Résumé

Music, Media, Arts Education. A Pan-European Exchange of Views on Research, Praxis and Musical Education in the Digital Age

November 17-18, 2020

Stiftung Genshagen

Music, Media, Arts Education

Online conference November 17-18 2020 in English via ZOOM

A Pan-European Exchange of Views on Research, Praxis and Musical Education in the Digital Age

Digitisation has permeated every sector of society and our lives. It is no longer merely about technical applications, as it equally relates to cultural phenomena and practices. The use of digital technologies has also prompted major changes in artistic music practice, a field increasingly dependent on technical developments. Music technologies being used in education has led to promises of democratisation, challenged concepts of music-making and increased the potential for participation and inclusion. Indeed, the resources and technology generated by current artistic and entrepreneurial digital music practice have led us to expect innovation in the arts and cultural education. Arts education thus brings with it an emancipatory potential.

Between the **17 and 18 November 2020,** researchers looking at digitisation in arts education, music educators, and artists as well as manufacturers from the cross-genre electronic music scene came together to discuss these issues for the online conference »**Music, Media, Arts Education. A Pan European Exchange of Views on**

Research, Praxis and Musical Education in the Digital Age« hosted by the **Genshagen Foundation.** With over 140 registrations, the event brought together speakers and participants from France, Germany and Poland, as well as other parts of Europe, to have an inter-professional and transnational exchange about the **potential and the challenges** of the digital age for music education, teaching and learning.

The German Federal Ministry of Education and Research (**BMBF**)-**funded** research projects: **be_smart, MIDAKuK, MuBiTec** and **musicalytics** were the impetus for this conference. In particular, they highlighted areas for future research to improve the incorporation of digital music technologies in music and arts education. Important was to create more inclusive music spaces with both classical and digital instruments, as well as treating Digital Music Instruments (DMIs) and music apps as »real instruments«. They too require new skills to play. Our Eurocentric perception of music and aesthetic experience can be a limitation in how we view new music technologies. DMIs

and music apps are often pre-programmed with western music sounds, for example. The idea should really be about a discovery of a new digital sound that is free from a historically western understanding of what music is.

In his keynote speech, Professor Benjamin Jörissen referred to Rancière to emphasise the necessity for **dissensus** between the current aesthetic order and new »digital order«. The idea is to step outside of the usual ways of perceiving. Dissensus should not be seen as a conflict, but as a space in which to **create new possibilities**.

The participants of the event saw many new possibilities created by artists and creative technologists. Examples of DIY (Do-It-Yourself) instruments and DMIs targeted at the general public, as well as people with disabilities, showed how artists are **using technology as a tool for learning and empowerment**. This desire to move away from what the culture industry demands has resulted in innovation and increased the likelihood for participation in the musical field. But the reality is still that those who are better educated are more able to effectively use digital music technologies.

Another important aspect of the conference was the impact of the COVID-19 pandemic on arts education and how to teach and perform using digital platforms and market-driven tools, which often are more centred on making money rather than promoting participation and artistic expression. An outcome of this was the phenomenon of »screen fatigue«. Several speakers expressed a desire to return to nature. This tied into the discussion of the **importance of listening,** and not letting digital devices do the listening for us by increasing the volume, for example, or omitting background noise. When our shared learning spaces are no longer the same, our listening experiences are also different. This lack of togetherness has led to projects attempting to foster a **common consciousness over digital platforms.** More generally, these new experimental methods as a response to the pandemic could produce a new kind of sound or music in future. We should focus less on the limitations and problems of

technology and learn to work with its obstacles, rather than expecting the technology to function perfectly.

Overall, it is clear that new music technologies have the **potential for real empowerment**. However, we have to be keenly aware of the limitations of these technologies and always keep the final artistic and/or pedagogical goal in focus. A starting point, perhaps, is to think about how we can **use technology productively alongside our bodies,** rather than our bodies being overcome by technology. This will allow us to maintain the embodiment of making music. Another takeaway from the event is to search for an **alternative aesthetic order** that includes »good« digital technologies, rather than fear their impact on the current aesthetic order. The productive discussions that occurred in this transnational exchange will hopefully lead to future collaboration and **collective dissensus** in the field.

Music, Media, Arts Education. A Pan-European Exchange of Views on Research, Praxis and Musical Education in the Digital Age

November 17-18, 2020
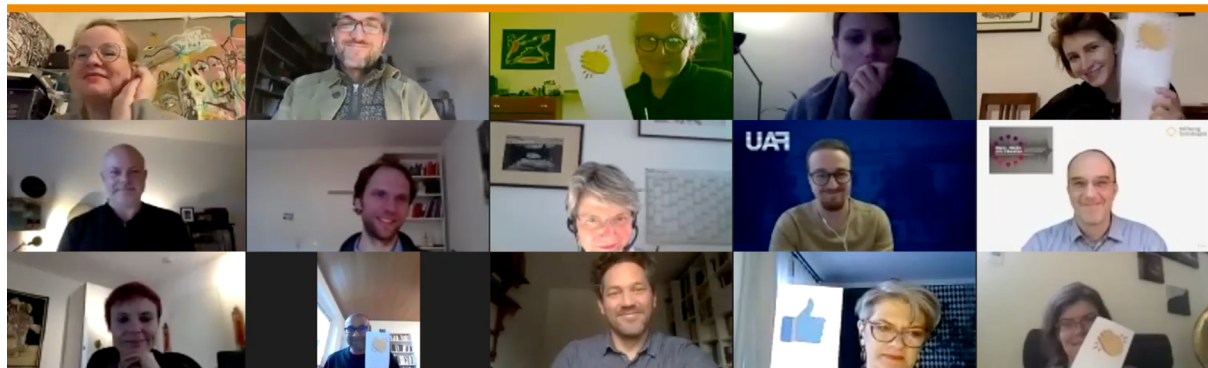
The following report serves as a comprehensive summary of the event. A short overview of each section of the conference is provided, including the work of the speakers, the key themes and the discussions.

