

RESEARCH AND SCHOLARLY INTERESTS

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Research Interests

- Leveraging new technologies to augment and redefine traditional storytelling
- Using digital tools to create physical and tangible art pieces
- Mentoring STEAM programs in creative design and aesthetic importance
- Scholarly communication through non-traditional mediums
- Emerging pedagogical models of teaching and learning

Statement of Scholarly Interests

My academic background is in both television production and integrated media art. My scholarship focuses on using integrated media and production to create time-based works, interdisciplinary research tools and multi-disciplinary collaborations between the arts and sciences. Although housing the arts and sciences under the same umbrella, many liberal arts institutions often view the two disciplines as being so different that they are essentially unrelated. Art is often described as sensual, expressive, creative, experimental and emotional. Science, as intellectual, methodical, explicative and rational. I see the aforementioned descriptors as sharing the same creative foundation and more often art, technology, and science meld to create some of the most intriguing discoveries and creative views of our world.

These questions are at the core of my research:

1. How can we educate ourselves and ultimately our students to learn and to adapt to the constant technological change that is evolving at an unparalleled pace?
2. How can art, science, and technology augment each other's strengths to create new works that contribute to both research and practical artistry?

I am trained in both linear and non-linear storytelling techniques as well as the integration of digital and physical media technologies. Being a lifelong learner, my interests mostly lay in modern higher technologies and their integration into the new media landscape.

1. How can we educate ourselves and ultimately our students to learn and to adapt to the constant technological change that is evolving at an unparalleled pace?

As a teacher, I'm an advocate of taking the experiential leap in new technologies well before our students' recognize that new technologies are considered an emerging medium. Who else is in a better position to take academic risks and put themselves in the state of self-education on a technology or subject than we are, the educators? This schooling is imperative if not only for the sake of *our* own work, but to experience the new medium first-hand so that this knowledge can be conveyed to the students we are required to profess.

My MFA Thesis, *The Domino Effect*, was a feature length documentary whose premiere goal was to become a community advocacy piece. The production team, which included Megan Sperry and Brian Paul, wanted to expose the forces that shape urban neighborhoods. As a technologist and storyteller, community advocacy was a short-term goal for me. It felt good to help people understand the forces that affect their communities. In my heart, the main emphasis of my contribution to the project was to stretch my creative and technical wings to produce a modern product that takes advantage of new media and production strategies. Creating not only a visually compelling piece, but one that would be available to anyone, on any device, at anytime, foregoing the traditional distribution model.

At the onset of *The Domino Effect* there was a technological revolution happening in the film industry. The "film look" of high-end fiction production was going mainstream with the introduction of digital video capabilities on modern interchangeable lens cameras. Considered a ubiquitous tool today, interchangeable lens cameras with video capabilities leveled the playing field for independent filmmakers and productions that could not afford cinema style cameras. I saw this revolution as a good opportunity to apply techniques of fictional narrative technologies in documentary storytelling, especially at our budget. Taking advantage of Internet resources and my participation professional organizations that I belong to, I tested several looks and developed a post-production workflow that would accommodate the feel that was sought for the visual impression of the story. We had three unique characters that needed to be represented visually in the piece; the neighborhood, the Domino development, and the people that were affected.

Each was given its own depth of field, individual color science, and camera technology. As anyone in television production will tell you, you cannot create looks and "feel" with camera technology alone. Camera support and lighting would also need to be developed to accommodate our new expressions for the film. I decided that there were no good solutions on the market for our camera. DSLR video being a relatively new technology, the mainstream production support companies simply were not equipped to develop and manufacture camera support systems and tools for the independent (read; cheap) market. With this in mind, I engineered and built three camera systems that would be able to give us the sought after look for several scenes in the film. The first was a "slider" that would be able to mimic the traditional dolly at 1/500th the price. This slider would be made out of industrial extruded aluminum and thermoplastic bearings used in the robotics community for

industrialized applications. This slider, coupled with modern camera and lenses, would allow me to move the camera five feet without the bulky and intimidating equipment that would normally take several people to operate and transport. With this new device I was able to apply a high-end “look” to add value to the image. Not necessarily a monetary value to the image, but a viewer perceived value due to established, popular visual acuties that have been popularized in long-form narrative visual storytelling. Additionally, several other devices were built such as carbon-fiber shoulder stabilizers, Arduino based time-lapse triggers and stacked practical filter-sets helped achieve this fictional narrative look that the film was praised for at the time. These custom built solutions not only took piggybacked feature-length perceptive value, but they also had the benefit of bringing the costs down for the production as well.

