5-2013

Sharing Credit: Public Historians and Scientists Reflecting on Collaboration

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Publication Info
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Abstract: Recent work by the NCPH, OAH, and AHA has raised the profile of challenges in evaluating collaborative research during the tenure and promotion process. Although it is acknowledged that most public historians work in collaborative partnerships, few resources dissect the nature of those collaborations and how they should be credited. This article focuses on a single case study, the development of the history of science exhibit Imaging the Invisible, a collaboration among faculty, staff, and students (both graduate and undergraduate). It was also an interdisciplinary project with representation from at least seven different departments and programs in the humanities, social sciences, sciences, and engineering. This collaborative article reflects on the project, giving four perspectives on how credit can be shared. It also draws attention to the similarities and differences between the nature of collaborative projects in public history and in the physical sciences and considers what each discipline can learn from the other.

Key words: coauthor, collaboration, credit, science, CV, resume

Introduction

This article began as a brief email from Allison to Sarah in September 2011, thinking we could quickly pull together a short three thousand word
“Report from the Field” on our experience in collaborating on the exhibit *Imaging the Invisible*. Our project involved the cooperation of historians, scientists, engineers, anthropologists, and artists, and we thought it would be interesting to examine the different disciplinary approaches to sharing or claiming credit. As soon as we started working on it, though, we realized the scope of our line of questioning was much bigger than we initially realized. As much as *The Public Historian* and NCPH are supportive of collaborative projects, there is little practical advice within the pages of this journal on how to make collaborative projects work or how to document one’s level of participation in a collaboration. Two years and ten thousand words later, we are still trying to reconcile our experiences with our expectations.

This article tracks the reflections of a historian, a biologist, an art historian, and a graduate student (history) on each of their experiences with the development of the exhibit. From this single case study, we hope to expand the ongoing conversation of what works in collaboration by seeing what public historians may want to borrow from scientists and where we may want to venture alone. As public historians, readers of *TPH* often pride ourselves on collaboration. Whether through nurturing community outreach, partnering with guest curators on exhibits, or coauthoring national register nominations, most of us embrace opportunities to work collectively and maintain the belief that it ultimately produces stronger scholarship. It may come as a surprise, then, to realize that between 2007 and 2011, only 14% of articles published in *The Public Historian* listed two or more authors. Out of 119 articles, roundtables, and reports from the field, one hundred were written by a single author. If we take satisfaction in valuing the collaboration of our work, such recognition clearly has its limits in the journal that purports to be the voice of the public history profession.²

Compare these numbers to the 208 articles published during the same time period in *Public Understanding of Science*, a quarterly journal that analyzes public perceptions of the sciences. *Public Understanding of Science* is a peer-reviewed, international journal with authors coming primarily from the natural sciences and social sciences, although humanities scholars contribute articles on occasion. Similar to *The Public Historian*, it evaluates how scholars can reach non-academic audiences. Between 2007 and 2011, 61% of articles cited two or more authors. For other journals in the physical or biological sciences, the percentage is even greater.

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<th>2007-2011</th>
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<td><em>The Public Historian</em></td>
<td>84%</td>
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<td><em>Public Understanding of Science</em></td>
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². *The Public Historian* staff note that the numbers reflect the proportion of submissions; *TPH* simply does not receive many multi-authored articles.

³. 1.5% of articles in *The Public Historian* did not list authors. The sample did not include letters to the editor, responses by the editor, or book and exhibit reviews.
Coauthorship in the sciences has risen steadily since World War II. According to a 2007 study of 19.9 million papers and 2.1 million patents created during the past five decades, teams have increasingly dominated over individuals in publications among all fields in the sciences, social sciences, and engineering. In the arts and humanities, however, single authors still produce over 90% of published papers. This discrepancy points to puzzling questions regarding the nature of sharing credit in our respective fields. What payoff exists for science researchers and scholars to collaborate that is not present for public historians? How can public historians celebrate teamwork while still acknowledging individual achievement? And what can public historians learn from their scientific peers in publicly recognizing the collaborative nature of their work?

The advent of big science—the vast increase in cost, scale, and complexity of scientific ventures over the course of the twentieth century—has led to large-scale organizational structures spanning industry, government, and the academy. With many projects now mandating costly instrumentation, specialized expertise, and multi-institutional funding, collaboration has become less of an option and more of a requirement. At the same time, the steady growth of partnerships within fields not as reliant on expensive equipment or elaborate laboratory setups such as sociology, mathematics, and economics demonstrates that big science alone cannot account for the increase in co-authorship. Factors such as heightened specialization in the scientific community, pressure to publish for career advancement (particularly articles highlighting the latest breakthroughs in research), and cheaper modes of communication between partners also undoubtedly contribute to this growing trend.


5. Wuchty, Jones, and Uzzi, "The Increasing Dominance of Teams in Production of Knowledge."

6. The authors recognize the vastness of the terms “public historian” and “scientist.” For this article, we are particularly focusing on public historians who work within museum settings and physical scientists who work in a laboratory environment. Even so, we realize that we are making an oversimplification of the nuances of the disciplinary norms.

trend. The payoff for coauthorship is clear. Not only are scientists publishing more frequently, but articles with multiple authors are also cited more frequently than those with sole authorship.\textsuperscript{8}

In some respects, working in the field of public history shares greater similarities to operating a laboratory than it does to the work of academic historians. Both public historians and scientists are often project-oriented and rely on partnerships to fulfill time-sensitive goals. Both fields require strong leadership to create a shared vision in guiding teamwork. Public historians and scientists regularly work with people offering a range of specialties and abilities, whether students, volunteers, part-time workers, or field specialists. And both groups are beholden to specific stakeholders, such as grant-funding agencies or public constituents, to fulfill their mission. In addition, individuals in both fields openly acknowledge the sheer messiness and complexity of the work that they do, even if the disciplines as a whole do not always reflect it. Doing collaborative work usually consists of significant cooperation as well as a foundation of trust with one’s partners.

Whereas the sciences recognize these collaborations in their published works, the rewards system for historians (at least in the academy) still prizes individual research more than group-oriented projects. According to a survey conducted by the American Academy of Arts and Sciences (AAAS), publications were considered vitally important as criterion for tenure in 67\% of history departments surveyed. In contrast, only 25\% classified public service as essential in decisions for tenure.\textsuperscript{9} Although many departments may informally applaud teamwork, formal structures still lag behind in acknowledging its importance. These problems do not reside only in academic settings. Many public historical institutions also continue to struggle with developing a professional rewards system that fairly evaluates collaborative work.