Links to artistic and documentary content produced as part of the conference

- The conference trailer which opened the event, by Johanna Ickert (LIBRA Film)
- Improvised music piece by Marcin Rupociński for the conference, (alternative link: music piece 2)
- The sound piece by JD Zazie as an artistic comment of the first day of the conference
- Audio-visual documentary of the conference by Johanna Ickert (LIBRA Film)

The two days of the conference were moderated by **Friederike Abitz** | Co-Creative Facilitator, DE/BE

Keynote: The Good, the Bad, and the Digital: Digitalisation in Aesthetic and Arts Education [1]

Benjamin Jörissen | Professor, Chair of Education with a focus on Culture and Aesthetics, Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, Director of the Meta-Project: Digitalisation in Arts and Cultural Education | DiKuBi

Technology and digitality have presented]themselves as a »promise«, namely a way of improving our everyday lives. In fact, digitisation has changed the whole planet, to the extent that we now live in a state of **post-digitality,** meaning the structures of the digital realm have become universal. There are examples of »software-isation« in almost every aspect of life, be that in the way we communicate, in our architecture, in medical research and, of course, in the arts.

Digitisation also poses a threat to the arts and arts education. To understand this, we have to ask ourselves what is the purpose of education. It is not just about ensuring people are »competent and useful members of society«, rather it is about a »**continuation of culture**«. This means ensuring a diversity of shared values and ways of seeing in our collective culture. »Education is not about conserving traditions, it is about connecting traditions«, even in this hyper-individualistic time.
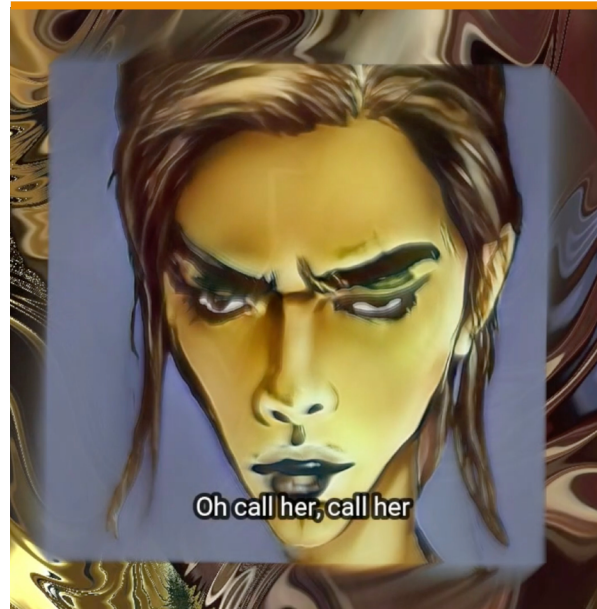
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[1] Keynote Speech's slides: https://joerissen.name/wp-content/uploads/2020/11/Keynote-Genshagen.pdf

Astérismes, Aki Ito

Eurovision AI Song, Portrait XO

Traditionally we think of order as a positive thing, as this means the prolongation of life and the future of culture. By contrast, chaos has negative connotations as it represents death and destruction. Yet, aesthetics occur precisely when cultural forms of perception are folded upon themselves. Previously, arts education formed part of the normative (»ordered«) realm. But from the 18th century the arts became more autonomous from the state order, accepting instead only aesthetic criteria; following its own rules. Jacques Rancière pioneered the term **dissensus** to capture the lack of consensus between the aesthetic and normative realms.

Currently, arts and cultural education strive for consensus in the normative way of seeing and doing things, for example in learning at school. However, arts, aesthetic and cultural education should be about dissensus, as inquiring about the possibilities of dissensus will allow us to step outside of the usual ways of perceiving. Dissensus should not be seen as a conflict, but as a space in which to create new possibilities.

There is now a dissensus between aesthetics following its own rules and the digital order of things. The digital revolution over the last decade has disrupted the normative order, bringing its own problems. The new digital order persuades us to see things to its own benefit. There thus needs to be a transformation of how we teach arts education in order to challenge the structures of digitality. This can only be achieved through collective dissensus.

Artists and creative designers of technology already do this. Instead of market shortcuts they use new creative methods that are empowering. The fact that they work collectively in less structured ways allows them to do a lot more, resulting in potential changes to arts education. In fact, »*Bildung* [education/culture] is becoming a matter of human sensitivities, intelligences, realities and materialities altogether [as well as] technology«. The DiKuBi-Meta-Project has been a chance for post-digital cultural research to explore how we use our bodies and new technologies harmoniously.

This is a way to think and sense differently, which ultimately is empowering and »what aesthetic education should be about«.

Input from Artists

→ **Key themes:** accessibility of new music production technologies; audience participation

Moderation by **AC Coppens** | Founder/CEO, THE CATALYSTS, DE

Portrait XO | Hybrid Music Artist, Creative Director, DE
»My main goal when I use any technology is how creatively inspiring it can be«

Portrait XO is an interdisciplinary artist and has recently started using AI in her creative process. A lot of people still find AI abstract, and even

scary, but she is using it to create a tangible end product. The process of using AI and custom neuro-networks also has a manual aspect in ironing out the glitches in the audio she was using. For example, in 10 hours of raw audio created using AI, only about 5-10% of the audio was usable. She also used this process to produce Germany's entry for this year's first ever Eurovision AI Song Contest.

The main challenges in this field lie in AI not being very accessible. To succeed you need some basic production skills and knowledge, in addition to a powerful computer, as raw audio data is very heavy and cannot just be plugged in. Another contemporary challenge Portrait XO highlights is »screen fatigue«, whereby people are getting tired of everything being online during the pandemic. For artists, the only way they have been able to continue with performances is through live-streaming; however, this is not the same experience for the audience, as well as for the artist.

