHOLARSHIP

ARTICLES

- Galletti, Sara. "Stereotomy and the Mediterranean: Notes Toward an Architectural History." *Mediterranea. International Journal on the Transfer of Knowledge* 2 (2016): 73-120. doi:10.21071/mijtk.v0i2.6716.

PRESENTATIONS

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- Galletti, Sara "Stereotomy: A Mediterranean History." Society of Architectural Historians, Annual International Conference. April 18, 2018 - April 22, 2018

DISSERTATIONS & THESES

- Calmar, Margarete McCormick. "Libyan Architecture through the Lens of European Travelers." Undergraduate thesis, Duke University, 2019.
- Wieggers, Hanna. "The Dominican Convent of Saint Jacques in Paris: Origins and Development." Undergraduate thesis, Duke University, 2016.
- Wolfe, Hannah Elizabeth. "Mapping Stereotomy from Cairo to al-Andalus." Undergraduate thesis, Duke University, 2019.

OLGA GRLIC

Senior Research Scholar



Olga Grlic is a Project Manager for The Medieval Kingdom of Sicily Image Database. She received her MA and PhD degrees in Comparative Literature and Medieval Studies from the University of California, Berkeley. Her undergraduate degrees were in French and Spanish from University of Zagreb, Croatia. From 2014 to 2016 she was Visiting Lecturer in the Department of Germanic and Slavic Languages and Literatures at the University of North Carolina, Chapel Hill. She has published on Dante and made numerous translations from French to English. Her interest in the Norman Kingdom of Sicily arose from working on representations of castles in chivalric literature in Old French, and on cultural contacts between Western Europe, Byzantium, and the Crusader states in the twelfth century.

KRISTIN L. HUFFMAN

Lecturing Fellow



Kristin L. Huffman is a Lecturing Fellow in the Department of Art, Art History & Visual Studies at Duke University. Her current research focuses on the uses, configurations, and, at times, deliberate re-ordering of architectural spaces and larger urban systems in early modern Venice. This is the central topic of her monograph: *Visual Rhetoric and Spatial Dynamics in Early Modern Venice*.

Her interest in urban experiences and reconstructing transformed or demolished spaces led her to work with Wired! at Duke as well as *Visualizing Venice* beginning in 2013. Within these collaboratives, she contributed to the curation of the exhibition, *Water and Food in Venice at the Ducal Palace* in 2015. From 2014-2017, she worked to create the exhibition, *A Portrait of Venice: Jacopo de' Barbari's View of 1500* on display at the Nasher Museum of Art at Duke (September 2017-January 2018). In conjunction with the exhibition, she organized a scholarly symposium, *Stories about Venice and de' Barbari's Marvelous View of 1500*. The research conducted for the exhibition, along with the talks first presented at the symposium, formed the foundation for an edited volume that includes over 20 scholarly essays related to the *View of Venice* and life in early modern Venice, *A Portrait of Venice: Jacopo de' Barbari's View* (Duke University Press, forthcoming 2021). She is currently working with colleagues at the Correr Museum in Venice, Italy, to feature an expanded version of the 2017-2018 exhibition, *A Portrait of Venice*, as an installation centered on the woodcut along with the original wooden blocks used to publish the *View* in 1500. The high resolution image, the best available for in-depth study and analysis, was developed in collaboration with Duke Libraries and can be found here: [10.7924/G8MK69TH](https://doi.org/10.7924/G8MK69TH)

Most recently, she collaborated with Duke Library's Rubenstein Library for an interactive virtual exhibition featuring digital stories related to the map of Venice by Ludovico Ughi, first printed in 1729 (<https://sites.duke.edu/sensesofvenice/>). The exhibition, *The Senses of Venice*, was co-curated with Bradford Lewis, and included significant contributions from four undergraduate students: Noah Michaud, Angela Tawfik, Daphne Turan, and Mary Kate Weggeland, with animations developed in collaboration with CamerAnebbia (<https://vimeo.com/446288747>), colleagues at the School of Architecture at the University of Padua, as well as those closer to home, namely Hannah L. Jacobs and Dave Zielinski.

Within the Wired! Lab, in addition to developing research projects and exhibitions, she works alongside Paul B. Jaskot and Hannah L. Jacobs to develop new curricular strategies and innovative learning opportunities for graduate and undergraduate students.

For her research and digital projects, she has been awarded grants from the following institutions: The Gladys Kriebel Delmas Foundation, The National Endowment for the Humanities, The Renaissance Society of America, The Samuel H. Kress Foundation, The Furthermore Foundation.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

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- Huffman, Kristin L., "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, 2018: xii-xiv.
- Huffman, Kristin L., "Banquets, Parades, Games and Festivals," in *Acqua e Cibo (Water and Food): storie della laguna e della città*, eds. Donatella Calabi and Ludovica Galeazzo. Venice: Marsilio, 2015: 184-89.
- Huffman, Kristin L. Twelve Catalogue Entries in *Acqua e Cibo (Water and Food): storie della laguna e della città*, eds. Donatella Calabi and Ludovica Galeazzo. Venice: Marsilio, 2015: 190-193; 196-204; 207.
- Huffman, Kristin L., *A Portrait of Venice. Jacopo de' Barbari's View of 1500*. Durham, NC: Duke University Press, 2021.

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PRESENTATIONS

- Huffman, Kristin L. "500-Year-Old Wooden Blocks, Light Laser Scans & Photogrammetry." Paper presented at Digital Matters in Medieval and Renaissance Studies, Duke University, Durham, NC, April 6-7, 2018.
- Huffman, Kristin L. "A 'Virtually' Digital Exhibition." University of Padua, Italy, 2017.
- Huffman, Kristin L. "A Portrait of a City: Jacopo de' Barbari's Venice." Florida State University, 2019.
- Huffman, Kristin L. "A Portrait of Venice." University of Kansas, 2017.
- Huffman, Kristin L. "A View from Above: Jacopo de' Barbari's Venice." Ballroom of

- the Correr Museum, 2018.
- Huffman, Kristin L. "Digital Humanities and Historic Visualization." University of Padua, Italy, 2016.
- Huffman, Kristin L. "Jacopo de' Barbari's View of Venice." University of Washington at St. Louis, 2017.
- Huffman, Kristin L. "The View of Venice and the Making of Knowledge." University of Padova, 2018.
- Huffman, Kristin L. "The View of Venice." School of Engineering, Duke University, 2017.
- Huffman, Kristin L. "The Wooden Blocks of Jacopo de' Barbari's Celebrated View of Venice." Renaissance Society of America, New Orleans, March 2018.
- Huffman, Kristin L. "Virtual Reconstructions in between the Ephemeral and the Virtual: Reactivating Art Installations through Digital Reconstructions." College Art Association, Washington D.C., 2016.
- Huffman, Kristin L. "Visualizing Venetian Art." Wake Forest University, Digital Humanities, 2016.
- Huffman, Kristin L. "Wired! & Visualizing Venice." College Art Association, Chicago, February 2014.
- Huffman, Kristin L. "Wired! and Visualizing Venice: Scaling up Digital Art History." Temple, Philadelphia, PA, 2014.
- Lanzoni, Kristin Huffman, and Victoria E. Szabo. "Wired! Approaches to Digital Scholarship." Paper presented at Symposium on Digital Cultures, Temple University Libraries, Philadelphia, PA, October 21, 2014.
- Lanzoni, Kristin Huffman. "Visualizing Venice: Digital Tools & Urban History," Berlin, Germany, March 2015.

PUBLIC-FACING SCHOLARSHIP

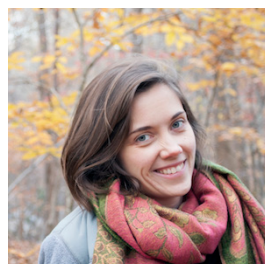
- Huffman, Kristin L. Senses of Venice. Duke University Libraries, August 26, 2019-December 15, 2019.
- Huffman, Kristin L. A Portrait of Venice: Jacopo de' Barbari's View of 1500. Nasher Museum of Art, September 7, 2017-December 31, 2017.
- Huffman, Kristin L. Acqua e Cibo: Storie della Città e della laguna (Water and Food: Stories of Venice and the Lagoon). Ducal Palace, Venice, Italy, September 2015-February 2016.

