Please describe your experience with time-based media artworks.

I've been focusing on the conservation of time-based media art since 2005, when I joined the Swiss research project AktiveArchive as a conservation researcher. The project was a government-funded initiative that explored different topics in media art conservation and was co-hosted by my previous employer, the Swiss Institute for Art Research in Zurich, and the University of the Arts in Bern (namely its MA program for the Conservation of Modern Materials and Media). The project participants were three art historians with a strong background in technology and myself — I was the only conservator on the team. As a cross-disciplinary team, we explored different types of analog and digital media art and its preservation, documentation and display. Between 2005 and 2008, I focused on two AktiveArchive projects, the exhibition, symposium and publication "Reconstructing Swiss Video Art from the 1970s and 1980s" and the book and DVD publication “Compendium of Image Errors in Analogue Video”. The compendium, which I co-authored with Johannes Gfeller and Agathe Jarczyk, was a very ambitious project and its translation to English took much longer than we expected, so it was only released a few weeks ago. We expect it to become a really important, bilingual reference work for curators and conservators and other collections caretakers who are in charge of analogue video collections.

Here at the Guggenheim, which I joined in 2008, I focus on time-based media exclusively. I established the first media conservation lab in a U.S. museum, and I have been working with many departments to integrate media conservation into our daily practices and to establish workflows for loans and acquisitions and exhibition preparation.

My professional career builds on a MA degree in painting conservation, which I received in 2002 from the Hochschule der Bildenden Künste in Dresden, Germany. Although technically the art works I’m dealing with today are very different from canvas paintings, I find that my conservation background informs my work every day. The standards that are taught and practiced in art conservation are absolutely applicable to time-based media—the ethical framework, the analytical examination of artworks, the critical approach to
intervention, the decision-making, the employment of science, and even some of the terminology.

Of course, conservators who wish to take responsibility for time-based media have to expand their ethics and expertise. They have to develop an in-depth knowledge of analog and digital technologies. But it's not completely foreign to conservators, because to become a conservator, you have to study physics, chemistry, material science, imaging science, analytical diagnostics, and so forth.

In Europe, there are already programs that offer master's degrees in media art conservation – the most comprehensive program is the five-year, full-time course in Bern, Switzerland. Unfortunately, to the present day, there is no comparable education offered in the United States. Of course there is the fantastic MIAP program here in New York, but as much as I value the curriculum of this two-year course—it's a very important program—, I think that essential parts for becoming an art conservator are missing. I'm not saying that MIAP graduates can't evolve to become time-based media conservators—I myself have a cross-over career—but it has to be understood and acknowledged that substantial further education, intensive conservation mentoring, exposure to conservation ethics and practices, and years of practical on-the-job experience are necessary to make this transition.

However, I am optimistic that this is just an interim phase right now where professionals have to make that empiric career change in order to become time-based media conservators. I hope there will be a program in the U.S. in the near future that provides a proper MA degree in contemporary art conservation more generally, and media art conservation in particular.

Speaking to the further education we can take care of right now, given the lack of a tailored degree program, I think the work that EMG, the Electronic Media Group of the AIC, has been doing is really important and significant. Next to our programming at AIC meetings, we also launched the “TechFocus” workshop series on media art conservation. I co-programmed the first workshop, “Tech Focus 1: Caring for Video Art” with Agathe Jarczyk, lecturer at the Bern program, and we hosted the workshop here at the Guggenheim in 2010. The second workshop, “Tech Focus 2: Caring for Film and Slide Art,” took place at the Smithsonian Hirshhorn Museum in 2012. Currently, our planning committee is working on “TechFocus 3: Caring for Computer-Based Art”.

What specific resources or tools have been useful to you, in addition to those you have already noted?
First and foremost, my conservation education and the 20 years I spent in conservation, including internships, studies, and positions I have held. The participation in research projects such as AktiveArchive. Accomplishments in the conservation world—e.g. Matters in Media Art, Inside Installations, DOCAM, Pip Laurenson’s writings. The exchange with conservator colleagues as well as technicians and specialists outside of conservation. The Internet! I do a lot of technical research on the Internet.