Despite this situation for historians working within the academy,\textsuperscript{10} it still fails to account for the lack of collaborative publications in \textit{The Public Historian}. Looking at the multiauthored articles shows a few trends. Foremost, there is a strong international representation; seven of the nineteen articles


\textsuperscript{10} The authors recognize that this is a sweeping statement and that NCPH, OAH, and AHA have made great strides in recent years in recognizing the various forms in which historical research is created and disseminated. We know that public history work, and its collaborative nature, is gaining a foothold within the academy, but we also know that it is not yet universally accepted as equal work.
were written by non-Americans, representing Britain, Canada (two articles), Chile, Italy, Lithuania, and South Africa. Historians of medicine also make a strong showing with five articles, although four of those come from a single issue that focused on eugenics. Finally, there were eight articles that focused on difficult history or hidden history, from apartheid to terrorism, although again that category includes the four eugenics articles. These groupings raise questions of coauthorship within different communities of practice. Do some content areas privilege coauthorship? Why do American public historians seemingly not prioritize coauthoring articles when it comes to their professional writings? Or, as we might suspect, do collaborative groups simply decide not to publish reports on their accomplishments?

This article dissects one example of group collaboration in order to pinpoint the opportunities and challenges that arise in sharing credit for public historians. The case at hand is the development of the exhibit *Imaging the Invisible*, which opened in 2011 at McKissick Museum at the University of South Carolina. Although a single case study cannot alone address the complexities of collaboration, the highly interdisciplinary nature of this exhibit provides an apt entry point for starting the discussion. The exhibit featured work among scientists and artists, and the development team consisted of historians, anthropologists, artists, scientists, and engineers and included professors, students (both graduate and undergraduate), and museum staff. In sharing perspectives from four different team members, this article offers insight into the dynamics of group teamwork and the ways in which these team members have navigated taking credit for their contributions. It calls on public historians to consider new ways of acknowledging group work by looking to the sciences for a different model in sharing credit, while at the same time understanding the limits of collaborations.

**Case Study: Imaging the Invisible**

*Imaging the Invisible* was a two thousand square foot temporary exhibit at the University of South Carolina’s McKissick Museum, on display during the fall semester of 2011. The exhibit provided an episodic survey of the history of scientific imaging technology from optical light microscopes to nanotechnology. It asked visitors to question if technology has changed how scientists formulate research questions and how the general public visualizes scientific findings. The exhibit investigated the changing meaning of data representation and challenged visitors to reflect on the proliferation of scientific images in the popular media. The exhibit coupled a broad history of science with a strong local focus by incorporating “Spotlight on USC” panels that featured current research by professors at the University of South Carolina. Using specific

11. The exhibit *Imaging the Invisible*, as well as the writing of this article, was supported by the National Science Foundation under Grant No. #SES 0531160.
examples from the A.C. Moore Herbarium, Department of Mechanical Engineering, South Carolina Institute of Anthropology and Archaeology, NanoCenter, and Department of Art, these case studies put current research in a historical perspective.12

12. For the “Spotlight on USC Research” case studies included in each exhibit section, the exhibit team worked closely with the professors to ensure that their complex research was
Imaging the Invisible was a collaboration in many different ways. Fundamentally, it was a partnership between the History Department and McKissick Museum, but it also drew in multiple departments and units across campus. The guest curators were Assistant Professor Allison Marsh and PhD Candidate Sarah Scripps. Dr. Marsh served as the project manager; she developed the broad outline for the exhibit and monitored the student work. Ms. Scripps, as part of a yearlong research assistantship, defined the initial exhibit themes, researched each case study, chose appropriate objects and images, contacted potential lending institutions, and helped with installation. Ms. Scripps wrote most of the main panel labels; Dr. Marsh wrote most of the object labels. The pair collaborated with Dr. Lana Burgess on the editing, refining, and polishing of the final script.

Linda Fung, an undergraduate graphics arts student and graduating senior, designed all of the text panels and the accompanying printed materials. Megan Coker, an undergraduate library and information science student, researched all of the content for the accompanying printed materials. Each of these students used her disciplinary background to add value to the exhibit team. Their diversity helped the exhibit reach a wider university audience. More importantly, their active involvement in every step of the exhibition development process was an opportunity that cohered with McKissick’s mission to engage in campus educational and enrichment activities.

The permanent staff of McKissick Museum provided infrastructure support to Dr. Marsh and her student team. Faculty Curator Lana Burgess served as liaison between the guest curators and the museum staff, keeping the development process on schedule. Chief Curator of Collections Jill Koverman and Collections Manager Mark Smith followed up with Ms. Scripps’s initial loan inquiries to make the official requests and oversee loan processing, conservation, and proper return of the objects. With technical assistance from Burgess, Koverman, and Smith, Curator of Exhibitions Benjamen Salata completed the final installation. Visitor Services and Operations Manager Ja-Nae Epps provided materials for the press and organized tours of the exhibit.

Divide and Conquer – The Power Dynamics of Collaborative Projects

Collaborative projects require trust among partners. Individuals must commit to completing quality work on time, but if problems arise (and they almost always do), other team members must step up to make sure the project stays presented accurately: Dr. John Nelson of the A.C. Moore Herbarium; Dr. Michael Sutton, Mechanical Engineering; Dr. Chris Amer, Archeology and Anthropology; Chris Robinson, Art. Additionally, Dr. Soumitra Ghoshroy and graduate student Erika Balogh of the Electron Microscopy Center created SEM (scanning electron microscopy) images of the Herbarium specimens, and the team had tremendous support from USC’s NanoCenter: Dr. Tom Vogt, Dr. Thomas Crawford, and Dr. Chris Tourney.
Sarah’s Perspective:

I worked on Imaging the Invisible as part of a yearlong research assistantship. As an aspiring public historian, I welcomed the opportunity to gain hands-on experience that I could not acquire through a typical teaching assistantship. I viewed my involvement as a chance to learn the exhibition process from start to finish. I worked on the day-to-day responsibilities of locating objects and images, setting up meetings with partners, and drafting the initial script for panels. Even though my supervisors have been gracious in acknowledging my contributions, I am still navigating how to take credit for my work. I realize that as a student I am still learning the ropes of the profession. At times, I slowed down the productivity of my colleagues by asking for explanations of tasks that they performed on a regular basis, such as making loan requests or verifying copyrights of images. I also recognize that at the end of the day, I am held less accountable for the overall success of the project than my professional counterparts. For these reasons, I make sure to cite that my role in the exhibit was in a supporting capacity.