GRANTS & AWARDS

- Duke Digital Initiative Grant (2017)
- Furthermore Grant Publication Subvention (2020-2021)
- Gladys Kriebel Delmas Foundation Publication Subvention (2020-2021)
- Gladys Kriebel Delmas Institutional Foundation Research Grant (2016-2017)
- Kress Foundation Digital Art History (2016-17)
- National Endowment of the Humanities-Mellon Fellowship (2017-2018)
- Renaissance Society of America, Samuel Kress Art History Award (2020-2021)

HANNAH L. JACOBS

Digital Humanities Specialist



Hannah provides instruction and conducts research in digital concepts and tools for Wired! courses and projects. She leads tutorials and workshops, collaborates with faculty to develop and implement Digital Humanities projects in the classroom, consults on faculty research, offers advising on digital tools for undergraduate and Master's student theses, provides technical support for lab projects, and liaises with other digital humanities staff at Duke.

Hannah holds an MA in Digital Humanities from King's College London (2013) and a BA in English/Theatre from Warren Wilson College (2011). She is currently pursuing an MS in Information Science from the University of North Carolina at Chapel Hill (2018-present). She is interested in challenges of conducting and representing historical research via data and visualization; project management in Digital Humanities; applications of digital technologies in Humanities pedagogies; and potentials of visual interactive storytelling for scholarly communications, public outreach, and education.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

Jacobs, Hannah L., Kathryn Wymer, Victoria E. Szabo, and W. Russell Robinson.

"A tale of two Durhams: how Duke University and North Carolina Central University are increasing access and building community through DH pedagogy." In *Debates in Digital Humanities Pedagogy*, edited by Brian Croxall and Diane Jakacki. Minnesota, MN: University of Minnesota Press, forthcoming.

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Jacobs, Hannah L. "Collaborative Teaching & Digital Visualization in an Art History Classroom." *Visual Resources Association Bulletin* 43, no. 2 (2016).

Jacobs, Hannah L., and Amanda Lazarus. "An Experience as a Wired! Lab Digital Humanities Teaching Assistant." *Duke Digital Humanities*. January 30, 2017. <https://digitalhumanities.duke.edu/news/experience-wired-lab-digital-humanities-teaching-assistant>.

Jaskot, Paul B., Hannah L. Jacobs, Mark Olson, Victoria Szabo, and Edward Triplett. "Shaping the Discipline of Digital Art History: A recap of an advanced summer institute on 3-D and (geo)spatial networks." *The Iris*. December 19, 2018. <http://blogs.getty.edu/iris/shaping-the-discipline-of-digital-art-history/>.

PRESENTATIONS

- Baltes, Elizabeth P., Caroline Bruzelius, Hannah L. Jacobs, and Timothy Shea. "Digital Thinking and Art History: Re-Imagining Teaching, Research, and the Museum." Paper presented as part of the Intermezzo Speaking Series, Art, Art History & Visual Studies, Duke University, Durham, NC, September 29, 2015.
- Bruzelius, Caroline, and Hannah L. Jacobs. "Demonstration: Using a Neatline Syllabus in the Introductory Art History Survey." Paper presented as part of the panel "Art Historians Interested in Pedagogy and Technology: 'A Signature Pedagogy for Art History in the Twenty-First Century'" at the College Art Association Annual Conference, Washington, D.C, February 3, 2016.
- Bruzelius, Caroline, and Hannah L. Jacobs. "Wired! Full Immersion: Neatline and the Digital Syllabus." Paper presented at Media Arts + Sciences Rendezvous, Duke University, Durham, NC, March 19, 2015.
- Holloway, Carson, and Hannah L. Jacobs. "DEVONthink." Workshop presented at the DH Studio Workshop, Digital Scholarship Services, Duke University, Durham, NC, March 25, 2015.
- Jacobs, Hannah L. "Collaborative Teaching & Critical Digital Making in an Art History Classroom." Paper presented at Digital Humanities 2016, Jagiellonian University, Kraków, Poland, July 15, 2016.
- Jacobs, Hannah L., and Beth Fisher. "Visualizing Objects, Places, and Spaces: A Digital Project Handbook." Digital Humanities 2020, University of Ottawa, Ottawa, Canada, July 2020. <http://dx.doi.org/10.17613/ahxm-9s52>.
- Jacobs, Hannah L., and Victoria Szabo. "Digital Archiving & Storytelling in the Classroom with Omeka & CurateScape." Digital Humanities 2016. Jagiellonian University, Kraków, Poland. July 12, 2016.
- Jacobs, Hannah L., Annie Haueter, Julia Huang, and Timothy D. Shea. "Digital Curation in the Arts: Working with the Wired! Lab." Presentation for the Duke Library Advisory Board, Duke University, Durham, NC, April 8, 2016.
- Jacobs, Hannah L., Erica Hayes, and Nathan Kelber. "Project Management and DH." Presentation at Digital Humanities Nuts and Bolts: From Idea to Sustainable Project, National Humanities Center, Research Triangle Park, NC, October 2, 2018.
- Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel presentations at the College Art Association Conference, New York, NY, February 13, 2019.
- Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. Presentation at "Coding Our Collection: Datathon," National Gallery of Art, Washington, DC, October 25, 2019.
- Sorensen, Lee, and Hannah L. Jacobs. "Updates from the Dictionary of Art Historians." Presentation at the Art Historians' Archives Workshop, Getty Research Institute, January 28, 2019.
- Jacobs, Hannah L. "Flipping the DH Workshop, or Rethinking How We Teach DH Tools." Presentation at the Digital Scholarship Open House, Duke University, Durham, NC, February 21, 2019.
- Jacobs, Hannah L. "Points, Lines, Polygons, and Pixels: A Framework for Teaching

- & Learning Humanities Through Visualization." Poster presented at Digital Humanities 2017: Access / Accès, Montreal, Canada, August 10, 2017.
- Jacobs, Hannah L. "Reflections on Uses of Spatiotemporal Visualization in a Humanities Classroom." Visualization & Interactive Systems Friday Forum Speaking Series, Duke University, Durham, NC, October 16, 2015.
- Jacobs, Hannah L. "Roundtable: Setting Up a Digital Humanities Curriculum." Presentation at the Renaissance Society of America, Toronto, Canada, March 19, 2019.
- Jacobs, Hannah L. "Teaching & Learning with Virtual Reality: Learn About It & Experience It!" Presentation for the Learn IT @ Lunch Seminar Series, Duke University, Durham, NC, September 9, 2015.
- Jacobs, Hannah L. "Toward a Framework for Project-Based Learning with Visual Storytelling." Paper presented at HASTAC 2017: The Possible Worlds of Digital Humanities, University of Central Florida, Orlando, FL, November 4, 2017.
- Jacobs, Hannah L. "Wired! Lab for Digital Art History & Visual Culture." VIS4DH. October 25, 2020. <https://vis4dh.dbvis.de/schedule/>.

PUBLIC-FACING SCHOLARSHIP

- Jacobs, Hannah L., and Beth Fischer, eds. Visualizing Objects, Places, and Spaces: A Digital Project Handbook. <https://handbook.pubpub.org/>.

PAUL B. JASKOT

*Director,
Duke Digital Art History & Visual Culture Research Lab;
Professor of Art History*



Paul B. Jaskot came to Duke in 2017 after many years of involvement with Digital Art History. He specializes in the history of modern German architecture and art, with a particular interest in the political history of architecture before, during, and after the Nazi era. He has also published on Holocaust Studies topics more broadly, modern architecture including the history of Chicago architecture, and methodological essays on Marxist art history. He has authored or edited several monographs and anthologies, including *The Nazi Perpetrator: Postwar German Art and the Politics of the Right* (University of Minnesota Press, 2012) and, as co-editor, *New Approaches to an Integrated History of the Holocaust: Social History, Representation, Theory* (Evanston: Northwestern University Press, 2018).

Paul has also been deeply involved in Digital Art History issues since 2007, both as a scholar and as an advocate. In this role, he has been part of the Holocaust Geography Collaborative, an international team of scholars that has been exploring the use of GIS

and other digital methods to analyze central problems in the spatial history of the Holocaust, including issues rising from the built environment. He has worked most closely with Anne Kelly Knowles (University of Maine), co-authoring several presentations and essays with her, for example, as part of the anthology *Geographies of the Holocaust* (University of Indiana Press, 2014), the first volume on the use of GIS for the study of the Holocaust. This work has been funded by the National Science Foundation and the National Endowment for the Humanities, among other sources. They are currently working on an Historical GIS of the Ghetto System in Nazi Occupied Europe along with their colleague Anika Walke (Washington University). The Wired! project teams of *Mapping German Construction* and *Mapping Occupied Krakow* extend and complement this work. With Wired!, Jaskot is also part of the *Dictionary of Art Historians* team, as well as the *Visualizing Cities* collaborative.