Being part of a network of professionals is actually a really significant resource and my work for EMG has been integral to expanding my network here in the US and abroad. In seeking collaborations, you want to know who has experience in what aspect of media conservation, and you want to work closely and in constant exchange with these colleagues. Because the subject of our care and research is so diverse and so rich that no one person can really specialize in every specific technology. So it is important to work as a networked group of professionals who can consult with each other. That’s essential for building new standards in the field. All these things said, the biggest resource for nurturing a steep learning curve is to be exposed to issues in time-based media conservation in practice, and on a daily basis. I am very lucky that the Guggenheim is dedicating my work time to the care of time-based media works. Every day, I gain a deeper understanding of the subject. I stumble upon problems that I have to solve and I get to explore an enormous diversity of practical, ethical and technical issues.

What do you see as the distinction between “standards,” “guidelines,” and “best practices” in the preservation of time-based media art?

That was the only question on your interview guide that I found a little confusing. But I would say guidelines are created by professionals who see a necessity of leading others toward best practices. Standards are best practices that are agreed upon across a professional field; so they are no longer “nice to have”—they become a minimum requirement of some sort.

With respect to the research exhibition you did on Swiss video installations: what kind of issues and difficulties did you encounter in your attempt to reconstruct those 30 or 40 years after the fact?

Our aim was to use historic display equipment to show and challenge the works, not just by translating them back to a certain time period, but by using the same make and model of equipment that was used in, say, 1973 in a particular iteration of the piece. As a reference for this reconstruction, we used images of historical installation views. Of course, one of the problems we were facing was the difficulty of finding the accurate historical equipment. In
some cases, we couldn’t find the exact make and model and substituted it with equipment of a similar type or at least the same time period.

There were also complex conceptual problems due to technological dependencies. One piece, for example, depended on the analog terrestrial T.V. signal, which was no longer around in 2008 when we realized the show.

Another interesting issue we investigated was the visitors’ response to the works. How do contemporary visitors experience works that are installed with historic technology? Some of the feedback we received in the press focused on the notion of nostalgia and a perception of the show as being a historic technology exhibition rather than an art exhibition, and that it did not necessarily evoke the experience that was originally intended by the artist or offered by the artwork in the time of its creation.

In an accompanying symposium and publication, we discussed additional problems. For example, how much of an interpreter are you if you carry out reconstructions: of course, there is no such thing as an objective reconstruction. How does that interpretation affect the integrity of the artwork? A majority of media artworks are allographic by nature; they are not meant to be frozen in a certain configuration; change is inherent to them. But we deliberately chose to freeze the works in a moment in time and tried to investigate the implications.

I think, what was really successful about this research exhibition was the fact that we managed to look at these works in a “lab environment.” We showed the works in a real museum—Kunstmuseum Lucerne—with real museum visitors and a real media reception, while isolating and investigating a practice we described as “historically informed reconstruction.” Before our exhibition, this kind of approach has been discussed in different fields, media art history, media theory, media science and media conservation, but we wanted to offer the real-life experience, and invite professionals to reflect this approach in front of the artwork.

Were there any works that you wanted to include, but could not because the necessary documentation did not exist to reconstruct them?

Yes, the feasibility of reconstruction was based on the availability of installation views and was factored into the curatorial selection process.

What kind of information was missing in the metadata and documentation of those works that would have made your job easier, had it been there?
As to be expected with early works from the 70s and 80s—and in particular those who never entered art collections—, there was hardly any documentation at all. Part of the conservation and curatorial research process was to secure image and text material from the living artists, libraries, gallery and festival archives. Of course, it would have been great to have documentation of the device makes and models that were used for the historical iterations. It would have also been great to have evidence of the artist’s intent, the aesthetical and conceptual dependencies of the works on technologies or specific devices, and on the variability of the works. We did work with the majority of living artists to consolidate this information retrospectively – six shortened artist interviews that Agathe Jarczyk and I conducted are published in the book—, but this was 30 to 40 years after the fact. Memories blur, opinions change, and a moment of speculation is introduced if this information is not captured close to the creation time of a piece.