These issues underscore the unspoken power dynamic between faculty and students. Dr. Marsh was not only my supervisor on the exhibit, but she is also a faculty advisor for my dissertation. We spoke regularly about both the exhibit and my own research, yet we rarely had explicit conversations, whether in the classroom or in meetings, that openly acknowledged these disparities in authority. At times I felt placed in a compromising position because I was overseeing many facets of the exhibit but lacked the influence to take charge. How could I be honest about my frustrations with the project without damaging my professional relationships? I was often performing a balancing act between addressing issues within the exhibit while still respecting my colleagues’ authority. The traditional subordinate advisor-advisee relationship simply did not work with the day-to-day rhythms of meeting deadlines— as trust in the collaboration grew, hierarchies fell away. Coauthoring this report has served as great opportunity to engage in an open dialogue about the challenges in collaborations involving advisors and students.

No matter how obvious it may seem, I also learned through Imaging the Invisible that teamwork is difficult. I initially approached this project with a formulaic checklist and discovered that the process is much more organic, requiring a great degree of flexibility. Certain events that I viewed as crises at the time, such as scrapping exhibit panels or switching objects, I later realized were a normal (even necessary) part of the creative process. I also appreciated the fact that McKissick staff provided me with my own office space, allowing me to informally check in about the progress of the project and address problems as they arose.
The hardest part for me was relinquishing control. For the most part, our contributing partners proved invaluable additions to the exhibit, but at times these relationships jeopardized the integrity of the project. For instance, different project partners held conflicting interpretations of what counted as fair use in copyright law ranging from strict adherence to more flexible understandings. I had to identify my own position on intellectual property, an area of law that is still very much in flux. During these moments, I often wondered whether collaborating was worth the hassle. In viewing our final product, I would have to say that the exhibit would have suffered in both depth and relevance without the perspectives of our partners. The interdisciplinary voices expressed in our “Spotlight on USC” sections provided tangibility to the lofty epistemic questions the exhibit addressed. Without partners’ support, the exhibit would have lacked the dynamism of featuring local research alongside historical examples. I have always believed that establishing community partners is a critical part of public history, but I now recognize some of the challenges inherent in collaboration.

Soumitra’s Perspective:

As the Director of the University of South Carolina Electron Microscopy Center (EMC), I juggle the responsibilities of project management, client/user support, and individual research. The EMC provides technical support in all areas of light microscopy, electron microscopy, and elemental analysis. I also supervise full-time staff, graduate students and post-docs who conduct research at my facility. I serve as Principal Investigator (PI) or co-PI on numerous research grants. Although my expertise lies in microscopy, I imagine that these myriad responsibilities sound familiar to anyone working in project management, whether or not they are in the sciences.

The development of expensive and highly sophisticated instruments means that laboratories across the country are increasingly specialized. Out of necessity, labs have formed collaborative networks in order to share equipment and respond to questions that one research center is unable to answer alone. Not only do laboratories exchange ideas, but also researchers typically work in numerous facilities throughout their careers. I frequently recommend students working in my lab to continue their research at a partnering facility that features different equipment or fields of specialty.

Whether sharing research or people, trust is paramount in developing relationships across institutions. Novel scientific ideas shared among collaborative groups are always kept within the group members until the results are published in peer reviewed journals or presented at scientific conferences. It is not uncommon to hear horror stories of PIs taking credit for the work of graduate students or scientific ideas published without acknowledgement or proper credit. As a result, I tend to only work with people I know well, and even then I am careful with the information I choose to divulge.
Although my lab receives researchers from a variety of disciplines, humanists rarely take advantage of my facility. When Allison and Sarah approached me last spring to assist with *Imaging the Invisible*, I welcomed the opportunity to provide them with a tour of the lab and to set up a SEM (scanning electron microscopy) training session for Allison. I have found that humanists’ writing style and methods of research are fundamentally different than scholars in the sciences. Humanists tend to ask very different questions than scientists and typically care less about experimental methods or instrumental techniques than the final results.

Although humanists and scientists approach research differently, there is always room for collaboration across fields. Although humanists often lack technical expertise, they offer a fresh perspective into the greater societal significance of the work that scientists do. I also appreciate humanists’ narrative-driven writing style. Science articles usually present a straightforward explanation of experimental methods and results in lieu of a compelling story. In addition to writing, other opportunities for collaboration—imaging and aesthetics—also exist. Just as *Imaging the Invisible* was the result of finding new ways to fulfill NSF (National Science Foundation) mandates to publicly disseminate research, scientific researchers often welcome new means of collaborations with humanists.

**Lana’s Perspective:**

I joined the staff of USC’s McKissick Museum in 2008 in the newly created position of faculty curator.\(^{13}\) For me, the job of faculty curator at McKissick Museum involves developing and supervising a variety of programs with faculty and students from across the campus. The position promotes the use of the collections as a research and teaching source, including allowing students to develop and design exhibitions, encouraging museum-related courses taught in the galleries, sponsoring faculty curated exhibitions, supporting publications, developing digital resources, and aiding with other projects of academic merit. I strive to build new and strengthen existing partnerships with USC’s academic programs/units. I work to increase visibility and recognition of the museum’s mission and activities through university

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13. The position was conceived of by the museum’s then executive director, Lynn Robertson, after a failed search for an assistant professor of history, who would direct the museum studies track of the public history program, as well as direct the museum management program, teach for the program, and curate exhibitions. Consequently, the position was separated into two faculty lines, one as a tenure-track assistant professor of history, now held by Dr. Allison Marsh, and the second, a non-tenure track assistant clinical professor housed in McKissick Museum. The faculty curator position was modeled on the Andrew W. Mellon Liaison for Academic Programs and Curator grant initiative, which places faculty in temporary positions at universities around the United States. Robertson borrowed elements for the job description from the Mellon model but lobbied for a permanent faculty line, which was approved by the Dean of the College of Arts and Sciences.
involvement by providing a wide array of content beyond the museum staff’s expertise.\textsuperscript{14}

Traditionally, the title of faculty curator has been given to those faculty members with content specialists, often in the scientific disciplines, who taught, researched, and cared for collections of some type. However, my position subverts that definition. From the onset, I viewed my position as facilitating partnerships and overseeing the production of others’ research into museum products.