From 2008-2010, he was the President of the College Art Association (CAA). With CAA, he has also participated in various task forces promoting the support of and guidelines for Digital Art History and its professional evaluation. He continues to be active with CAA and with the promotion of Digital Art History initiatives nationally.

SCHOLARSHIP

ARTICLES

Anne Kelly Knowles, Paul B. Jaskot, Tim Cole, and Alberto Giordano with assistance from Maël Le Noc, Paul Rayson, and Ian Gregory, "Mind the Gap: Reading Across the Holocaust Testimonial Archive," in Tim Cole and Simone Gigliotti, eds., *Lessons & Legacies XIV* (Evanston: Northwestern University Press, 2020): 216-41.

Jaskot, Paul B. "Digital Methods and the Historiography of Art." In Kathryn Brown, ed., *Digital Humanities and Art History* (London: Routledge, 2020): 9-17.

Jaskot, Paul B. "Digital Art History as the Social History of Art: Towards the Disciplinary Relevance of Digital Methods." *Visual Resources* 35, no. 1-2 (2019): 21-33. doi:10.1080/01973762.2019.1553651.

Jaskot, Paul B., Hannah L. Jacobs, Mark Olson, Victoria Szabo, and Edward Triplett. "Shaping the Discipline of Digital Art History: A recap of an advanced summer institute on 3-D and (geo)spatial networks." *The Iris*. December 19, 2018. <http://blogs.getty.edu/iris/shaping-the-discipline-of-digital-art-history/>.

Jaskot, Paul B. 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. doi:/10.1525/jsah.2017.76.4.483.

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

Jaskot, Paul B. and Anne Kelly Knowles. "Architecture and Maps, Databases and Archives: An Approach to Institutional History and the Built Environment in Nazi Germany." *The Iris*. February 15, 2017. http://blogs.getty.edu/iris/dah_jaskot-knowles/.

PRESENTATIONS

- Jaskot, Paul B. "Digital Art History in the Moment of Barbarism: The Iconography of COVID-19." Keynote for "Art History in Quarantine" (Virtual Conference), sponsored by the International Journal of Digital Art History. April 10, 2020.
- Jaskot, Paul B. "The Scale of Architecture During the Holocaust: Digital Methods for Analyzing Building and Planning Goals in the German Occupation of the East (1939-1945)." Keynote for "Digital Humanities und das NS-Regime" (Conference), University of Bern, Switzerland, December 12, 2019.
- Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. Presentation at "Coding Our Collection: Datathon," National Gallery of Art, Washington, DC, October 25, 2019.
- Jaskot, Paul B., et al. "Grand Challenges of Art History: Digital/Computational Methods and Social Art History." Colloquium convened at The Clark, Williamstown, MA, April 27, 2019.
- Jaskot, Paul B. "Visualizing Krakow under Nazi Occupation: Exploring Digital and Analog Methods to Analyze the Built Environment of the Holocaust." Emory University, Atlanta, March 28, 2019.
- Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel presentations at the College Art Association Conference, New York, NY, February 13, 2019.
- Jaskot, Paul B. "Visualizing Krakow under Nazi Occupation." Society of Fellows in the Humanities, Columbia University, New York City, February 7, 2019.
- Jaskot, Paul B. "A Plan, a Testimony, and a Digital Map: Analyzing the Architecture of the Holocaust." Anne Tanenbaum Centre for Jewish Studies, University of Toronto, Canada, March 12, 2018.
- Jaskot, Paul B. "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)." Paper presented at the Research Computing Symposium, Duke University, Durham, NC, January 22, 2018.
- Jaskot, Paul B., Anne Kelly Knowles, and Justus Hillebrand. "GIS and Corpus Linguistics: Mixed Digital Methods for the Exploration of Forced Labor in Krakow District Ghettos." Paper presented at Digital Approaches to Genocide Studies, USC Shoah Foundation, Los Angeles, CA, October 23, 2017.
- Jaskot, Paul B. "Using Digital Humanities to Understand the Architecture of the Holocaust." Paper presented at the Digital Art History Lab Lecture Series, The Frick Collection, New York, NY, October 17, 2017.

DISSERTATIONS & THESES

- Carrillo, Alan. "Modeling Ambiguity: An Analysis of the Paris Temple." MA thesis, 2019.
- Halberstadt, Brittany. "Exiles and Abstract Expressionists: A Case Study of Influence with Analog and Digital Methods." Undergraduate thesis, Duke University, 2020.
- Leon, Emily. "Analyzing the Crisis of Hilma af Klint: The Digital and Analog Analysis of Spirituality, Abstraction, and Art." MA thesis, Duke University, 2018.

Liu, Christine. "Mapping and Visualizing Testimonies of Spaces of Confinement: A Digital Analysis of the Kraków Ghetto." MA thesis, Duke University, 2019.

MARK J. V. OLSON

*Assistant Professor of the Practice of Art,
Art History & Visual Studies*



Mark J. V. Olson is Assistant Professor of the Practice of Visual & Media Studies at Duke University and a founding member of the Wired! Lab. His research and teaching focus on the historical and contemporary entanglements of medical practice and media technologies, as well as on the affordances of emerging technologies for the analysis and exhibition of historical material culture. He is currently collaborating with the Nasher Museum of Art on expanding their engagements with interactive media and developing an infrastructure for constructing immersive virtual exhibition experiences. He also collaborates with Duke's History of Medicine Collection and Department of Radiology on the micro-CT scanning and digital reconstruction of Duke's ivory manikin collection.

More broadly, Olson is interested in cultivating literacies in "critical making"—drawing on the critical and analytic repertoires of the theoretical and historical humanities while cultivating a deep understanding of and proficient practice with computational media, from code to circuit design to photogrammetry. A longtime contributor to the field of digital humanities, Olson is the former Director of New Media & Information Technologies for HASTAC (Humanities, Arts, Sciences & Technology Advanced Collaboratory) and the John Hope Franklin Center for Interdisciplinary & International Studies. He received his MA and PhD in Communication Studies and graduate certificate in Cultural Studies from the University of North Carolina at Chapel Hill.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

Olson, Mark J. V. "Hacking the Humanities: 21st Century Literacies and the 'Becoming-Other' of the Humanities." In *Humanities in the Twenty-First Century: Beyond Utility and Markets*, edited by E. Belfiore and A. Upchurch. New York: Palgrave Macmillan, 2013. doi:10.1057/9781137361356.

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Lanzoni, Kristin Huffman, Mark James-Vrooman Olson, and Victoria E. Szabo.

"Wired! and Visualizing Venice: Scaling up Digital Art History." *Artl@s Bulletin* 4, no. 1 (2015): Article 3.

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Bruzelius, Caroline, Mark J. V. Olson, Donatella Calabi, Andrea Giordano, Victoria E. Szabo. "Visualizing Venice." Panel presentation at "Florentia Illustrata. Digital Mapping and Techniques of Visualizing the Pre-modern Italian City," Kunsthistorisches Institut in Florenz – Max-Planck-Institut, Florence, Italy, June 17, 2013.

Bruzelius, Caroline, Mark J. V. Olson, Guillermo Sapiro, Mariano Tepper. "The Lives of Things." Paper presented at NED Talk, Nasher Museum of Art, Duke University, Durham, NC, October 4, 2015.

Dillon, Sheila, Mark J. V. Olson, and Raquel Salvatella de Prada. "Wired! New Representation Technologies for Historical Materials," Paper presented at C.H.A.T.: A Digital Arts and Humanities Festival, University of North Carolina at Chapel Hill, Chapel Hill, NC, February 17, 2010.

Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel presentations at the College Art Association Conference, New York, NY, February 13, 2019.

Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. Presentation at "Coding Our Collection: Datathon," National Gallery of Art, Washington, DC, October 25, 2019.

Olson, Mark J. V. "Digital Museums, Archives, and Publications." Panel moderated at the C.H.A.T. Festival 2012: Digital Arts + Humanities, Duke University, Durham, NC, February 7, 2012.

Olson, Mark J. V. "What is the Wired Lab? – Opportunities for Undergraduates." Presentation at the First Year Advisors Meeting, Duke University, Durham, NC, September 18, 2012.