If there was a revolution happening in the area of camera technology at the time, there was a similar finance revolution happening in the world of film and art. Crowd funding opportunities were just starting to get media attention and websites such as IndieGoGo and Kickstarter were beginning to show the creative community that there was a market for truly independent media. Foregoing the traditional “grant and grind” application process for projects such as ours, it seemed that our film was a perfect fit for this type of funding opportunity. The organizations and people that we were working with in the community had deep ties to groups that wanted their story told. If successfully funded, this film would be financed for the community, by the community. Now all we needed to do was to figure out how to accomplish it successfully.

It was difficult to understand, in the early days of crowd funding, what made a successful campaign. Was it the content of the piece, the creative entities producing the venture, or the viral potency of a project that made it appeal to potential funders? I started to do some investigation into projects that were a close match to ours and it seemed that there was both great films that did not get funded and some really poor films that were funded. As I dug deeper into the few success stories that I could find, it seemed as though communication was the key. Not just emails and begging for contributions to our film, but actively engaging people, online communities, advocates, and the characters in our film through social media. Specifically in our case, twitter and Facebook. Much like Pepsi® or CoCo Puffs™ we had to prove to funders that our brand had value and that investing in our product (our film) would provide social justice dividends. Unlike a major brand, we had to achieve this goal by being *genuine* and appealing indirectly to potential consumers and funders.

For several months before the launch of our Kickstarter campaign, we started online dialogues between community advocates, politicians, development groups, and active members in the community. To become genuine, we needed to become a strong voice in the community. We took this further than conversation by becoming members of the fight against bad development in New York. For one year we partnered with organizations as a way to get access to the locations and characters

we needed to tell our story. Through these partnerships we actually made a difference. We were the media arm of the fight for the waterfront. A loudspeaker for community rights, The Domino Effect brand was now the best media outlet for information relating to this fight. Our website and blog became *the* place to get information about the Domino project. Our social media outlets were engaging in conversations and civic actions better than most of the non-profit community groups. We were no longer concerned with *trying* to be authentic; we were now genuinely community advocates for a time. This strategy quickly produced a \$10,000 in pre-production revenue for the film with an additional \$10,000 in funding coming from an additional Kickstarter stretch goal and a PSC/CUNY HEO Professional Development grant that I was able to secure.

The funding paid for the media rights to music, historical news footage, backup storage, paid student assistants, production equipment, and most importantly our custom digital distribution solution.

We finished a rough cut of our film and started shopping the movie to several documentary distribution companies. Our main distribution goal was that the film be easily accessed and free for the community without stepping on any of the rights that we had negotiated for the historical media. It seemed that the distribution companies that were courting the movie did not want to give up those rights and the film. The traditional distribution model would require that the film, in every form (mobile, DVD, streaming) would have to be paid for. This was obviously not good for us. Luckily we were in the position that we could turn down these traditional media channels that would have brought us more revenue and a more prominent stature in the documentary community. Since we were funded by our *own* community, it was our obligation to stay authentic not only to ourselves but to all those who funded the film.

I was able to roll our own distribution method by using freely available digital tools. The key here was being able to inexpensively monitor video streams, direct downloads and quality so that moviegoers were getting what they paid for, a great movie on any device they wanted to consume it. By using Dropbox, mail scripts, and plugins to the purchasing section of our website, we were able to send both physical copies of our film as well as HD downloads to our customers and backers with minimal interaction by us. This allowed us to concentrate not on the business and technical side of our work, but on keeping the conversation and analysis alive for the community. Over five years later, this method is working well, keeping revenue active while allowing all of the filmmakers involved to concentrate on their creative pursuits.