Marcin Rupociński | Composer, Media Artist, PL
»In my opinion we will always be using some kind of physical interface, simply because you can rather feel than look at what you are doing, and this is crucial for musicians«

Marcin Rupociński is mainly interested in electro-acoustic music and works at the Academy of Music and Academy of Fine Arts in Wroclaw. At the Academy of Music, they have computer music aided studios, where you can create multi-media installations and interdisciplinary projects. Music and art as cultural phenomena will probably look the same in the future, as composers will continue to compose their music – maybe just using different means. However, to develop audiences further is difficult, as many people still want to listen to music from the classical era.

The main challenges Marcin Rupociński faces are regarding the possibilities of multi-touch screens. He dreams of one that is as flexible as an iPad, but designed for musicians, where you do not have to look at which specific button you are pressing, rather you can feel what you are doing, as is the case with traditional instruments.

He would also like to see more specialised faculties for contemporary classical music in schools, as modern musicians tend to just play music by other composers. There is a chance here to use technology and multi-media installations to create some really new music.

Aki Ito | Composer, FR
»Education is social and music is social«

Aki Ito works on the Astérismes project which allows the audience to participate in the experience of the concert with their smart phones. The aim is to get the audience to focus on a space for creativity and the different sounds being produced. Each participant plays the role of a moving speaker. This interactive experience shows the movement of sound in the space between people. For example, when watching an orchestra play, you do not know what it sounds like for the musicians because you are always listening to them in front of them, rather than within the body of the orchestra.

Aki Ito highlights that this project is not just about the technology but also about the psychology of the audience. How do we make them more or less active? Ultimately education is social, as is music, and to be active in these realms of society depends on the people. We have to try and include the more passive members of society.

Input from the music industry: What inspires the production of digital music technologies and instruments?

→ **Key themes:** instrument-making; accessibility; aesthetics and performance; empowerment

Moderation by **AC Coppens** | Founder/CEO, THE CATALYSTS, DE

Adam Stark | MI·MU Gloves, Managing Director, GB
»A lot of our work is spent around trying to help the artist create their own aesthetic, which is personal and expressive to them«
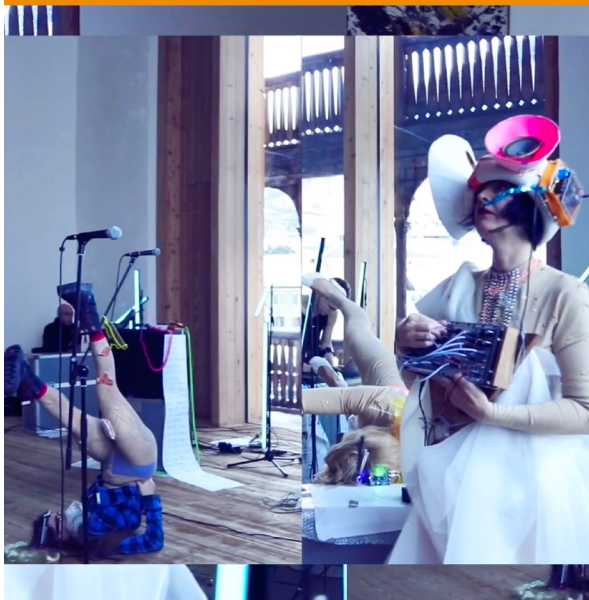
Noise Bodies_MUZEUM SUSCH, Chicks on Speed

MI·MU Gloves - Music Through Movement, Adam Stark

MI·MU Gloves is trying to change the way people compose and perform music using computers by capturing the expressive power of the human body. The gloves are wireless, wearable and gestureable music controllers. Flex sensors measure the bend of the fingers and the orientation of the wrists, leading to a »sound feedback« from the glove, which is programmed using MI·MU's specially developed software, without being limited to a pre-determined sound set. The creation of the gesture-sound relationships is a big part of the creative process.

The reality is that now computers feature heavily on stage. Despite their amazing features, they are not great performance tools, as they lack the expressivity of »natural« instruments. We have also reached a point where we assume that buttons and sliders are the predominant ways in which to produce electronic sound. MI·MU Gloves challenge this assumption. One of the difficulties faced by MI·MU is accessibility, due to the expense of making the gloves.

Stephan Schmitt | Nonlinear Labs, Founder, DE
»It is important to remember that before digitisation there was electrification«

Stephan Schmitt has a background in electrical engineering. He founded Native Instruments as a response to being unsatisfied with the range of synthesisers available, which has produced some of the biggest commercial sound systems and electronic instruments. His passion project, however, is the more recent Nonlinear Labs, creating the C15 synth. The C15 contains the possibility for editing sounds within the instrument, rather than linking it up to a computer and other software. The idea is to use it in the same way as in more traditional music-making.

Typically, Nonlinear Labs' customers are jazz musicians and people from the film industry. However, an attempt is being made to diversify their customers. They want to increase access to younger people and persuade talented musicians to use their products by starting a rent-to-buy scheme. People can pay 2% of the full price a month, for example, and give the instrument back whenever they want.

Pascal Joguet | Joué Music Instruments, Founder, FR
»I wanted to create a feeling of natural instruments in the digital world«

Pascal Joguet was involved in developing one of the first multi-touch screens, Lemur, to enable electronic musicians to make music and change sounds in real time, rather than through a keyboard or a mouse. He founded his company Joué in order to use real textures and materials in music production again. The instruments Joué creates are used in schools and education to teach children, and people who do not have access to a big piano or guitar, as they are quite compact. He is also renting his instruments to schools to give more children the opportunity to play music.

There is still a big challenge of accessibility in music practice. Most people cannot play an instrument, even though many would like to. There is also the problem that in music lessons you often do not play the music you actually listen to. The key to developing a new music practice is having the opportunity to listen to everything – this is already pretty much the case through streaming services, but should be reflected in the music people play themselves too.