Olson, Mark J. V. "Toward a Process Ontology for Digital Archives." Keynote presented at the North Carolina Preservation Consortium Annual Conference, Raleigh, NC, November 2, 2012.

Olson, Mark J. V. "Digital Technologies and the Social Life of Things: The Wired Lab at Duke University." Presentation as part of the panel "Connections and Transformations: New Technologies in the Arts and Humanities" at the Annual Meeting of the Southeastern College Art Conference. Greensboro, NC, November 1, 2013.

Olson, Mark J. V. "Mapping Space & Time – Configuring Connections, Trade & Travel, Past & Present." Roundtable moderated at the National Humanities Center, Research Triangle Park, NC, May 2, 2013.

Olson, Mark J. V. "Storytelling with Sources: Open Source Digital Humanities." Paper presented at Skidmore College, Saratoga Springs, NY, June 3, 2014.

Olson, Mark J. V. "Interactive Projection Mapping in the Museum: A Prototype."

Skidmore College. June 23, 2015

- Olson, Mark J. V. "Digital Cultural Heritage as Public Humanities Collaboration." Invited Panel Respondent. Annual Meeting of the College Art Association. Washington, DC. February 4, 2016.
- Olson, Mark J. V. "Apostles, Arches, and Anatomical Models." Public Panel Presentation. *The Lives of Cities: New Technologies for Research, Presentation, Training, and Documentation*. University of Padua, Italy. November 21, 2017.
- Olson, Mark J. V. "Advancing Digital Art History through Emerging Computational Paradigms." Panel Presentation. Annual Meeting of the College Art Association. New York, NY. February 13, 2019.
- Olson, Mark J. V., and Caroline Bruzelius. "Learning by Making: Digital Methods and the Wired! Experiment at Duke University." Paper presented at the Inaugural Lecture, Wesleyan Digital and Computational Knowledge Initiative, Wesleyan University, Middletown, CT, March 6, 2013.
- Olson, Mark J. V., Elizabeth P. Baltes, Erica Sherman, and Victoria E. Szabo. "Digital Scholarly Communication – Notes from the Wired! Lab for Digital Historical Visualization." Panel presented at the HASTAC 2011 Conference, Ann Arbor, MI, December 2, 2011.
- Szabo, Victoria E., Caroline Bruzelius, Maurizio Forte, Copper Frances Giloith, Louis P. Kaplan, Stefania Zardini Lacedelli, Radu Leon, Kerry Loewen, Diana Ndiaye, Mark J. V. Olson. "Digital Cultural Heritage as Public Humanities Collaboration." Session organized at the College Art Association Conference, Washington, DC, February 4, 2016.
- Szabo, Victoria E., Caroline Bruzelius, Maurizio Forte, Copper Frances Giloith, Louis P. Kaplan, Stefania Zardini Lacedelli, Radu Leon, Kerry Loewen, Diana Ndiaye, Mark J. V. Olson. "Digital Cultural Heritage as Public Humanities Collaboration." Session organized at the College Art Association Conference, Washington, DC, February 4, 2016.

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- Bruzelius, Caroline, Mark J. V. Olson, Guillermo Sapiro, Mariano Tepper. *The Lives of Things*. Nasher Museum of Art at Duke University. Fall 2015.
- McHugh, Julia, and Mark J. V. Olson. *Art of the Americas Interactive*. Nasher Museum of Art at Duke University. Winter 2020.

DISSERTATION & THESES

- DeVeaux, Cyan. "SculptAR: Exploring the Potential of Participatory Augmented Reality and Virtual Experiences in the Contemporary Art Museum." Undergraduate thesis, Duke University, 2020.
- Hung, Ju-Yu. "Immersive Projection: A Case Study on the Duke Chapel Interior." MA thesis, Duke University, 2018.
- Liu, Chang. "The Alife Bestiary: An AR Object Recognition Project on the Archivolt of Alife." MA thesis, Duke University, 2019.

LEE SORENSEN

*Librarian for Visual Studies and Dance,
Duke University Libraries*



Lee Sorensen received his graduate degrees in art history and library science both from The University of Chicago. Together with the late Lawrence Clark Powell he co-authored *Determined Donor: T. Edward Hanley* (University of Arizona, 1989). His articles include “Art Bibliographies: A Survey of their Development, 1595-1821” *Library Quarterly* (1986) and the entries on “Art Catalogs and Cataloging” (1996) and “Art Dealers” (2017) in the online *Grove Dictionary of Art/Oxford Art Online*, Oxford University Press. His essay on special collections in art libraries appeared in the *Handbook of Art Libraries* (2018). He served as the consultant for art historians for the *Cambridge Dictionary of American Biography* (1994). Professionally he served twice on the executive board of the Art Libraries Society of North America as well as that society’s web administrator for a similar time. For more than a score of years he has been art reference librarian and bibliographer at Duke University. He currently serves on the advisory board for Oxford University Press’ *Oxford Art Online*.

SCHOLARSHIP

PRESENTATIONS

Sorensen, Lee, and Hannah L. Jacobs. “Updates from the Dictionary of Art Historians.” Presentation at the Art Historians’ Archives Workshop, Getty Research Institute, January 28, 2019.

Sorensen, Lee. “The Dictionary of Art Historians: Relaunching a Research Tool.” Getty Research Portal, Art Libraries Society of North America, March 26, 2019.

Sorensen, Lee and Arnetta Girodeaux. “Image Acquisition and Copyright for Use in Scholarship.” Responsible Conduct of Research, Duke University Graduate School, February 26, 2018.

Sorensen, Lee. “Digital Image Research: Criteria and Acquisition for Scholars.” Triangle Research Libraries Network Conference, January 16th, 2017.

PUBLIC-FACING SCHOLARSHIP

Sorensen, Lee, ed. *Dictionary of Art Historians*. <https://arthistorians.info/>.

VICTORIA SZABO

Research Professor, Visual and Media Studies &
Program Director, Information Science + Information Studies



Victoria Szabo is Research Professor of Visual and Media Studies in the Department of Art, Art History & Visual Studies, Graduate Faculty in Computational Media Arts & Cultures, and affiliated with Innovation & Entrepreneurship. She is also the Program Director for Information Science + Information Studies, the Director of Graduate Studies for the MA in Digital Art History / Computational Media, and the Director of the Duke Digital Humanities Initiative at the John Hope Franklin Humanities Institute as well as Co-Director of the PhD Lab in Digital Knowledge. She is co-lead of the Bass Connections Information, Society & Culture theme. She is former co-Director of the Franklin Humanities Institute's GreaterThanGames Lab. Her interests are in digital media and cultures, in theory and in practice, with special attention to media history and its impact on received understandings of the past, and the ways in which critical engagement with new media and information technologies can transform our understandings of history, art, and culture. Her current projects focus on spatial and augmented reality technologies such as interactive maps, virtual worlds, games, and hybrid reality systems, and how they can be applied to humanities teaching and research. She is also interested in the digital remediation of historic archives and exhibitions into interactive experiences, and is a member of the *Visualizing Venice/Visualizing Cities* consortium, as well as a partner on the *NC Jukebox*, *Digital Durham*, *Visualizing Lovecraft*, and *Mapping Occupied Krakow* projects, among others. She co-creates media art projects with Psychasthenia Studio and also chairs the ACM SIGGRAPH Digital Arts Community. She holds a PhD in English from the University of Rochester and worked as a professional academic technology developer at Stanford before coming to Duke in 2006.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

Jacobs, Hannah L., Kathryn Wymer, Victoria E. Szabo, and W. Russell Robinson.

"A tale of two Durhams: how Duke University and North Carolina Central University are increasing access and building community through DH pedagogy." In *Debates in Digital Humanities Pedagogy*, edited by Brian Croxall and Diane Jakacki. Minnesota, MN: University of Minnesota Press, forthcoming.

Szabo, Victoria. "Apprehending the Past: Augmented Reality, Archives, and Cultural Memory." *The Routledge Companion to Media Studies and the Digital Humanities*. Ed. Jentery Sayers. Routledge. 2018. <https://dukespace.lib.duke.edu/dspace/handle/10161/19527>

Szabo, Victoria. "Collaborative and Lab-Based Approaches to 3D and VR/AR in the Humanities," in *3D/VR in the Academic Library: Emerging Practices and*

- Trends. Council of Library and Information Resources. 2019. <https://www.clir.org/wp-content/uploads/sites/6/2019/02/Pub-176.pdf>
- Szabo, Victoria. "Critical and Creative Approaches to Digital Cultural Heritage with Augmented Reality," in *The Routledge Companion to Mobile Media Art*. Eds. Larissa Hjorth, Adriana de Souza e Silva, and Klare Lanson. Routledge, 2020.
- Szabo, Victoria. "Guidebooks and Mobile Apps: A New Mode for Communication," and "Visualizing Venice Summer Workshops for Graduate Students and Beginning Scholars." *Visualizing Venice*. Routledge. 2017.