I have no expectation that my name will be at the forefront of any project. For me, my job is about doing the behind the scenes work that makes the university’s faculty and students shine. If they succeed then I succeed, the museum succeeds, and the university succeeds. So in working with guest curators, be they students or faculty, I relinquish the role of content specialist to support projects from outside of the museum but inside the university. To that end, I oversee all aspects of coordinating and implementing the exhibition’s production. I delegate other museum staff to borrow and return loaned objects, I edit textual content and critique graphics, and I oversee the exhibition design and installation. My primary responsibilities are keeping the guest curators to a production schedule, working with them to make their scholarship relatable to a general museum visitor, and meeting the museum’s formal interpretive goals.

I did all of the above for Imaging the Invisible and in doing so, met with a few challenges along the way. Imaging the Invisible was proposed about a year and a half before the exhibition would open. During that time, the two staff members in the exhibitions department left for other opportunities. When the new staff members were hired, we only had six months to complete the exhibition. Fortunately, Allison and Sarah had selected the objects and were well along in writing the interpretation. The first difficulty came, however, when trying to manage staff members who did not report to me in the administrative hierarchy. The employee turnover combined with the accelerated schedule for mounting the exhibition presented opportunities for missteps. Furthermore, rather than using me as a conduit to Allison and Sarah, the staff were sometimes reporting to them and sometimes reporting to me. This caused a great deal of confusion about where we were in meeting benchmarks and timelines. The cacophony of voices during meetings was too much,

\textsuperscript{14} Additional duties require that I administer and teach for the Museum Management Graduate Certificate Program and am courtesy faculty to the Art History Division of the Art Department, teaching one course a year. The point of explaining my multiple roles is to provide an understanding that my responsibilities are divided into three categories. I am trained as an art historian and a curator, but over the years have found administrative work appealing as well. I serve on the Board of Directors for the American Alliance of Museums’ Committee on Museum Professional Training. I have never thought of myself as a public historian, but rather subscribe to the methodologies of art historical study for my approach to curation. Still, I appreciate the intersections between the fields of museum studies, public history, and library science. I enjoy teaching students from each of these disciplines and rejoice when they can develop skills in all three to make them competitive for a museum career.
which led to me working directly with Allison and Sarah and then reporting back to the staff.

Another challenge came when I took some of the responsibility away from the staff and put it on myself. For example, the curator of exhibition’s installation layout lacked the necessary components to allow visitors to have a positive physical and intellectual experience. Therefore, I took it upon myself to redesign the gallery. Rather than drafting a new layout on paper, I verbally reassured Allison that I would be responsible for the design. To my surprise, however, our conversations were not enough and Allison and Sarah were left wanting more. I take pride in my ability to manage projects and meet deadlines, but that was called into question in this case. I believe part of the problem came from my relaxed level of supervision of other staff combined with my own confidence that I could meet the requests being made. I was thinking about the design and knew that during the installation process I could accomplish a good spatial flow balancing objects and content. I just was not verbalizing my plan or documenting it in writing. My practice of working conceptually caused Allison and Sarah to have doubts about completing the project on time. To assuage additional fears or concerns, I took over supervision of the installation, but also spent much of my time completing preparatory tasks such as cutting mat board and fabricating mounts.

The amount of guidance I provide for project development depends on the level of knowledge the collaborator has in curating exhibitions. My approach to Imaging the Invisible was different from the tactics I would take with other faculty members who do not have museum experience or training. In those cases, I would draft a formal guest curator contract and extend the timeline to two to three years so that the project contents would have time to be developed and vetted before being put into production. I took a less structured approach here because I knew Allison has a curatorial background, and therefore, understood the components of exhibition development. Furthermore, both she and Sarah are organized and communicative. I respect their skills and abilities; therefore, I did not see a need to micromanage the project. What resulted, however, were repeated conversations reminding each other of our roles. Despite our frustrations, however, the end result met expectations.

The narrative above is not uncommon when it comes to collaboration. In fact, this is one of the better partnerships in which I have participated. Allison and I complement each other in that we shared differing content expertise (me, art history; Allison, history of science as well as engineering), and therefore took disparate approaches to research questions. However, we had a common vision for what we wanted students to take away from curatorial experiences such as this one. We communicated well; neither of us was reluctant in expressing her needs. We agreed on how the work should be distributed and who should be recognized for which contributions. Where we fell short was in failing to have a memorandum of understanding or a guest curator contract of some type. Not having guidelines in place led to grey areas over
ownership of various aspects during the process. We did not outline organizational parameters or delineate expectations in writing. Even though each of us felt confident in our roles, disappointments occurred. Still, the best part about the experience was that we learned from it and continue to collaborate.

Imaging the Invisible is the first collaborative exhibition that fulfilled all of the goals that I set for myself as the McKissick Museum’s faculty curator. The partnership was not without its hiccups, but the final result set the benchmark for future projects.

ALLISON’S PERSPECTIVE:

When I committed to curating the exhibit as part of the nano grant, I knew that at the end of the day I was the party responsible to ensure that we produced a quality product. I was the one reporting to the NSF. I saw myself as chief curator and project manager.

The job title of project manager is common in public history projects (as well as in the business world), and it has a direct analog in the sciences, director of a lab. I managed the budget, directed the overall vision for the project, supervised student workers, and contributed to the research, writing, and editing. For all content related matters, I had the final decision.

However, I had no official authority within the museum. I could not complete loan negotiations; I could not handle objects during installation; I could not make any specific demands on staff time. This created a tension between the museum staff and myself as guest curator. Keeping a project on schedule is one of the main duties of a project manager, and that is made very difficult without control over the museum’s schedule. Understanding where Imaging fit into McKissick’s workload was key. I tried my best to keep everyone at McKissick informed of the project schedule and have my team meet its deadlines, but as with almost every project, something always came up. For example, after nine months of negotiating a loan, it fell through only two months before the exhibit opening. We had to scramble to find a replacement loan. The exhibit looked great, but a year later we were still working through a disagreement over who would pay for the last minute shipping costs. This was a direct result of the lack of final project authority within the collaboration.

A second dimension I want to add to the question of power dynamics is that of sharing responsibility with a student. Splitting a workload with your peers may not be easy, but at least you know you have relatively equal standing in the professional world. Working with a student (and ultimately sharing credit) is much more challenging because of the power dynamics: teacher/student, mentor/mentee, professional/apprentice. Working on Imaging the Invisible was not simply a job, but also a teaching/learning opportunity.