Melissa E. Logan | Chicks on Speed, Label owner UniCAT, VooCha, DE/US
»The danger of telematic [2] performing is that we become talking heads, all of us!«

Instrument building has been a part of the feminist music and fine art ensemble Chicks on Speed since they started, as they wanted to create their own »performance tools«. The way they change how they move their bodies when on stage with the »objectinstruments«, became part of their aesthetic and performance. Making your own instruments has always been a hugely accessible way to make music. The cigar box is a traditional example, from the earlier part of the 20th century, allowing people who did not have violins, cellos or pianos to make music. This was incredibly empowering, due to the flexibility of these instruments and being able to move around the world with them.

Melissa E. Logan has worked on many different instruments and projects. »The Beat«, for example, has modules that connect to the human heart beat. One can then use it to make many different sounds and it can also be used in performance as the base beat. The heart accelerates as you are about to do something. She has also worked with »Piezo«, which is a way of amplifying sounds and music on instruments such as the cigar box and we-glove. Both of these instruments are also open-source and free to download for people to then solder together as an inexpensive option.

Alexandra Murray-Leslie | Chicks on Speed, Associate Professor, Art & Technology Task Force (ARTEC), Norwegian University of Science and Technology, DE/NO
»We can create a common consciousness over these [digital] platforms«

Embracing improvisation methods in real-time is a way to develop new music and performance. Instead of always trying to perfect using new technologies, we should experiment with them to create a new common consciousness. We should also encourage people to make their own instruments, instead of relying on the accessibility of other people's instruments. The »objectinstruments«, created by Chicks on Speed, are like metaphors, the way you play an instrument has a meaning and this is transmitted very quickly to the audience, like a prop.

The Theatre of Making is a pedagogical project, founded in 2018 by Chicks on Speed. It aims to use telematics, audio-visual improvisation and AI in real-time to foster lifelong learning and create a common consciousness. The idea is that people do not differentiate between art forms such as collage, music, and theatre, but that they all exist together in telematic space. Due to the COVID pandemic, the Theatre of Making has turned into a research project, working with a research catalogue based in Stockholm. Students take part in a series of performative audio-visual improvisation sessions via teleconferencing systems, which has allowed for a sense of togetherness during this time. They use deep-listening and contact improvisation techniques to facilitate interactions across interdisciplinary divides remotely.

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[2]   Telematic performance refers to live performance utilising telecommunication and information technology, facilitating a performance between two or more locations.

»Regards Croisés«
Exchange of Views on Theory, Praxis, Research, and Musical Education

Session I: Aesthetics, technology, society and cultural industries
→ **Key themes:** social media platforms; streaming; market economy; blockchain; commoning

Anetta Janowska | Assistant Professor, Chair of Public Policy, Warsaw School of Economics, PL
Shintaro Miyazaki | Professor, Department of Musicology and Media Studies, Humboldt-University of Berlin, DE

Moderation by **Martin Donner |** Researcher, Chair of Education with focus on Culture and Aesthetic Education, Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, DE

The exchange began with the effects of the pandemic on remote learning and creative industries. Shintaro Miyazaki identified a lack of community in remote learning due to minimal open source means of connection. Anetta Janowska, by contrast, explained that many artists during the lockdown in Poland learnt to use new technologies to collaborate remotely, as well as ways to reach the public using social media. However, there were also complaints about the overproduction of cultural content during the lockdown. In this way technology can be seen as a double-edged sword: it can be helpful, but also comes with many new challenges, such as how to produce, distribute, and promote content.

A problem with technology in the market economy is its mainstream aspect via platforms such as Facebook, Spotify and YouTube. Mainstream production is more profitable and these companies benefit from streaming more than the artists themselves, let alone those working in more niche genres. The culture of everything being available has led to a phenomenon of »musac«, as Martin Donner explained, whereby music just becomes background noise that fits the current mood or setting of the consumer, losing its value as music. This aspect of the cultural production value chain is a problem because artists do not have control over what they produce in the end, resulting in a concentration of wealth and power for the big players.

This is why performance has become so important for artists, as it is the only aspect of their music production over which they have control and from which they earn money directly. The big platforms act as intermediaries between the artist and the public, as they provide the means of distribution and promotion. However they also use this power to their advantage.

A possible solution to this threat is »commoning«. This utopian scenario, where you live in a community, allows you to take control over your working rhythm by sharing all aspects of life: childcare, food production and so forth. Within this, we could include music production. The algorithms blockchain uses could also be an alternative, to monetise and control the circulation of music and other cultural production on the internet. Artists could earn money through commercial use, as blockchain would follow up how artwork gets transformed and used. Everyone who has contact with the artwork gains entry into the blockchain. Better still would be to combine blockchain with cooperatives, as Shintaro Miyazaki suggests, to prevent big companies taking advantage. Another solution could be to return to a more lo-fi (rather than hi-fi) approach, investing in hardware rather than software, to work outside of these systems, in the spirit of a counter-culture.

In terms of cultural and music education, the consensus was that artists need to learn more about the market in music and art schools. The focus in their training tends to be on technical aspects of art rather than learning how to make a living with their work. Artists should also be taught how to critically reflect on societal mechanisms and how to change values associated with culture. The balance of culture's value between monetary, historical and spiritual has shifted far more towards the monetary aspect in market-driven societies, which is what future artists need to address. There is perhaps also a greater shift needed in education in general, that teaches future generations the value of pursuing

an artistic discipline, so that politics and business are not as biased against the arts.

Recommended books:
- Eriksson, M., R. Fleischer, A. Johansson, P. Snickars, P. Vonderau (eds). *Spotify Teardown: Inside the Black Box of Streaming Music.* 2019.
- Groux, H. A. *On Critical Pedagogy.* 2011.
- Tapscott, D. & A. Tapscott. *Blockchain Revolution.* 2016.