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- Lanzoni, Kristin Huffman, Mark James-Vrooman Olson, and Victoria E. Szabo. "Wired! and Visualizing Venice: Scaling up Digital Art History." *Artl@s Bulletin* 4, no. 1 (2015): Article 3.
- Jaskot, Paul B., Hannah L. Jacobs, Mark Olson, Victoria Szabo, and Edward Triplett. "Shaping the Discipline of Digital Art History: A recap of an advanced summer institute on 3-D and (geo)spatial networks." *The Iris*. December 19, 2018. <http://blogs.getty.edu/iris/shaping-the-discipline-of-digital-art-history/>.
- Timothy Senior, Victoria Szabo, and Florian Wiencek. "Digital Cities: A Collaborative Engagement With Urban Heritage," Scientific Paper Program from Digital Heritage 2013, Marseilles, France, IEEE and Eurographics. <https://ieeexplore.ieee.org/document/6744778>
- Szabo, Victoria, Stefania Zardini Lacedelli and Giacomo Pompanin, "From Landscape to Cities: a Participatory Approach to the Creation of Digital Cultural Heritage." *International Information & Library Review*. 2017. <https://doi.org/10.1080/10572317.2017.1314141>
- Szabo, Victoria. "Knowledge in 3D: How 3D Data Visualization is Reshaping Our World." *Parameters: Knowledge Under Digital Conditions*. Social Science Research Council. July 11, 2018. <http://parameters.ssrc.org/2018/07/knowledge-in-3d-how-3d-data-visualization-is-reshaping-our-world/> Featured as Editor's Choice at Digital Humanities Now. <http://digitalhumanitiesnow.org/>
- Szabo, Victoria. "Psychasthenia Studio and the Gamification of Contemporary Culture." *Media and Communication*. Vol 6, Issue 2. 2018. <http://dx.doi.org/10.17645/mac.v6i2.1351>
- Szabo, Victoria E. "Transforming Art History Research with Database Analytics: Visualizing Art Markets." *Art Documentation* 31, no. 2 (2012): 158-175. doi:10.1086/668109.

PRESENTATIONS

- Bruzelius, Caroline, and Victoria E. Szabo. "The Lives of Places and Cities: New models of representation and their conceptual implications for the past and present." Paper presented at Seminario Internazionale: Promosso dagli insegnamenti: Storia dell'architettura e Disegno edile, Università degli Studi di Padova, Padua, Italy, June 9, 11, and 16, 2014.
- Bruzelius, Caroline, Mark J.V. Olson, Donatella Calabi, Andrea Giordano, Victoria E. Szabo. "Visualizing Venice." Panel presentation at "Florentia Illustrata.

- Digital Mapping and Techniques of Visualizing the Pre-modern Italian City," Kunsthistorisches Institut in Florenz – Max-Planck-Institut, Florence, Italy, June 17, 2013.
- Jacobs, Hannah L., and Victoria Szabo. "Digital Archiving & Storytelling in the Classroom with Omeka & CurateScape." Digital Humanities 2016. Jagiellonian University, Kraków, Poland. July 12, 2016.
- Jacobs, Hannah L., Paul Jaskot, Mark J.V. Olson, Victoria E. Szabo, and Edward Triplett. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel presentations at the College Art Association Conference, New York, NY, February 13, 2019.
- Jacobs, Hannah L., Paul Jaskot, Mark J.V. Olson, Victoria E. Szabo, and Edward Triplett. Presentation at "Coding Our Collection: Datathon," National Gallery of Art, Washington, DC, October 25, 2019.
- Lanzoni, Kristin Huffman, and Victoria E. Szabo. "Wired! Approaches to Digital Scholarship." Paper presented at Symposium on Digital Cultures, Temple University Libraries, Philadelphia, PA, October 21, 2014.
- Olson, Mark J.V., Elizabeth P. Baltes, Erica Sherman, and Victoria E. Szabo. "Digital Scholarly Communication – Notes from the Wired! Lab for Digital Historical Visualization." Panel presented at the HASTAC 2011 Conference, Ann Arbor, MI, December 2, 2011.
- Szabo, Victoria E. "Augmented Humanities Practice: The Fluid Site of Annotation." Paper presented at the Society for Literature, Science and the Arts, Dallas, TX, October 11, 2014.
- Szabo, Victoria E. "Augmented Reality Experience Design for Digital Heritage." Paper presented at Università degli Studi di Padova, Padova, Italy, June 10, 2015.
- Szabo, Victoria E. "Augmented Reality Experience Design for Digital Heritage." Paper presented at Università degli Studi di Padova, Padova, Italy, June 21, 2016.
- Szabo, Victoria E. "Beyond Annotation (or Pokemon or Zombies) in Urban AR." Keynote at Association for Colleges of the Midwest VR Pedagogy Workshop. Grinnell College, Grinnell, IA. July 16, 2019.
- Szabo, Victoria E. "Building the Digital City: New Media Theory Meets Digital Humanities Practice." Paper presented at the HASTAC 2013 Conference, Toronto, Ontario, April 27, 2013.
- Szabo, Victoria E. "Collaborative Approaches to Digital Cultural Heritage," Vanderbilt University, Nashville, TN. March 18-19, 2019. Szabo, Victoria E. "Collaborative Approaches to Modeling the Past in 3D/VR: The Interdisciplinary Lab Model for Teaching, Research, and Public Outreach." Paper presented at the Council on Library and Information Resources 3D/VR Symposium. March 8, 2018.
- Szabo, Victoria E. "Contested Histories: Collaborative Approaches to Visualizing Cultural Heritage." Visualization and the Holocaust: Analyzing Space and Place with Digital Methods and Geographical, Textual, and Visual Sources. Duke University, 18 January 2019.
- Szabo, Victoria E. "Contested Histories: Cultural Heritage and the Digital Archive." Paper presented at Digital Humanities, Ursinus College, Collegeville, PA, October 30, 2018.

- Szabo, Victoria E. "Cultural Approaches to Digital Heritage." Paper presented at the Mellon Graduate Program in the Digital Humanities, University of Rochester, Rochester, NY, March 2, 2017.
- Szabo, Victoria E. "Decomposing the Disciplines." B³ - Bildung Beyond Boundaries, Part II: Beyond the Discipline. Academic Innovations and the Role of Inter and Trans Disciplinarity. Jacobs University. Bremen, Germany. 9 November 2018. Interview for Hochschulforum Digitalisierung (German Forum for Higher Education in the Digital Age): <https://hochschulforumdigitalisierung.de/de/blog/transdisciplinarity-education-interview-victoria-szabo> Szabo, Victoria E. "Digital Cultural Heritage as Public Humanities Collaboration." Paper presented at the College Art Association Conference, Washington, DC, February 5, 2016.
- Szabo, Victoria E. "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.
- Szabo, Victoria E. "The Humanities in 3D: Interdisciplinary Approaches to Digital Knowledge." Invited Speaker at Drew University, Madison, NJ. November 11, 2020.
- Szabo, Victoria E. "Humanities, Science & Technology: The Interdisciplinary Lab and the City." Paper presented at the PhD Academy on The Importance of Interdisciplinary Collaboration to Tackle Societal Challenges, Katholieke Universiteit Leuven, Leuven, Belgium, September 20, 2017.
- Szabo, Victoria E. "On Site and On Location: Digital Heritage and the 21st Century Museum." Paper presented at the Centre de Recerca i Debat. Museo D'Historia de Barcelona, Barcelona, Spain, June 26, 2014.
- Szabo, Victoria E. "The Presence of the Past: Augmented Reality for Digital Heritage." Paper presented at Bucknell University, Lewisburg, PA, March 26, 2015.
- Szabo, Victoria E. "The Virtual in the Digital: Post-DH Approaches to Collaborative Scholarly Practice." Michigan State University Digital Humanities Distinguished Lecture. October 6, 2020.
- Szabo, Victoria E. "Visual Studies and Digital Humanities." Paper presented as part of the 20th Anniversary of Visual and Cultural Studies Series, University of Rochester, Rochester, NY, March 30, 2010 – April 1, 2010.
- Szabo, Victoria E. "Visualizing Cities: Representing the Past with Augmented Reality." Speaker at UNC-Wilmington. Wilmington, DC. October 31, 2019.
- Szabo, Victoria E. "Visualizing the City: Objects, Landscapes, Networks." Paper presented at the Centre de Recerca i Debat, Museo D'Historia de Barcelona, Barcelona, Spain, July 5, 2017.
- Szabo, Victoria E. "Visualizing the Past: Database-Driven Exploration in Hybrid Reality Systems." Paper presented at the Digital Humanities Symposium, Center for Disciplinary Innovation, University of Chicago, Chicago IL. January 13-14, 2014.
- Szabo, Victoria E. "Visualizing Venice: Digital Cultural Heritage Concepts and Opportunities." Plenary Lecture presented at VRIJE Universiteit, Amsterdam, Netherlands, November 1, 2016.
- Szabo, Victoria E., Caroline Bruzelius, Maurizio Forte, Copper Frances Giloth,