Throughout the project, I found myself shuffling between two approaches with respect to my student employees. At some points I would simply assign
tasks or do the work myself, but at other times I thought it useful to regroup and explain my thinking to my students. For example, we knew we wanted to include examples of consumer products that capitalized on nanotechnology. Fortunately for our research, there is an international database that lists thousands of nano products. I assigned an intern to go through the database and select potential objects for the exhibit, based on price, availability, variety, and interest. My intern created a spreadsheet with about seventy five potential objects on it. I whittled that down to a dozen or so, and then I thought it was important for me to explain my rationale to Sarah. All of the products fit our criteria as examples of consumer nano products, but I wanted products that would have resonance with a variety of audiences. I wanted there to be gendered, as well as gender-neutral objects. What is an example of a gendered nano object? A necktie (usually considered male) that uses nano-constructed fabric to repel stains (laundering is often construed as a female task). We included nanotechnology shampoo as well as nanotechnology balding treatment, so that no matter your follicular state, there was something for you. We included a child’s stuffed animal, a tennis racquet, and a book, showing leisure activities for a variety of ages and temperaments. I talked about my failed attempt to secure objects with specific racial/ethnic associations. It may have been a minor lesson within the overall project, but I wanted Sarah to understand a little bit about how to select objects when there is a plethora of options.
Explaining a rationale for object selection is a basic duty of curators. Usually curators only have to justify their choices to conservators (who want limit an object’s exposure) or to budget directors (who may veto expensive loans). Explaining your actions to students takes time, but I believe it is one of the most important things a teacher can do during a practicum experience. When planning collaborations with students, my experience has been that it takes at least 25 to 50% more time on the project simply for the learning experience — to give student participants the time to work through the problems, to give the professor time to explain alternatives, and to give everyone time to correct missteps.

These four perspectives were written after the completion of the project. They would most likely be very different if we attempted to write our job descriptions from the outset. Our experience in navigating the changing roles we had throughout the exhibit development process is part of what inspired us to write this article. Clearly there was overlap in responsibilities. We all had different things to gain from the collaboration, and we all had different costs in terms of time commitments and resources.

When Words Lose Authorship – Who wrote this?

At first, the division of labor for writing exhibit text looked fairly straightforward: Sarah wrote most of the wall panels, Allison wrote most of the object labels. But on closer inspection, authorship becomes murky.

As with most exhibits, the script for Imaging went through numerous rounds of revisions. Allison and Sarah shared early drafts with a science studies reading group, getting input from faculty and students. Museum staff reviewed later drafts for basic grammar, copyediting, and readability. Because the exhibit team wanted to ensure that the scientific content retained its complexity and accuracy, they allowed all of the professors who were featured in “Spotlight” panels to review their panels. Additionally, the team allowed the director of the NanoCenter to review all of the panels in the “Imaging at the Nanoscale” section. Finally, even our designer Linda made some minor changes to the exhibit script. She rearranged some words or phrases, occasionally substituted synonyms, and suggested cutting a few words here and there so that the panels could have justified margins without hyphenating words.

Despite having the first draft of the script completed nine months before the exhibit opened, there were last minute additions. Even as the exhibit was being installed we realized that some of the points we wanted to make were still not clear, so we added two extra panels. We also finally cut one panel that we had agonized over for weeks because it never quite came together despite hours of work.

The result of all the revisions and edits (and perhaps failing memories over the yearlong time frame) is that there are very few places in the exhibit that
any single person can point to and say definitively, “I wrote that.” Some panels were better than others, some object labels better than others. We each have our favorites, and there are ones we want to take credit for, but in reality credit can only go to the exhibit team as a whole.

Group authorship is expected in museum exhibits. Until relatively recently, most exhibits did not even acknowledge the curators who wrote the script. Imaging did include an acknowledgements panel. In addition to thanking our funders, the panel listed Sarah Scripps, Allison Marsh, and Megan Coker (in that order) as Guest Curators. It also listed Linda Fung as Designer. Under a “Special Thanks To” heading, eight individuals were listed in a large font and twenty-seven individuals and organizations were listed in a smaller font. The first group comprised the individuals who volunteered a significant amount of time to the exhibit. The latter group included everyone who had some small part in the exhibit. The organizations and publications that were included in that list had offered in-kind resources. In accordance with McKissick policy, no museum staff members were listed on the acknowledgments panel, although the McKissick logo was included.

Beyond the exhibit script, there is a lot of associated text that gets drafted for an exhibit. I (Allison) am a big fan of putting in the time up front to generate a strong exhibit abstract for the initial proposal. That original abstract can serve as a touchstone when research enthusiasm may draw attention away from the initial goals. A good proposal can keep exhibit creators focused throughout the development process and can be the final checklist in wrapping up the project. Also, that original abstract can be used over and over again, for grant applications, for status reports or formal project documentation, for evaluations, for press releases, for interviews, and for award nominations.

The same sentences will be used over and over again, slightly changing with each iteration. Eventually the team hits upon a lyrical phrasing that becomes included in every reference to the exhibit. Whose words are those? This is a serious question for anyone concerned with intellectual property and plagiarism. Although historians are unlikely to reap financial benefit from the copyrightable material of an exhibit, it is important for team members to establish parameters on what is acceptable sharing of group work.

We (Allison and Sarah) took a very informal, collegial approach to sharing our work. We both kept the other apprised of the supplemental work we were doing, in many cases asking each other for edits and comments along the way.

15. The authors would like to acknowledge the anonymous reviewer who questioned, “How is this different from a book or journal article that goes through workshops and peer reviews and editors’ comments and copy editing and proof reading? Can we ever really say that we’re the only author of anything?” We agree in principle, but believe the scale is different between a monograph and a multiauthored exhibit script. Although a book has been changed through the editing and review process, the author can remain fairly confident that the bulk of the writing retains his or her original intent. After rounds of editing of a multiauthored script, an author would be hard pressed to identify a single sentence that remained untouched.
We agreed that if someone objected to the level of borrowed material, we would investigate alternatives, such as either reworking the article or pursuing coauthorship.\textsuperscript{16}

\textbf{What about Article Coauthorship?}

Sharing credit for an exhibit might be complicated, but surely coauthoring an article is straightforward, right? Unfortunately, that is not the case. Because historians do not have a strong tradition in coauthorship in peer-reviewed journals, there is not a widely accepted and acknowledged standard practice for listing coauthors on an article such as this one. Some people list in alphabetical order, some people list with the more senior scholar first, some scholars list the person who put in the most work, some professors list their student first (and some list themselves first), but most historians haven’t given author listings much thought at all.\textsuperscript{17}

In the scientific fields (particularly in lab-based sciences), there is a more clearly acknowledged hierarchy, although we acknowledge that there will always be discipline-specific variation. The prime positions are the first author and last author. The first author is often a graduate student and is the person responsible for running the majority of the experiment and usually drafts the majority of the article. The last author is known as the corresponding author and is usually the principle investigator for the project. Graduate students and postdoctoral fellows build their reputation through citations as first author. Professors prepare their tenure files with citations as corresponding author, which are an indication of the productivity of their lab and extent of grant funding.