Session II: Technology as empowerment
→ **Key themes:** empowerment; nature; sound; overcoming personal boundaries

Krzysztof Cybulski | Musician, Sound Artist, New Media Art Collective »panGenerator«, PL
Olga Kozmanidze | Performer, Musician, Sound Artist, Co-Founder »Sentire«, DE

Moderation by **Friederike Abitz** | Co-Creative Facilitator, DE/BE

Persuading people to overcome personal boundaries with music and music-making have been central for both artists in numerous projects. For Olga Kozmanidze, empowerment is best achieved through sound and the senses, allowing us to feel connected to other people. Her BMBF-funded project »Sentire«, the Italian word meaning to hear/to feel, is an example of this. People are brought on stage and become part of the performance as »musical instruments«, as a sort of human computer through their interactions; every gesture produced would have sound feedback.

The idea of overcoming personal boundaries is also prevalent in Krzysztof Cybulski's artistic work. He creates interactive musical installations. A lot of people believe that they are not musical. This is often because of the way music is taught in schools. By enabling them to interact with musical installations, you are empowering them to challenge their own preconceptions, especially when they see their own children having a go. The empowering aspect comes from this involvement and surprise at what they produce.

Another aspect is about how much control we give to users of music technologies. Krzysztof Cybulski's work with panGenerator centres on making different digital instruments. The »Dodecaudion« was pre-sequenced and pre-programmed to allow people who do not know much about music to create sound. However the user then loses control of what music they can make, despite it being easier to use. This balance of control vs. access is a constant challenge in music technology. In the »Wall of Sound« project, users have more control because they can record a short sample of their voice which they can then trigger and send to different parts of the wall to reproduce. This allows users with more musical ability to compose something, but is also accessible for less musically-experienced people.

A final discussion point was brought up by several participants regarding our relationship to nature. During the COVID pandemic many people have shown a desire to get outside of the screens now so important for daily life. It is therefore crucial to reconnect to nature and learn from nature. Olga Kozmanidze highlighted some key questions: How can we listen to plants and other natural organisms? Can we use technology to do this? Central to this thinking is that in sound we have to be present, and therefore we have to re-learn how to listen to our surroundings.

Session III: Participatory art, collaborative work and interdisciplinarity
→ **Key themes:** participation; different ways of performing; classical vs. alternative music education; listening

Pierre Jodlowski | Composer, Performer, Multimedia Artist, Artistic Director of Musica Electronica Nova Festival, Wroclaw, PL/FR
Norbert Schnell | Professor, Music Design, Faculty of Digital Media, Furtwangen University, DE

Moderation by **Tanja Klepacki** | Senior Researcher, UNESCO Chair in Arts and Culture in Education, Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, DE

Alternative musical education and performance within participatory frameworks are changing

the way we perceive the purpose of music education. A key point was to what extent audience participation resulted in performances with a high aesthetic experience. Norbert Schnell spoke about his last project with IRCAM (Institute for Research and Coordination in Acoustics/Music) called »88 Fingers«, where 88 people participated in a performance through their mobile phones, each person being connected to one of the 88 keys on the piano. Therefore, each person was responsible for what is played overall, a metaphor for a free and responsible society.

Clearly this does not produce a work of art in the classical sense, but it is an embodiment of living in a global community, trying to work out how to do something together. It was acknowledged that it seems unfair to say great aesthetic experiences can be created by anyone in this way, when classical musicians typically train for many years before they are ready to perform on stage. It would perhaps be more accurate to say there is an alternative aesthetic order for this kind of participative performance. Pierre Jodlowski developed this further, saying that audiences can add an extra element to a performance, but the artist should retain ultimate control over the context in which it is used – this is where the aesthetic experience could come from. In his eyes being together is more interesting than participating, because the very fact that the audience is there together at a performance is participatory already.

Another aspect of the discussion was how to make classically trained musicians more flexible with regard to contemporary music practices. As a performer himself, Pierre Jodlowski described how in classical music performance, you often forget your purpose on the stage as you get so used to producing certain gestures rather than the music and the performance itself. We need to teach musicians to interact with multi-media installations and the audience rather than the notes on the page when performing. Classical musicians have to enter a paradigm that also looks at questions of the body and listening, especially when confronted with contemporary music scores that include other aspects, like choreography.

This led to a discussion about how music education comes with pre-fabricated assumptions and ideas as to what music actually is. Technology is a powerful means to question these ideas. There are now music courses that did not exist before, like music design, for those who want to enter the music field through a different route. In Norbert Schnell's opinion, the theory behind music design courses should be centred on sound culture and students should learn how to be listening specialists. To collaborate with other musicians and disciplines, you have to be able to listen effectively. This could be an alternative way to educate high level musicians outside of scores. The fact that traditional music schools are unwilling, has led to art schools being more innovative in terms of music technologies and education, when it should be the music schools that lead the way by adapting to the digital age.

Session IV: New approaches to cultural education through music and technology
→ **Key themes:** DIY instruments; makerspaces; embodied learning; children and music technologies

Marion Voillot | Architect, Designer, PhD Student, FR
Hainbach | Electronic Music Composer, Performer, YouTuber, DE
Helen Leigh | Hardware Hacker, Music Technologist and Designer, DE/GB

Moderation by **Friederike Schmiedl** | Research Assistant, Chair of Education with focus on Culture and Aesthetic Education, Friedrich-Alexander-University (FAU), Erlangen-Nuremberg, DE

In this session, different facets of instrument making using both hardware and software were discussed as well as how we can create digital and tangible music experiences for young children through »embodied learning«. All three speakers have created some form of musical technology using less traditional or experimental methods.

This opened up a discussion about makerspaces/-hackerspaces, places that promote informal technology learning. Helen Leigh learnt much

about coding and soldering here. In many ways these informal learning networks are vital places to learn about music technologies; we are not limited to learning in a classroom. Marion Voillot, who created new technology for early-years settings to achieve embodied learning for young children, also used makerspaces to design some of her scenarios.