Louis P. Kaplan, Stefania Zardini Lacedelli, Radu Leon, Kerry Loewen, Diana Ndiaye, Mark J.V. Olson. "Digital Cultural Heritage as Public Humanities Collaboration." Session organized at the College Art Association Conference, Washington, DC, February 4, 2016.

Szabo, Victoria E., Ciara Capulli, Cristina Mosconi, Estefanía López-Salas, Burcak Ozludil, Edward Triplett, and Augustus Wendell. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel discussion at the College Art Association Conference, Chicago, IL, February 13, 2020.

PUBLIC-FACING SCHOLARSHIP

Rudinsky, Joyce and Victoria Szabo. Psychasthenia Series. <http://pyschasthenia-studio.com>

Szabo, Victoria, Paolo Borin, and Ludovica Galeazzo. Ghett / App. https://www.guidigo.com/Tour/Italy/Venice/GHETT-APP-English/iHuiQo6s_kk.

JOHN J. TAORMINA

*Curator of Visual Resources,
Department of Art, Art History & Visual Studies*



John J. Taormina received his BA in Art History from John Carroll University and MA in Art History from George Washington University. From 1982-1999, he was head of the visual resources / image collections at George Washington University, Oberlin College, The Ohio State University, and the University of Michigan. Since 2000 Taormina has been the curator of visual resources in the Department of Art, Art History & Visual Studies at Duke. As the head of the Visual Media Lab at Duke, he oversees all aspects of the extensive digital and analog image collections. He also manages the department's communication program and the department's exhibition spaces in Smith Warehouse.

Taormina served for ten years as editor of the *VRA Bulletin*, the professional journal of the Visual Resources Association (VRA), the international organization of image media professionals, and served on the VRA Executive Board for seven years. In 2005 he received both the Distinguished Service Award and the Nancy DeLaurier Achievement Award from the Visual Resources Association.

Taormina has been the metadata and image consultant to the *Medieval Kingdom of Sicily Image Database* project since its inception in 2011. In 2015, he co-organized with Caroline Bruzelius the Wired! symposium, "Apps, Maps & Models: Digital Pedagogy and Research in Art History, Archaeology & Visual Studies." Since 2018, he has been part of the *Building Duke Bass Connections* project team. After three years of research,

John published his 150-page Digital Humanities Bibliography in 2019, with ongoing revisions and additions.

SCHOLARSHIP

PUBLICATIONS

- Taormina, John J. *VRA Bulletin*. Guest Editor, special issue on “Digital Humanities and the Visual,” (44:2, Winter 2016).
- Taormina, John J. Review: Anne Burdick, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp, *Digital_Humanities* (Cambridge: MIT Press, 2012) in *VRA Bulletin* 43:2 (Winter 2016).
- Taormina, John J. *VRA Bulletin*, Guest Editor, special issue on “New Directions, New Challenges,” (37:2, Summer 2010).
- Taormina, John J. *VRA Bulletin*, Guest Editor, special issue on “Digital Collaborations,” (35:2, Summer 2008).

PRESENTATIONS

- Bruzelius, Caroline, William Broom, and John Taormina. “The Medieval Kingdom of Sicily Image Database Project: From Conceptual Design to Management.” Paper presented at Digital Matters in Medieval and Renaissance Studies, Duke University, Durham, NC, April 6-7, 2018.
- Taormina, John J. “Project Creation: Making Concept into Reality,” in The Medieval Kingdom of Sicily Image Database Project: From Conceptual Design to Management. Symposium on Digital matters in Medieval and Renaissance Studies. Duke University, April 2018.
- Taormina, John J. “Reconfiguring Knowledge: Making the Digital Humanities Visual.” Session Organizer and Moderator. Annual Meeting of the Southeastern College Art Conference, Pittsburgh, PA, October 2015.
- Taormina, John J. Digital Humanities Special Interest Group. Co-organizer and Co-moderator. Visual Resources Association annual conference, Denver, Co, March 2015.
- Taormina, John J. “Cultural Heritage in a Computational Environment: Making the Digital Humanities Visual.” Session Co-organizer and Co-moderator. Visual Resources Association annual conference, Denver, Co, March 2015.
- Taormina, John J. and Jenni Rodda. “Cultural Heritage in a Computational Environment: Making the Digital Humanities Visual.” Session organized at the Annual meeting of the Visual Resources Association, Denver, CO, March 2015.
- Taormina, John J. “The Politics of Change: Digital Humanities and the Visual Arts.” Session organizer. Art Libraries Society of North America annual conference. March 2014. Washington, DC.
- Taormina, John J. “Digital Technologies and the Visual Arts: Reconfiguring Knowledge in the Digital Age.” Paper presented as part of the panel “Making the Digital Humanities Visual: Opportunities and Case Studies” at the Annual meeting of the Visual Resources Association, Providence, RI, April 2013.
- Taormina, John J., and Mark Pompelia. “Connections and Transformations: New Technologies in the Arts and Humanities.” Session organized at the Annual

Meeting of the Southeastern College Art Conference, Greensboro, NC, October 2013.

Taormina, John J., and Mark Pompelia. "Enhancing Education Beyond the Classroom Experience via Digital Technologies." Session organized at the Annual meeting of the Visual Resources Association, Providence, RI, April 2013.

Taormina, John J., and Mark Pompelia. "When the Past Collides with the Present: Moving Beyond the Single Classroom Experience via Digital Technologies." Session organized at the Annual Meeting of the Southeastern College Art Conference, Durham, NC, October 2012.

PUBLIC-FACING SCHOLARSHIP

Taormina, John J., with Alexander Strecker, Katherine McCusker, and Michael O'Sullivan. *A Digital Humanities Bibliography*. 2019.

Bruzelius, Caroline, and Paola Vitolo, et al. *The Medieval Kingdom of Sicily Image Database*. 2011-present. <http://kos.aahvs.duke.edu/index.php>.

EDWARD TRIPLETT

Lecturing Fellow in Art, Art History & Visual Studies



Ed Triplett received a PhD in Art and Architectural History from the University of Virginia in 2015. He also has an MFA in 3D Modeling and Animation from Savannah College of Art and Design, and an MA in History & Museum Studies from the University of Delaware. His dissertation focused on fortress-monasteries and castles occupied by Iberia's military-religious orders, and he continues pursuing his two main interests: medieval architecture and historical and cultural visualization. Ed teaches courses on historical mapping, medieval castles, and Gothic cathedrals. He is working on a book manuscript about the role castles played in the formation of borders in Medieval Iberia. His publications include an article about his current Wired! project *The Book of Fortresses* in *Creating Place in Early Modern European Architecture*, (2021) a chapter in *Digital Methods and Remote Sensing in Archaeology* discussing historical uses of photogrammetry and 2D and 3D viewshed analysis (2016), and an article for a special issue of *Historical Geography* discussing architectural projections of power and influence on medieval Iberia's fluctuating frontier (2017).

Ed originally came to Duke as a Council on Library and Information Resources (CLIR) Postdoctoral Fellow tasked with data curation for visual studies in 2015, and he continues to work with the Wired! Lab and other digital scholarship groups on campus. His collaborative digital project seeks to spatially reconstruct *The Book of Fortresses*—a

bound collection of perspective drawings and plans of 58 castles on the border between the kingdoms of Portugal and Spain in 1509-1510.