The numerous other coauthors of scientific articles are usually listed in descending order of contribution, sandwiched between the first and last authors. Some teams take an all-inclusive approach, listing everyone who worked on the project, including students and technicians. Other teams are more selective, although there is no magic percentage of contribution that must be met to be included as a coauthor. Sometimes coauthors are listed not because of a direct contribution to the research project, but because they provided a piece of equipment or sample for use in the experiment. In these cases, there may be a contractual obligation to cite an author.

Although Allison and Sarah wrote approximately 90\% of the text of this article, we decided to follow the science model for coauthoring. Sarah Scripps

\textsuperscript{16} For example, we agreed to coauthorship for this article, but Sarah is developing another article with sole authorship. That article focuses on museums’ policies for collecting the material culture of nanotechnology. Although she may reference her experiences from \textit{Imaging the Invisible}, we agreed that the new article was an entirely independent project.

\textsuperscript{17} The authors acknowledge that this discussion of coauthorship does not necessarily extend to books and general audience publications. In those cases, the order of authors usually either lists the person who did the most work first or the person with the larger name recognition.
is listed as the lead author. She is a graduate student who worked on the exhibit and this resulting article under the supervision of Allison Marsh, who is listed as the last or corresponding author. Allison Marsh was the project director and a co-PI on the grant that funded the project and is responsible for including any follow up publications to the funding agency.

The remaining authors each contributed similar amounts to the article, specifically their “perspective” sections and overall editing. They could have been listed in any order. We chose to list Soumitra second because his perspective as a scientist helped our overall framing of the argument on what public historians could learn from the scientific community regarding sharing credit.

However, by making a conscious decision on how we listed the authors of this article, we are not throwing our endorsement squarely behind the scientific model. There are pitfalls with the all-inclusive method of coauthorship that need to be acknowledged. Foremost is the dilution of credit. When a lab director requires his/her name be listed on an article anytime a piece of equipment in the lab is used, the result is authors who have little contribution to the article. This would be akin to having historians list every archivist they consult during their research as a coauthor. We much prefer listing such resources in an acknowledgements section or in a footnote. Similarly, with the proliferation of multiple authorship, the field must adjust metrics for productivity. It is easier to write a dozen articles a year if you are only contributing a few paragraphs to each one. Also, articles begin to lose clout when you are the sixteenth author.

An associated problem with multiple authors is that of accountability. What happens when something goes wrong? Retractions are rare for historians, but occasionally happen in the scientific community, especially when scientists are pursuing cutting edge research. Later corrections and revisions of articles often have even more coauthors than the original piece, by way of trying to clarify contribution (and possibly blame) for the original article.

Defining Credit – What do you call this?

Giving a name to work allows you to communicate your responsibilities on a project to others. We all know that job titles don’t really matter, except when they do. Guest Curator? Co-curator? Project Director? Research Assistant? What do you call the work? How do you turn complex, yearlong projects into neat, simple lines on your resume? You do not want to oversell your qualifications, but you do want to communicate your experience.

In July 2011, Denise Meringolo (University of Maryland, Baltimore County) posted to the public history educators listserv:

I’m preparing for a tenure and promotion review next year.

The chair of my committee advised me to put the various public history projects I have worked on with my students on my c.v.
I am not sure how I feel most comfortable listing them. It doesn’t seem accurate to me to list them as my scholarly products. I would say I was the “project manager.”

What have you done?\textsuperscript{18}

Terry Barnhart (Eastern Illinois University) replied with the suggestion “Directed Research.” Robert Weyeneth (University of South Carolina) preferred “Collaborative Student Projects.” Marsha Weisiger (University of Oregon) said she lists “Public History Projects” in a separate section on her CV after the section “Publications.” She also lists the formal publications (other than reports) stemming from projects as “Public History Publications” to differentiate them from academic, peer reviewed publications. Gerry Herman (Northeastern University) summed up the problem stating “This is very institution-norm dependent.”\textsuperscript{19}

Clearly there is not a definitive answer here. All CVs must be tailored to their particular needs. In this case, Allison had the challenge of defining the work for tenure and promotion; Sarah had to define her work for finding a job. For Lana and Soumitra, the needs were different. Instead of writing personal CVs, they were writing annual reports for the McKissick and Microscopy Center and needed to capture visitor impact or utilization numbers.

**ALLISON’S PERSPECTIVE**

The work for *Imaging the Invisible* shows up on my CV in at least five different places. This is not because I am trying to count the same project multiple times, but rather because public history projects do not neatly divide into the traditional academic categories of research, teaching, and service. I list this project in different areas to show the complexities of the work and to articulate specific aspects of the project.

In trying to capture the different roles I play on exhibit teams, I have constructed my CV with a main category “Museum Research and Scholarship,” which has the subcategories of Exhibits, Chief Curator; Collaborative Team Member; and Exhibition Development. I list this exhibit in my first subcategory, Chief Curator:


I have no qualms about the placement here: I was the project lead, I managed the budget, I provided the overall interpretive framework; I wrote

\textsuperscript{18} Email to ph-educators-l@iupui.edu, July 9, 2011.
\textsuperscript{19} All of these responses were posted to the Public History Educators listserv on July 9, 2011. Allison Marsh followed up with each individual who agreed to have his/her response quoted in this article. In the follow-up exchange, Robert Weyeneth clarified that he used the term “Collaborative Class Projects” on his own CV.
much of the text. Does the title Chief Curator conjure up all of those duties? Probably not. Should I include more information about the team? Maybe, but what would that look like?

Instead of providing more information with that entry, I have created another category on my CV, Supervision. Under this category, I include typical academic things, such as thesis and dissertation advisor/reader, but I also include the supervision of student research and work. In the case of Imaging the Invisible, I have three separate entries:

Graduate Research Assistants:
- Sarah Scripps, 2010-11 academic year. Research for Imaging the Invisible exhibit, funded through NSF Grant #SES—0531160.