Another important point was musicians not just being consumers of music technologies, but creators of it. Hainbach also builds digital instruments, but prefers to use experimental and avant-garde techniques, such as tape-looping, that are separate from the music software of today. On his YouTube channel he shows these self-made instruments and techniques. His aim is for musicians to have the creative tools in their hands. Many musicians are very critical and demand tools that work for them, resulting in digital instruments often being too complicated or having too many functions. If we keep the features simple but open to use creatively, musicians have more freedom to create something new. We should be trying to enhance what we do with classical instruments in order to discover and celebrate a digital sound.

This is the case with many of the instruments Helen Leigh has developed and made available via open-source. She also published a DIY book for children to make musical instruments, which teaches them to be creative with the materials around them, mixing up the boundaries in creative technology education. This playful approach is central to the »hacker-ethos«, where people are encouraged to just have a go. Technology should be used as a tool not as the end goal. The other side of this is learning music through technology. An example of this is the MINI MU Glove, which Helen Leigh designed, collaborating with the MI·MU team, which aims to teach children how to code, but through music.

Marion Voillot's PhD project aims to teach kindergarten age children about sound and gesture while using smartphones. Children today are growing up in a digital environment but many interfaces are not adapted for children and teachers do not feel empowered to implement digital technolo-

gies into young children's learning. Through various pedagogical scenarios she was able to promote embodied learning, meaning that there is a connection between the mind and body's actions. Children learn new gestures every day, but by linking gestures to certain sounds when telling a story, for example, using sensors in smartphones, they must listen and pay attention to learn the specific gestures, acting only through bodily interactions. A concern was that teaching young children only very specific gestures went against what education is about, as it does not give them much freedom. However, the children were encouraged to be very aware of the gestures they were learning by trying different ones and learning to listen to which version of the gesture produced the best-quality sound.
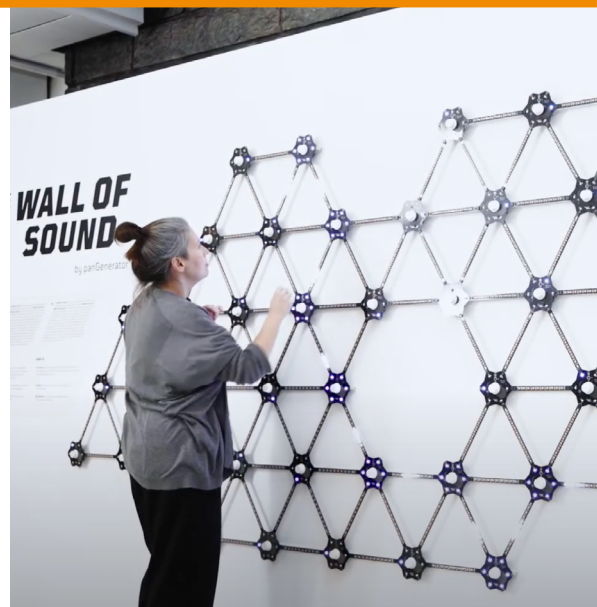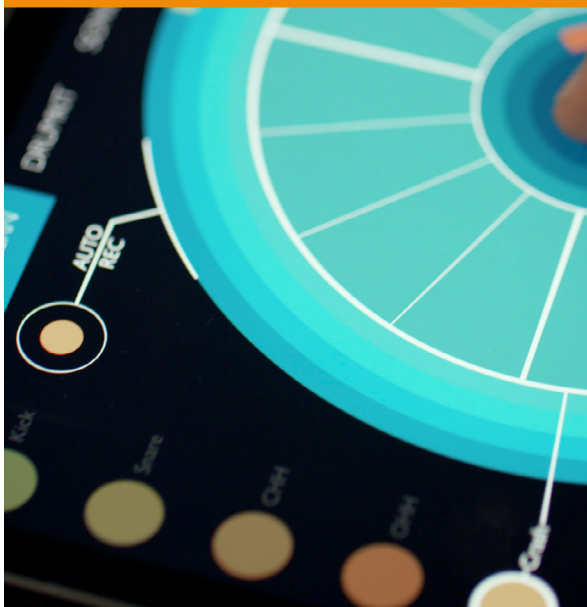
The Wall of Sound, panGenerator

Digitisation and Music in Arts Education. Presentations of Research Projects funded by the German Federal Ministry of Education and Research (BMBF) with Comments from France and Poland

Session V: Music and disabilities
Can the promise of participation in the arts be achieved through digitisation? How can digitisation in music expand every individual's participation in music production and in musical experience?

BMBF-funded research project »be_smart«, presented by:

Juliane Gerland | Professor, Faculty of Social Sciences, Department of Music in the fields of Childhood Education and Social Work, Bielefeld University of Applied Sciences
Imke Niediek | Professor, Institute for Special Education, Chair of Education for Intellectual Development Disorders, Leibniz University, Hannover
Julia Hülsken | Researcher, Faculty of Social Sciences, Bielefeld University of Applied Sciences

Comments from **Guillaume Batista Pina** | Multimedia Artist, Creative Moderator, FR

Moderation by **Friederike Abitz** | Co-Creative Facilitator, DE/BE

Digitalisation holds the potential to increase participation in cultural education among people with severe disabilities. However, these opportunities in the field of music teaching have so far seen little use and little research. The core question guiding this research is: What potential and challenges do music apps present for safeguarding and expanding cultural participation for adolescents and young adults with severe and complex disabilities? [3]

As the results of the project stand, it is clear that there are different types of attitudes (»supporting« vs. »rejecting«) towards music apps and DMIs. These attitudes also depend heavily on participants' definition of disability as well as personal musical socialisation. A common theme overall, however, was that what DMIs are, remained unclear. For example, is a tablet with a pre-loaded music app on it a DMI? Moreover, how do we value different kinds of instruments? Classical instruments are typically seen as »good«, and DMIs as »bad«, whereas for people with disabilities instruments just have to be »good enough« for them to use, which can devalue their musical experience, instead of empowering them.