SCHOLARSHIP

BOOKS & BOOK CHAPTERS

- Triplett, Edward. "Drawing Borders with Castles and Maps—Making Sense of the 16th Century Livro das Fortalezas." In *Creating Place in Early Modern European Architecture*. Amsterdam: Amsterdam University Press, 2021.
- Triplett, Edward. "Visualizing Medieval Iberia's Contested Space through Multiple Scales of Visibility Analysis." In *Remote Sensing Current Methods and Applications*, edited by Maurizio Forte and Stefano Campana. New York: Springer, 2017.

ARTICLES

- Jaskot, Paul B., Hannah L. Jacobs, Mark Olson, Victoria Szabo, and Edward Triplett. "Shaping the Discipline of Digital Art History: A recap of an advanced summer institute on 3-D and (geo)spatial networks." *The Iris*. December 19, 2018. <http://blogs.getty.edu/iris/shaping-the-discipline-of-digital-art-history/>.
- Triplett, Edward. "Mapping Spheres of Influence on Medieval Iberia's Religious Frontier via Viewshed Analysis and Cost-Distance Analysis." *Historical Geography* 45 (2017): 66-91.

PRESENTATIONS

- Triplett, Edward. "Maps and Views, Plans and Landscapes: The Capabilities of 3D GIS in Liberal Arts Teaching and Research." Keynote Paper for "Fostering Humanistic Tools for Digital Mapping" ACM Faculty Career Advancement Program at St. Olaf College, Northfield, MN, July 2019.
- Jacobs, Hannah L., Paul Jaskot, Mark J.V. Olson, Victoria E. Szabo, and Edward Triplett. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel presentations at the College Art Association Conference, New York, NY, February 13, 2019.
- Triplett, Edward. "Borders and Panoramas in Early Modern Portugal: Integrating Architectural and National-Scale Spatial Analyses with 3D GIS." in "DH in 3D: Multidimensional Research and Education in the Digital Humanities." American Historical Association Annual Meeting, Chicago, IL, January 2019.
- Jacobs, Hannah L., Paul Jaskot, Mark J.V. Olson, Victoria E. Szabo, and Edward Triplett. Presentation at "Coding Our Collection: Datathon." National Gallery of Art, Washington, DC, October 25, 2019.
- Szabo, Victoria E., Ciara Capulli, Cristina Mosconi, Estefanía López-Salas, Burcak Ozludil, Edward Triplett, and Augustus Wendell. "Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks." Panel discussion at the College Art Association Conference, Chicago, IL, February 13, 2020.
- Triplett, Edward. "The Book of Fortresses: An Early Modern Visualisation of a Historical Buffer-Zone." Paper presented at Digital Matters in Medieval and Renaissance Studies, Duke University, Durham, NC, April 6-7, 2018.
- Triplett, Edward. "Drawing Borders with Castles and Maps—Making Sense of

the 16th Century Livro das Fortalezas." Paper presented at The Spaces of Early Modern Architectural Production, Max-Planck-Institute für Wissenschaftsgeschichte, Berlin, Germany, May 17, 2018.

Triplett, Edward. "Historical Mapping in Three Dimensions: Obstacles and Opportunities" in "Geographical History: From Maps as Documents to Maps as Method." Panel presented and co-organized with Susan Gagliardi at the American Association of Geographers conference, Boston, MA, April 2017.

Triplett, Edward. "Recontextualizing Decades-old Excavation Materials Through 3D Visualization." Paper presented at Computer Applications in Archaeology Conference, Atlanta, GA, March 2017.

PUBLIC-FACING SCHOLARSHIP

Stern, Philip J., and Edward Triplett. "The Sandcastle Workflow." A malleable mapping system for premodern maps and views. NEH Level II grant funding from the Office of Digital Humanities. <https://www.sandcastle3d.org/>.

Triplett, Edward. Book of Fortresses. <http://www.bookoffortresses.org/>.

GRANTS & AWARDS

NEH Level II Digital Humanities Advancement Grant (2019-2021)

AUGUSTUS WENDELL

*Assistant Professor of the Practice,
Computational Media*



Augustus Wendell, Assistant Professor of the Practice, researches the application of digital spatial modeling and analysis in historical studies. He brings several decades of experience in the modeling and simulation of complex spaces to the lab. On the *Building Duke* project he is working with students on the creation and programming of an interactive 3D model of the Duke University historical development. Both *Deconstructing Urban Visions: Computational Analysis of Aerial Engravings* and *Modeling Agency: Historical Agent Based Modeling* feature the ongoing development of originally programmed 3D spatial analysis tools. Augustus enjoys overlapping the orbit of computational humanist inquiry with students of Computer Science and Mathematics. He has an MFA in Computer Art from The School of Visual Arts and a BS from Northeastern University. Augustus has also held appointments at the New Jersey Institute of Technology, Parsons the New School for Design, The New York School of Interior Design and Virginia Tech.

SCHOLARSHIP

ARTICLES

Wendell, Augustus, Ozludil, Burcak and López-Salas, Estefanía. "Calculating Movement - An Agent Based Modeling System for Historical Studies", Sousa, JP, Xavier, JP and Castro Henriques, G (eds.), *Architecture in the Age of the 4th Industrial Revolution - Proceedings of the 37th eCAADe and 23rd SIGraDi Conference - Volume 1*, University of Porto, Porto, Portugal, 11-13 September 2019, pp. 541-550

PRESENTATIONS

Wendell, Augustus; Ozludil, Burcak. "Agent-Based Modeling in Art History: Simulating an Insane Asylum" Digital Humanities 2019 Conference, Utrecht, the Netherlands

Wendell, Augustus; Ozludil, Burcak. "Living Beings and Movement in Historical Space: Opportunities in Agent-based Modeling" CAA 2020 Conference, Chicago, Illinois, USA



Caroline Bruzelius and Shiela Dillon

SELECT COLLABORATIVE SCHOLARSHIP 2014-PRESENT

WIRED! LAB

ARTICLES

Lanzoni, Kristin Huffman, Mark James-Vrooman Olson, and Victoria E. Szabo.

“Wired! and Visualizing Venice: Scaling up Digital Art History.” *Artl@s Bulletin* 4, no. 1 (2015): Article 3.

PRESENTATIONS

Baltes, Elizabeth P., Caroline Bruzelius, Hannah L. Jacobs, and Timothy Shea. “Digital Thinking and Art History: Re-Imagining Teaching, Research, and the Museum.” Paper presented as part of the Intermezzo Speaking Series, Art, Art History & Visual Studies, Duke University, Durham, NC, September 29, 2015.

Bruzelius, Caroline, and Rachael Brady. “Digital Technology and the Humanities,” Paper presented at Mount Holyoke College and University of Massachusetts, Amherst, MA, 2012.

Dillon, Sheila, Mark J. V. Olson, and Raquel Salvatella de Prada. “Wired! New Representation Technologies for Historical Materials,” Paper presented at C.H.A.T.: A Digital Arts and Humanities Festival, University of North Carolina at Chapel Hill, Chapel Hill, NC, February 17, 2010.

Huffman, Kristin L. “Wired! & Visualizing Venice.” College Art Association, Chicago, February 2014.

Huffman, Kristin L. “Wired! and Visualizing Venice: Scaling up Digital Art History.” Temple, Philadelphia, PA, 2014.

Jacobs, Hannah L. “Wired! Lab for Digital Art History & Visual Culture.” VIS4DH. October 25, 2020. <https://vis4dh.dbvis.de/schedule/>.

Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. “Advanced Topics in Digital Art History: 3D (Geo)Spatial Networks.” Panel presentations at the College Art Association Conference, New York, NY, February 13, 2019.

Jacobs, Hannah L., Paul Jaskot, Mark J. V. Olson, Victoria E. Szabo, and Edward Triplett. Presentation at “Coding Our Collection: Datathon,” National Gallery of Art, Washington, DC, October 25, 2019.

Jaskot, Paul B., Hannah L. Jacobs, Mark Olson, Victoria Szabo, and Edward Triplett. “Shaping the Discipline of Digital Art History: A recap of an advanced summer institute on 3-D and (geo)spatial networks.” *The Iris*. December 19, 2018. <http://blogs.getty.edu/iris/shaping-the-discipline-of-digital-art-history/>.

Lanzoni, Kristin Huffman, and Victoria E. Szabo. “Wired! Approaches to Digital Scholarship.” Paper presented at Symposium on Digital Cultures, Temple University Libraries, Philadelphia, PA, October 21, 2014.