Undergraduate Research Assistants:
- Megan Coker, Magellan Scholar, spring 2011. Developed gallery guides for Imaging the Invisible exhibit.
- Linda Fung, summer 2011. Designed wall panels for Imaging the Invisible exhibit, funded through NSF Grant #SES—0531160.

These entries capture the work, but do they capture the mentoring? Megan was a student in the School of Library and Information Science. She was adept at finding relevant web resources, but she was not trained in historical research or museum exhibition development. Megan collected all of the raw information for the gallery guides, but she was not a strong writer. I ended up writing an unattributed introductory essay to the exhibit booklet and heavily editing her resource lists. How much credit do I give a student who has great ideas but lacks the necessary writing ability? I don’t want to take credit for her research, but the final product looks very different from her submitted drafts.

Similarly, Linda was a gifted graphics arts student, but she had never considered museum design before taking on this project. I found myself in an unusual position of having to guide the designer on basics, such as suggested panel sizes. Also, because Linda was a contract employee, I had mundane administrative responsibilities, such as approving her time card so that she was paid; this is something that my colleagues who supervise teaching assistants do not have to do.

A third place where Imaging the Invisible shows up on my CV is under the section Grants:


I am slightly uncomfortable listing Imaging in this section of my CV. The information is accurate, but potentially misleading. I was not an original principal investigator on this grant, and an exhibit was not an original component.
The idea of an exhibit came about after I had joined the faculty at USC and the grant team saw an exhibit as an additional venue for conveying information about nanotechnology to the public. I started out simply as “Senior Personnel” on the grant, but was later added as a co-PI when other people left the project and the exhibit became a significant final product. My work on *Imaging the Invisible* was included in two interim annual reports and the final report to the NSF, and so I feel it is appropriate to draw attention to the grant funding and related reporting responsibilities.

A fourth place where *Imaging* is listed is under Awards. The exhibit won an Award of Merit from the South Carolina Federation of Museums and awards in the categories of exhibits and publications from the Southeastern Museum Conference. As much as I would like to accept the awards graciously without complaints, the reality is that the nomination packages were extensive. Pulling together all of the required materials—in triplicate—took a considerable amount of time that my non-public history colleagues might not appreciate. It was a wonderful cognitive exercise, reflecting on the outcomes of the exhibit and documenting visitor experiences, but listing an award just does not conjure the work required to nominate an exhibit. What is not listed on my CV are the hours of work put into numerous other nomination packages that we didn’t win: AAM Exhibit Label Competition, AAM Excellence in Exhibition Competition, AASLH Award of Achievement, and the Dibner Award in the History of Technology. The AAM Excellence in Exhibition Competition nomination was the most extensive, taking almost two weeks to draft the full package. The other nominations cribbed from the first one, but even so took as much as a day of work each to pull together. Unfortunately, there is no way to count work that ultimately does not produce the desired end product.

A final place on my CV where the exhibit makes a cameo is under publications—traditional, refereed, print publications, that is. This article is based on the experience of curating *Imaging the Invisible*, and may be one of the few things that “count” for the traditional academic. Of course, as a coauthored article, it remains an open question of how much it will count for tenure.

As an assistant professor, I have not yet gone through the tenure process nor have been privy to the discussions evaluating other candidates, so I cannot make specific claims about how the University of South Carolina’s Tenure and Promotion Committee may evaluate collaborative projects. But I can parse the History Department’s guidelines, looking for clues. Although they make it clear that “peer-reviewed scholarly books based on original research and published by a reputable press of national or international stature normally defines the conventional standard of achievement for research and scholarship by our department,” they also deliberately leave room open for other types of scholarship to satisfy the requirements for tenure. They provide a list of fifteen types of scholarly achievements that can be combined to meet the

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20. Officially, McKissick Museum won these awards. No individuals were named on the plaques.
standard for tenure. The burden is on the candidate to make a case for equivalency. One example of equivalency that the guidelines specify is a set of original research articles, usually at least four, but the guidelines emphasize that this is only one of numerous and varied equivalencies that can meet the standard.21

The categories of evidence of research appear to be very accommodating to public historians. They include museum exhibits, historic preservation and cultural resource management reports, oral histories, documentary films, and community history projects. However, authorship and collaboration are not specifically addressed in the guidelines in the section on evidence supporting research. The only place where this is acknowledged is in the preamble, which states: “Traditionally the discipline of history has been oriented towards the publication of single-authored, peer-reviewed books based on archival research. Articles in peer-reviewed historical journals, book chapters, and other forms of publication are also typically single-authored works that require extensive research in primary sources.”22 Public historians need to push the case that “typically” does not mean always and that it might be time to update tradition to include multiauthored collaborations.23

**Sarah’s Perspective**

I have found that listing public history experience on my CV is often much less straightforward than traditional history scholarship. The grey literature that I have produced throughout my graduate career—field reports, exhibit guides, newsletter articles—simply does not align well under a caption such as “peer reviewed publications.” As a result, I have separated my public history work under the heading “museum experience.” To describe my involvement with *Imaging the Invisible*, I use my official university title of “Graduate Research Assistant.” However, because this title does not provide an adequate description, I also typically offer a short explanation of my role, stating:

> Under the direction of Dr. Allison Marsh, co-curated an award-winning exhibit *Imaging the Invisible* shown at McKissick Museum August 2011-December 2011. In charge of developing exhibit script, conducting formative evaluations, directing weekly tasks for an undergraduate intern, selecting objects and

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23. One of the anonymous reviewers suggested: “If the authors truly hope to begin a provocative discussion, then wading further into those waters [what counts for public history collaborations in tenure and promotion reviews] might be the best way to do it.” Of the authors, one is a tenured full professor, one is in a non-tenure position, and one is a student. Allison is the only non-tenured, but currently tenure-track author of this piece. She has made the conscious decision to forego the monograph and go up for tenure based on her public history achievements. Look for a follow-up article in 2015 to see the result of this decision.
images, and working with exhibit developers in planning the exhibit design and layout.

Other times, I simply list myself as a graduate assistant. As I gain more museum experience, this description might be simplified or redirected under a heading of “curated exhibits.” Equally challenging is listing public history awards that I have won as part of team projects. I usually list myself as a co-recipient, but that designation does little to show my personal contributions. As someone who aspires to work both in the museums and the academy, I find it hard to strike a balance in showing the diversity of my interests on paper.