Discussion
The worries surrounding DMIs were the starting point of the discussion and highlighted by Guillaume Batista Pina. Firstly, many teachers actually want to carry on teaching with classical musical instruments rather than with new technologies. Another issue is that many music

3   https://www.dikubi-meta.fau.eu/be_smart/

educators do not know how to use DMIs and music apps. Therefore, while DMIs are, in many ways, easier to use as well as more accessible for people with disabilities or as occupational therapy instruments, educators need to be trained to use them in the classroom.

As Juliane Gerland pointed out, it is hard to accept a new way of making music or aesthetic experience. Teachers are used to getting students to experience music through their bodies, feeling the vibrations for example, and there is a real worry that digital instruments are going to take that away. Furthermore in special needs education, students training to be teachers in this sector have the preconception that they need to be present and next to the child at all times and have been reluctant to continue with teaching online during the COVID pandemic. Imke Niediek highlighted that this belief that technology aiding special needs teaching is »bad« also prevents the incorporation of DMIs into the classroom for special needs children.

There was also the question of whether musical education and development is really achieved through DMIs. Juliane Gerland argued that although it should not be a case of having to choose either classical or digital instruments, this is the reality for many people with complex disabilities and goes for all aspects of their life, not just music-making. Digital instruments facilitate participation in music production for people who otherwise would not be able to do so.

Moreover, as Guillaume Batista Pina added, digital instruments can be programmed to include these natural sensations through the body. You can include sensors that produce vibrations, lights that change colour depending on tone, real-time videos and so on. In this way DMIs are very expressive. The design of these instruments is very important in terms of access. You can interact with them just using your eyes or skin rather than fingers or mouth. Imke Niediek used the example of the eye-harp to illustrate the eye-tracking function, allowing players to create music just with their eye movements. Also, inclusive music settings usually have a mix of classical and digital instruments, so it is not about choosing one or the other.

Session VI: Music-making with silicone and software
What is changing? The significance of digital musical instruments for creative processes and playing music together

BMBF-funded research project »MIDAKuK«, presented by:
Michael Ahlers | Professor, Institute of Fine Arts, Music and Education, Chair of Music Education, Chair of Music Didactics with a focus on Popular Music, Leuphana University, Lüneburg
Carsten Wernicke | Researcher, Institute of Fine Arts, Music and Education, Leuphana University, Lüneburg
Martin Donner | Researcher, Chair of Education with focus on Culture and Aesthetic Education, FAU, Erlangen-Nuremberg

Comments from **Annie Luciani |** Research Engineer, Director of the ICA laboratory, Coordinator of EASTN-DC, FR, and
Adam Świtała | Composer, Musician, Teacher, Workshop Facilitator, Researcher, PL/IS

Moderation by **Friederike Schmiedl |** Research Assistant, DiKuBi-Meta, FAU, DE

The project conducts research into the pedagogic significance of digital musical instruments. These might be things, for example, based on new materials (e.g. silicon as a contact surface), that introduce new musical designs (guitar-like grid layouts replacing the classic keyboard), that provoke digital musical approaches (loops, algorithms, sound design) and even fuse classical instrument concepts with digital logics. How do experienced and less-experienced aspiring musicians act, react and interact with these new offers? How do creative processes change through these kinds of MusikmachDinge (music-making objects), equipped with knowledge and concepts through programming? How do these new musical instruments help people to connect with others and make music together? [4]

DMIs face obstacles being embedded into pedagogical environments and require new skills to be learnt. Therefore the educational potential

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4 https://www.dikubi-meta.fau.eu/midakuk/

is not as obvious as it could be. There are also new interface relations between human beings, things and metaphors of instruments. Classical instrument metaphors make the usage of musical interfaces less accessible, especially for people who are classically trained in music. The results so far indicate that DMIs are as »resistant« as classical instruments.

Discussion
The speakers explored how DMIs are portrayed by music instrument manufacturers versus how they are used in reality, as well as the ways in which we could overcome some of their limitations. A concern that was brought up was the lack of real collaboration between musicians when using DMIs, and also a lack of embodiment.

In a video shown by the MIDAKuK team we could see users of DMIs visibly getting frustrated at the technology and giving up, whereas manufacturers always make them seem accessible for everyone, no matter one's musical or technological background. The idea of playing together and collaboration using these tools is potentially more of a marketing trick than what actually happens.

Adam Świtała expanded on the idea of collaboration by explaining that in the classroom it is often difficult to make DMIs, produced for the market, collaborative enough for this educational setting. In fact, there is an interaction between marketing strategies and collaborative strategies. It might seem more profitable to sell a product as less collaborative (i.e. Apple makes more money if everyone has their own iPad), rather than leave it open for a teacher to design, for example, to prioritise usage in schools.

A shared space for collaboration with digital instruments is often part of the architecture of the interface or the digital instrument itself. When talking about collaboration we have to differentiate between what kind of collaboration we are talking about. Michael Ahlers highlighted that there is a difference between »musicking«, »music-making«, and »music-producing«, which in turn will require different levels and types of collaboration. This returns to the point about different settings. Often we put far more emphasis on the specific technologies and end up overlooking the setting: is it artistic or educational? For example, we could work with latency consciously and as part of our actions or think of obstacles as the nature of the tool, rather than expecting the tool to mimic something that we would experience when playing an acoustic instrument.

Another part of the discussion was interface design and diversity of DMIs. Annie Luciani reflected on the lack of embodiment in DMIs, as there is no direct relation between our gestures and the instrument when we are pushing a button or playing with silicone. We can act on the object but do not feel it. Michael Ahlers agreed saying that the amount of layers in an interface means there is a disjunction between our actions and the sounds produced due to the algorithms within the software that very few people can understand. However, this ability to manipulate sounds and add samples with DMIs is perhaps what some B-producers are looking for and this usability makes them attractive on the market.