Olson, Mark J. V. “What is the Wired Lab? – Opportunities for Undergraduates.” Presentation at the First Year Advisors Meeting, Duke University, Durham, NC, September 18, 2012.

Olson, Mark J. V., and Caroline Bruzelius. "Learning by Making: Digital Methods and the Wired! Experiment at Duke University." Paper presented at the Inaugural Lecture, Wesleyan Digital and Computational Knowledge Initiative, Wesleyan University, Middletown, CT, March 6, 2013.

Szabo, Victoria E., Caroline Bruzelius, Maurizio Forte, Copper Frances Giloth, Louis P. Kaplan, Stefania Zardini Lacedelli, Radu Leon, Kerry Loewen, Diana Ndiaye, Mark J.V. Olson. "Digital Cultural Heritage as Public Humanities Collaboration." Session organized at the College Art Association Conference, Washington, DC, February 4, 2016.

PUBLIC-FACING SCHOLARSHIP

Abel, Trudi, and Victoria Szabo. *Digital Durham*. <https://digitaldurham.duke.edu/>.

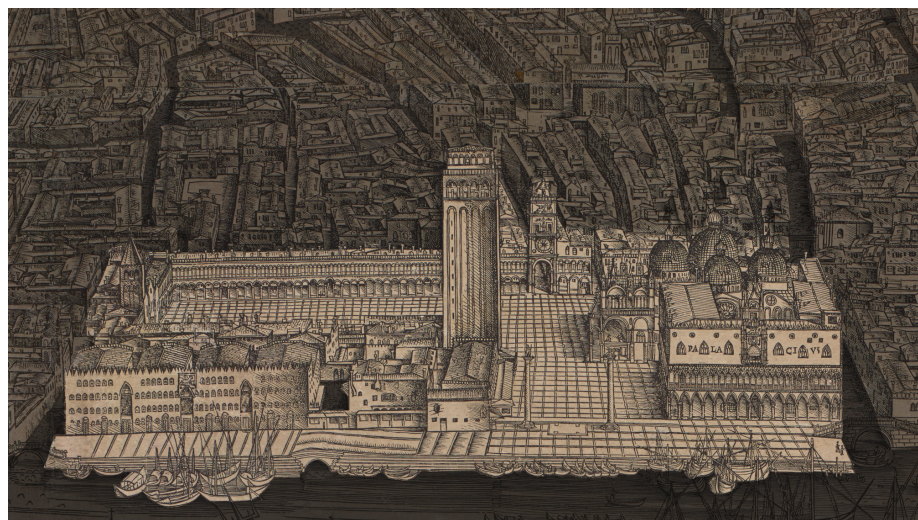
Bruzelius, Caroline, and Paola Vitolo, et al. *The Medieval Kingdom of Sicily Image Database*. 2011-present. <http://kos.aahvs.duke.edu/index.php>.

Sorensen, Lee, ed. *Dictionary of Art Historians*. <https://arthistorians.info/>.

Stern, Philip J., and Edward Triplett. "The Sandcastle Workflow." A malleable mapping system for premodern maps and views. NEH Level II grant funding from the Office of Digital Humanities. <https://www.sandcastle3d.org/>.

Taormina, John J., with Alexander Strecker, Katherine McCusker, and Michael O'Sullivan. *A Digital Humanities Bibliography*. 2019.

Triplett, Edward. *Book of Fortresses*. <http://www.bookoffortresses.org/>.



caption forthcoming

VISUALIZING VENICE/VISUALIZING CITIES

BOOKS & BOOK CHAPTERS

- Huffman, Kristin L., Andrea Giordano, and Caroline Bruzelius, eds. *Visualizing Venice: Mapping and Modeling Time and Change in a City*. New York: Routledge, 2019.
- Bruzelius, Caroline. "Visualizing Venice: An International Collaboration." In *Lo spazio narrabile. Scritti di storia in onore di Donatella Calabi*, edited by Rosa Tamborrino and Guido Zucconi, 155-160. Venice: Quodlibet, 2014.

ARTICLES

- Cecchini, Laura Moure. "The "Mostra del Quarantennio" and the Canon of Modern Art at the Venice Biennale in the Interwar Period." In "Museums and Exhibitions between WWI and WWII," special issue, *Il Capitale Culturale, Studies on the Value of Cultural Heritage* 14 (2016): 223-252. doi:10.13138/2039-2362/1387.
- Huffman, Kristin L., "Banquets, Parades, Games and Festivals," in *Acqua e Cibo (Water and Food): storie della laguna e della città*, eds. Donatella Calabi and Ludovica Galeazzo. Venice: Marsilio, 2015: 184-89.
- Huffman, Kristin L. Twelve Catalogue Entries in *Acqua e Cibo (Water and Food): storie della laguna e della città*, eds. Donatella Calabi and Ludovica Galeazzo. Venice: Marsilio, 2015: 190-193; 196-204; 207.
- Lanzoni, Kristin Huffman, Mark James-Vrooman Olson, and Victoria E. Szabo. "Wired! and Visualizing Venice: Scaling up Digital Art History." *Artl@s Bulletin* 4, no. 1 (2015): Article 3.

PRESENTATIONS

- Bruzelius, Caroline. "Visualizing Venice: The Story of a City Through Maps and Models." Paper presented at Save Venice Boston, Boston, MA, February 6, 2018.
- Bruzelius, Caroline. "Visualizing Venice." Paper presented at the Digital Art History Symposium, National Gallery of Art, Washington, DC, November 2014.
- Bruzelius, Caroline, Mark J. V. Olson, Donatella Calabi, Andrea Giordano, Victoria E. Szabo. "Visualizing Venice." Panel presentation at "Florentia Illustrata. Digital Mapping and Techniques of Visualizing the Pre-modern Italian City," Kunsthistorisches Institut in Florenz – Max-Planck-Institut, Florence, Italy, June 17, 2013.
- Bruzelius, Caroline, and Victoria E. Szabo. "The Lives of Places and Cities: New models of representation and their conceptual implications for the past and present." Paper presented at Seminario Internazionale: Promosso dagli insegnamenti: Storia dell'architettura e Disegno edile, Università degli Studi di Padova, Padua, Italy, June 9, 11, and 16, 2014.
- Bruzelius, Caroline, Mark J.V. Olson, Donatella Calabi, Andrea Giordano, Victoria E. Szabo. "Visualizing Venice." Panel presentation at "Florentia Illustrata. Digital Mapping and Techniques of Visualizing the Pre-modern Italian City," Kunsthistorisches Institut in Florenz – Max-Planck-Institut, Florence, Italy, June 17, 2013.
- Di Stefano, Chiara, Laura Moure Cecchini, and Kristin L. Huffman. "Between the Ephemeral and the Virtual: Reactivating Art Installations through Digital

- Reconstructions." Panel organized at the College Art Association Conference, Washington, DC, February 3-6, 2016.
- Dodson, Alexandra, and Erica Sherman. "Visualizing Venice." Poster presented at the College Art Association Annual Conference, Los Angeles, CA, February 22-25, 2012.
- Dundas, Iara, and Elizabeth Narkin. "How Can Visualization Technologies Help Us to Teach and Learn Architectural History?" Paper presented as part of the panel "Connections and Transformations: New Technologies in the Arts and Humanities" at the Annual Meeting of the Southeastern College Art Conference (SECAC), Greensboro, NC, November 1, 2013.
- Gianighian, Giorgio, and Erica Sherman. "Robotics and Cultural Heritage." Paper presented at RICH 2012: Robotics Innovation for Cultural Heritage, Venice, Italy, December 3-4, 2012.
- Huffman, Kristin L. "Wired! & Visualizing Venice." College Art Association, Chicago, February 2014.
- Huffman, Kristin L. "Wired! and Visualizing Venice: Scaling up Digital Art History." Temple, Philadelphia, PA, 2014.
- Lanzoni, Kristin Huffman. "Visualizing Venice: Digital Tools & Urban History," Berlin, Germany, March 2015.
- Sherman, Erica, and Alexandra Dodson. "Visualizing Venice: Tracking Historical Change with New Technologies." Paper presented at ICERI (International Conference of Education, Research and Innovation), Madrid, Spain, November 14-16, 2011.
- Szabo, Victoria. "Visualizing Venice: Digital Cultural Heritage Concepts and Opportunities." Plenary Lecture presented at VRIJE Universiteit, Amsterdam, Netherlands, November 1, 2016.

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& VISUAL CULTURE
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<https://reports.dahvc.org/2021>
<https://dahvc.org>

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