At the Guggenheim, have you been able to develop technical best practices that might lend themselves to standardization?

What do you mean by “technical best practices”?

Some of the ideas behind this question involve the working group’s interest in digital repositories and the process of storing components of works in a repository. Other things like caring for computer-based works, and whether there are best practices that can be applied across similar works—for example, acquisition formats.

So far, our digital repository has been very simple, compared to more elaborate DRMCs. It consists of a simple directory structure on a dedicated server. We adhere to a strict institutional file naming convention and save metadata on separate documents that are stored in the same folder with the digital video or audio asset. The checksumming, unfortunately, is still manual – and conducted by myself. But we are working with our IT department to improve this scenario. At the Guggenheim and at many other museums, it is not the conservation department that is handling the digital assets. It’s often the IT department that is in charge of server maintenance, back-up infrastructure etc. Of course, Conservation specs out general parameters: We want a dedicated server for our artwork; redundant storage; automated checksumming etc. But IT takes care of the realization, it is their core expertise.

In terms of Guggenheim standards for video acquisition, I’m actually sharing a lot of those details on the Guggenheim website in the Time-based Media Conservation section, where I uploaded templates that illustrate which deliverables we acquire (see www.guggenheim.org/tbm-lab; www.guggenheim.org/tbm-practices; www.guggenheim.org/tbm-documentation.)
When talking about needs for standardization in our field more generally, I want to see having a conservation degree in order to perform media art conservation become a standard. Qualified conservation is a standard for all other types of artworks, and it should definitely be a standard for time-based media works as well.

The second standard I would like to see is that more museums and collecting organizations start to dedicate conservation positions to the care of time-based media works. We have dedicated positions for paper conservation and painting conservation and object conservation and all types of other conservation, but for time-based media, we have at most a handful of collection positions worldwide. And time-based media works are so easily neglected in a broader collection-care context, if you don’t dedicate conservation staff to build up expertise and responsibility. Many institutions rely on existent staff, e.g. the object conservator or even an interested technician or art handler, to cover media conservation activities in addition to their regular jobs. But these colleagues are often overchallenged with the extra work load and the complexity of issues and can’t find the time to maintain the necessary focus.

Within museums, it should be standard that there is very close collaboration between curators and conservators and media technicians, especially when it comes to acquisition, exhibition preparation, and loan processes. That is crucial. It should also be standard that museums build up institutional knowledge of their time-based media works—that an institution does not rely on outsourcing the responsibility for these works, for example by relying on the artist or the artist’s studio to install or update the piece. The responsibility for the piece has to be assumed by the institution, or else the piece cannot be successfully preserved and managed. I would like to see it as a standard that change in time-based media works is managed in a responsible and pro-active way.

In this paradigm, it should be a standard that the condition assessment of moving image and sound content is part of the same routine that is practiced for traditional art objects. I think every museum should have access to or own a viewing station, a media lab with equipment that allows you to access that content.

Are there any communications issues that need to be addressed in the relationship with the IT?

Here at the Guggenheim, we all communicate and work closely together. We meet and the conservators spec out what they need, and IT tries their best to accommodate. We rely on the IT department’s expertise to come up with products and backup software and so forth to make that happen.
Once you hand over a digital asset to the IT department for digital stewardship, are there any different specifications for art files in comparison with other kinds of files?

I should point out that we don’t “hand over” the files to the IT department. They provide us with a dedicated server with redundant storage, back-up and highly limited access. Only myself and a very small group of other people can access that server. I checksum and load everything onto that server myself.