During the 3 years that it took to make this documentary, I was able to hire at least five York College students as camera operators, web architects, and editors to the film. In addition to receiving film credits, they were invited to early screenings of the film and witnessed its development as they provided feedback that helped shape the story. It was during this time that I was the professor on record for several production

courses at York College including; Advanced Documentary Production, Television Studio Production, and Webcasting. The production and technical processes of this film were integrated into all of my courses during those three years and continues to be a part of the critical analysis components in my curriculum. With full access to raw media, media contracts, workflows and editable components, the resources that this film has provided me in the classroom will be paying dividends for a long time to come. More importantly, this film has provided students with a modern perspective and application of digital storytelling at the professional level.

By taking these risks to stay current with technologies and business processes that will make up the new media landscape, I am giving my students a competitive advantage in the new media workplace. This march to stay current and apply new modes of media to my work trickles down to the classroom. This process of always having cutting-edge and applicable work to reference is standard practice in my pedagogical application. Those that teach, do.

2. How can art, science, and technology augment each other's strengths to create new works that contribute to both research and practical artistry?

As a multifaceted filmmaker by trade, I have also had an opportunity to moonlight as an interdisciplinary technologist. Contributing to collaborative research by applying the hands-on skills that I have learned in my media career, I have been able to expand my work as an artist and gain access to science and technology that is shaping my work moving forward.

Other than time-based media, over the past 15 years I have created alternative non-linear works ranging from installation art using hacked iPads to commissioned stereographic video platforms. Some of my work has even been granted provisional patents by the USPTO. For years I did not consider these pieces part of my "body of work" mainly because I saw myself as a media professional and not a researcher or artist. As these alternative projects started to stack up it became more and more difficult to define my niche in higher-education.

In the Summer of 2012 I was asked to build technology demos for York College's SEMAA program. Having been a volunteer for several years, I was commissioned to design and demo anything interconnected to the STEM goals by this NASA funded project. These demos would challenge the interest of hundreds of middle and grade school students in the New York City area. At the time, I was refining a multicopter drone that I had built for my documentary feature, *The Domino Effect*. This drone was built with the intention of carrying 2lbs of photographic equipment 800 feet up to retrieve unique aerial views of the abandoned Domino Sugar Factory in Williamsburg NY. This project was shelved after several other NY filmmakers were arrested for flying in the cramped NYC airspace. I continued to work on the technology at York College and with the SEMAA funding I was able to research, 3D print and fly multicopter drone platforms. The "3D Printed Drone Demos" were a

success and I acquired the tools and technology that were previously out of my financial reach. This would be my first taste of how interdisciplinary collaboration could augment and fund my creative work.

With advanced access to drones and the courage to control them, I offered these skills and platforms to several groups around CUNY whose research goals aligned with my interests in science and technology. Appeals to gain access to the drones ranged from life science research in Jamaica Bay to aerial mapping for geology programs. Interestingly enough, one of the collaborative requests came from a research project started by a Computer Science Professor at York College. After our initial meeting I realized that there could be funding and opportunities to both build an interdisciplinary facility for this type of humanitarian research, and to publish my work as well.

Over the next six months, our work concluded with an accepted paper in a peer reviewed journal and \$15,000 worth of research tools in robotics and research support from grant-funded sources. I presented our work at the Global Humanitarian Technology Conference in 2014. The largest takeaway that I had from this particular collaboration is that the critical perspectives that I had to offer from my media production background were not only applicable to traditional research fields, they were a key part in changing the research and outcomes of this supposedly “non artistic” work. Creative solutions to complex problems have been the basis for all of my work, whether collaborative research or media production related.

Scientific instruments have been used as artistic tools since the advent of the word “technology” coined in the early 20th century. In many cases, these artistic tools had their birth in high science; Photography is a chemical process, paint on canvas is affected by the visible electromagnetic spectrum and geometric relationships to light, time based media is now a highly computational and electro-mechanical process. As I have continued to receive grants and funding from various sources to build facilities and technological projects for York College. Over time it has become more apparent to me that both artists and scientists share common goals and would benefit from a deeper level of collaboration to take advantage of the unique perspectives that they employ.

These collaborations not only provide for unique funding opportunities for both scientific and artistic faculty, but the research involved can open the creative floodgates for our students in both the arts and sciences. Imagine a working-group at York College that digitally fabricates both large multimedia installation pieces as well as conducting scientific experiments within the same facility. Truly melding both worlds blurring the lines between art & science, my future work looks to leverage my talents harnessing high technology for multiple research and artistic goals.