**Lana’s Perspective:**

Although I sometimes see myself as a cocurator in partnerships like *Imagining the Invisible*, I do not believe it necessary to receive credit as the curator because my role is coordination not content provider. I only identify myself as curator for those exhibitions I have conceived based on my own research. Still, I take my role very seriously and see myself as project director and institutional liaison and cite it as such under the Exhibitions heading on my CV. I will also cite the exhibition in the Awards section of my vita. Although I certainly believe in self-promotion and taking credit when it is deserved, I am less systematic in how and where I list items on my CV. My approach stems from the fact that I work in a non-tenure track position; however, I work in at a university and am required to demonstrate contributions to the same areas of consideration for promotion: teaching, service, and research.

For McKissick Museum, exhibit authorship is not the highest priority when documenting impact. Instead the museum places value in community outreach. Yes, the exhibit is listed in the museum’s annual report, on its website, and in other print media, but the more important information lies with the visitor statistics. The museum hosted conference registration and a reception in conjunction with The Public History of Science and Technology Conference, September 11-14, 2011. The museum offered class tours of *Imagining the Invisible* for the following USC departments: Art, Dance, English, History, and Library and Information Science. Additionally they offered specialized tours for the English Programs for Internationals, providing ESL instruction, and the Steps to STEM program, a course designed to introduce transfer students from USC’s branch campuses and two-year colleges to the interdisciplinary nature of the STEM fields (science, technology, engineering, and math). The museum also provided tours for USC’s branch campus in Lancaster, SC.

Despite the focus on a college-educated audience, the museum also adapts all of its exhibits to K-12 classes to inspire the goal of college attendance. In this vein, McKissick offered tours to five local elementary and secondary schools. McKissick also reached beyond the formal school systems to provide
life long learning opportunities for a variety of adult groups, including the Midlands Education and Business Alliance (MEBA), North Trenholm Church, and Redeemer Church. During Parents’ Weekend, McKissick sponsored a Behind the Scenes Tour and a Curator’s Tour.

**Soumitra’s Perspective**

The Electron Microscopy Center really didn’t have a stake in the exhibit and so doesn’t have a strong opinion on how to characterize the collaboration. We were happy to lend our services, especially because it adds new users to our annual utilization report to the dean of the College of Arts and Sciences, but the exhibit neither helps nor hurts the reputation of the lab. Perhaps the most delightful result of the collaboration is something that the curators wouldn’t even consider important—after the exhibit closed, the wall panels found a permanent home decorating our lab. We can point to these well-designed panels on tours to show researchers the possibilities of our lab and to inspire scientists to think about evocative images. The wall panels highlight one of the most fundamental aspects of interdisciplinary collaboration—we can each learn from one another’s areas of expertise. The professional quality of the design helps make the scientific content of the images accessible to the students who wander the halls and occasionally stop to explore their surroundings.

Sarah Scripps leads an inquiry-based tour for 4th and 5th graders from Columbia’s Jewish Day School. (Photo courtesy of the authors.)
Reflections and Conclusions

Collaboration has clearly gained authority within the sciences.\textsuperscript{24} But is bigger always better? Partnerships take considerable time, resources, and compromise among constituencies who bring forth competing visions. More than just sharing finances or equipment, collaborations require a centralized objective, sacrificing the autonomy of individual partners. The coalescence of government, industry, and universities in scientific collaborations raises questions of who is setting the agenda and for what purpose. Teamwork can also lead to less accountability; coauthored articles are more likely to make fraudulent claims.\textsuperscript{25}

One of the hardest things to do is to walk away from collaboration. Time, money, expertise are expended, yet the results do not always meet expectations. Should you give up? Often the time to walk away is even before the project begins. If the two or more parties cannot reach consensus about the expectations and responsibilities of each, then power struggles may ensue. There is no point in partnering if an agreement cannot be reached before the process begins. Once a contract is signed, and we do recommend a contract or memorandum of understanding for significant collaborations, stay on task. It is easy to devise additional components to a project or program, but this can lead to adding more work than value. If that is the case, then just say no to scope creep. Assess, evaluate, and measure the results to ensure more efficient and effective collaborations in the future. If you are not learning from what went right and wrong, then you may face the same problems in the future. It comes back to whether or not your time and resources are adding value to the partners’ needs, or in our case, the students’ learning experience, the faculty partner’s goals, and the museum’s reputation.

In this article, we have evaluated the problems that arise in sharing credit for public history projects and alternative models for sharing credit posed by the sciences. In turning to the sciences, can we adapt their methods to fit the needs of humanists? Are there ways to adapt not just our formal publications but also acknowledgement of much of the “grey literature” that encompasses so much of our work, such as field reports, National Register nominations, or exhibit guides? Even more challenging questions arise in considering the limits of collaboration. How can professionals from different disciplines communicate with one another effectively? How do institutional hierarchies play out when sharing recognition? And when do partnerships fail?

We do not pretend to have any answers to these questions. After all, these are our reflections on a single case study. But we wanted to provoke the conversation. As we (the historians) looked for a framing device for the article


\textsuperscript{25} Bayer and Smart, “Career Publication Patterns and Collaborative ‘Styles’.”
that mirrored our experiences with the exhibit, we knew we needed to get the perspective of a scientist and we knew we wanted to include the perspective of the museum. We also knew that we wanted our collaborators to speak for themselves as true coauthors; we did not want to simply summarize their experiences as we observed them to be. We wanted to provide the differing points of view on the project from faculty/staff, professor/student, historian/scientist/museum professional.

We hope that this article spurs debate in the field. Perhaps NCPH can post sample CVs that show the different ways in which students and supervisors account for collaboration. Maybe *The Public Historian* will consider actively pursuing multiauthored articles to reflect the collaborative nature of the field. Maybe we will even inspire readers to seek additional partnerships that cross disciplinary boundaries. At the very least, we hope that this article encourages readers to think critically about what collaboration means and how we can effectively share credit.

**Sarah Scripps** is a PhD Candidate in History at the University of South Carolina. She worked on the exhibit *Imaging the Invisible* as part of a yearlong graduate assistantship.

**Soumitra Ghoshroy** is the Director of the Electron Microscopy Center at the University of South Carolina as well as a research professor in the Department of Biological Sciences.

**Lana Burgess** is the Faculty Curator at USC’s McKissick Museum and helps disseminate faculty research through exhibitions. She is also Director of the University’s Museum Management Program.

**Allison Marsh** is an Assistant Professor of History at the University of South Carolina where she oversees the museums and material culture track of the public history program.