The main difference in handling the Guggenheim’s regular, non-art digital assets and the valuable art files that are artist-provided or generated by us when we digitize works, are the highly limited access and the addition of metadata. The digital art files are stored on a high-security server; material cannot be moved from one server to another without the access group’s approval and checksumming. Nobody can overwrite or even see the material if they do not belong to this access group.

Other than that, in terms of back-up, redundancy and server maintenance, the art server is integrated into the Guggenheim’s existing storage infrastructure, which is maintained by the IT department. This way, continued care is guaranteed.

What communities should be creating and distributing and supporting the kinds of standards you were talking about?

Standard generation and implementation needs to happen on both ends, in practice and in theory; in the art collection on the one hand side—across departments—, and in conservation education and research on the other hand. Ideally, both communities work together and create synergies. This is why I am planning to expand our internship and research fellowship program and enhance the exchange between media conservation programs and the Guggenheim. We have to resolve some space issues before we can make such a commitment, but I really think it is very important to offer emerging professionals the opportunity to train in practice and to invite more research into the collection.

In order to create consensus on practices across different museums and practitioners, a US project along the outlines of the European project “Inside Installations” would be most helpful.

What areas of time-based media art are not getting enough research at the moment?

Currently, the underdeveloped field of conservation of computer-based art is attracting a lot of conservation attention: Matters in Media Art have devoted their next project phase to the subject, TechFocus its next workshop, the European research project “Digital Conservation” has just published their case study research, and MA theses are revolving
around the subject. Video games, interactive art and performance art are further genres that require more investigation.

The acquisition of file-based video is another topic that requires more exploration and new standards for quality control and condition assessment.

*What did we forget to ask you?*

I would like to add a few remarks on documentation standards and practices. The main problem for museums in charge of time-based media art is the fact that existent collection management databases still don’t allow for adequate tracking and documentation of multi-component works or iterational works... in other words, a big range of contemporary art, not just media-based art. The majority of American museums use TMS (The Museum System) as a collection database, and I have been meeting with Gallery Systems (the developers of TMS) a number of times to provide them with our customer demands for adequate media art documentation. They have picked up on a number of elements we developed at the Guggenheim—especially the iteration reporting. They started working on new wire-frames for a time-based media module and invited other museums’ feedback, but we haven’t heard from them in more than a year. The conservation community is very hopeful that one of the next TMS versions will allow us to track and document contemporary art adequately.

Until we have a functioning database that can accommodate these works, the pros and cons of two alternatives have to be balanced. One is to exclude these kinds of works from the collection database and to accommodate them in a more flexible, custom-tailored database. The other is to attach discrete documents like PDFs and word documents to the TMS object records. Both alternatives have massive disadvantages. Separating works from the general database disturbs the interdepartmental workflow severely. Exhibition checklists are fragmented, object packages for loans have to be found in different places and parent-child relationships between records are broken. The disadvantage of attaching documents is obvious: their content is neither searchable, nor easily updatable.

In lack of a better solution, the Guggenheim uses the second method of attaching documents to TMS. The document structure I developed here reflects the so-called two-stage nature of allographic time-based media works, as discussed by Pip Laurenson. We capture the core of the artwork and its display requirements on the one hand side, and the different instances of the work, its iterations, on the other side. The display requirements are more general, they describe the variability and dependencies of the work, the properties of equipment rather than makes and models. The iteration reports, on the other hand, detail every device make and model, screen size, digital file property, wall color,
sound proofing or other component employed by a certain iteration. In most institutions, decisions that impact the appearance of an iteration are made across a team of different players. Our iteration reports make that decision-making process transparent by naming all the team members, and listing the reasoning behind decisions: “The media technician decided to use this projector, because he had it available,” or “because the artist preferred a white housing for the projector.” Or “the conservator decided on this codec for the exhibition file because it represents the content of the work in the best possible way. We experienced micro-blocking with encoding this content to MPEG-2 and achieved better results with H.264 encoding.”

This degree of specificity is the institutional foundation for future decision-making, and a track record of the change that the artwork has undergone throughout its collection life. Documentation is an essential tool for the conservation of time-based media art.