Ahlers continued to say that it is important not to say that someone who can play violin, for example, is more skilled than someone who can play a silicone instrument. The reason we attach so much skill to classical instruments is because classical music is very Eurocentric. But this understanding of music is not the same to someone from a different culture or continent. To learn to play a DMI also requires learning new skills, which can be just as difficult. These skills are simply not associated with our history of European music.

Session VII: Music education with mobile digital technologies
How is mobile digital culture constructed? Which specific aesthetic categories emerge in artistic practices? How are particular forms of musical learning and music-related skills developing?

BMBF-funded research project »MuBiTec«, presented by:
Linus Eusterbrock | Researcher, Institute for Music Education, Institute of European Ethnomusicology, University of Cologne, MuBiTec_LEA

Marc Godau | Professor, Music Education and Music Didactics, University of Applied Sciences Clara Hoffbauer, Potsdam, MuBiTec_LINKED
Jens Knigge | Professor, Faculty of Education and Arts, Campus Levanger, Nord University, NO, MuBiTec-AppKOM
Verena Weidner | Professor, Faculty of Education/Faculty of Music, Chair of Music and its Didactics, University of Erfurt, MuBiTec_LINKED

Comments from **Gaël Navard** | Composer, Musician, Professor, Conservatory of Nice, Université Côte d'Azur, FR

Moderation by **Christian Rolle** | Professor, Institute for Music Pedagogy, University of Cologne, Coordinator of the research group MuBiTec

The joint research project MuBiTec examines the particular educational potential that results from the mediamorphosis of artistic, musical practice in the context of digital mobile technologies. It consists of three sub-studies that are related to one another (AppKOM, LEA, LINKED). These investigate how mobile digital culture is constituted, which particular aesthetic categories are evolving within the artistic practices, and which specific forms of musical learning and music-related skill development occur in informal and non-formal settings. [5]

AppKOM researches how app-based music-making can enhance musical competences in three different school-based extracurricular activities: an app-music song-writing club, a band song-writing club, or a drama club. The project investigates the competency development and structures of musical learning in these non-formal settings. The results should contribute to a differentiated analysis of the potential of digital media technologies in the creative activity of music-making.

LEA examines how learning processes and aesthetic experiences are affected by informal app music practices. A key finding has been that places affect music-making, namely how a person perceives the atmosphere of their environment becomes part of the music practice and aesthetic experience. Participants liked to go to inspiring places, especially outdoors, to make music and record sounds, and when it came to editing and mixing their composition they preferred to be in a safe and/or private space. Also body movement and body perception seem to be crucial to app music practice. This suggests a specific quality of physical interaction with digital devices.

LINKED looks at the merging of humans, software and hardware in music-making communities, with participants joining in »jam« sessions through Ableton Link. The results so far indicate that the sessions are »messy« if left to progress naturally. Therefore attempts are made to avoid complexity so sessions run more smoothly. Instead of just joining the sessions spontaneously, participants find it more effective if they prepare a music template beforehand to add structure to the session. A moderator can also regulate the roles of participants and controls the mixing desk, enabling collaboration, despite the original idea of there being no hierarchy within the sessions.

Discussion
Music technologies used in education have challenged concepts of music-making and increased the potential for participation. However, the nature of typical everyday life technology, such as smartphones, can prove difficult for use in an educational setting. A project that Gaël Navard works on, for example, is using smartphones for orchestra ensembles. The quality of the technology itself can result in difficulties with sound, for example. Furthermore, smart phones are now often perceived quite negatively. Children already spend too much time on them and in France the education ministry has completely banned smartphones in schools. Therefore, how can we then use them as musical instruments? This was further demonstrated by the children's reactions to the smartphone orchestra project. They enjoyed the project but said they do not feel like musicians, more that they are playing a video game. In fact, the children who had experienced classical musical education found this kind of music-making far less interesting than performing more traditionally.

One of the outcomes of this discussion was a consensus that artistic research is a promising field for the future. We need to use practical experiences in the field from different perspectives to move forward in this research.

Panel Discussion: Making and Learning Music in the Age of Digitisation

→ **Key themes**: how to best use digital tools for making and learning music; accessibility; artistic purpose; teaching music in the pandemic

Moderation by **Andrea Goetzke** | Cultural Producer, Curator, Organiser, DE

Andreas Lehmann-Wermser | Professor, Institute for Music Education Research, Hannover University of Music, Drama and Media, DE
»The question is, is it [digital media] serving an artistic goal, is it serving artistic expression, is it fostering creative processes?«

Andreas Lehmann-Wermser co-leads the **BMBF-funded »musicalytics«** project.[6] The interest point of the project was what happens when children or adults learn about music using digital media. Music classes were installed in adult evening courses in non-formal educational institutions and participants received tablets to use any apps they chose when learning about songwriting. The researchers tracked exactly what the participants were doing in and outside of class.

The main finding of this study was that better educated people were able to make better use of the online resources, therefore showing that music education using digital media does not improve accessibility. One needs a minimum preknowledge level of either digital media or music (or both) to best utilise the tools available. Therefore, this sheds a different light on the potential of music education and digital media. It is not that the potential of accessibility does not exist, especially for people with special needs, but it needs careful consideration.

Catinca Dumitrascu | Head of Outreach and Education, GRAME, National Music Creation Centre, Lyon, FR
»The relationship we have with sound is always passing through extremely sophisticated and powerful machines«

GRAME is one of eight national centres for contemporary music-making in France. Its aim is to encourage the conception and dissemination of new musical works, offering residencies for composers, performers and artists of various disciplines. It also conducts scientific research in the areas of digital technologies and computer music-making. The expertise of the research teams lies in real-time audio and programming languages. Key to their research is whether digital instruments bring something new to the audience in terms of musical experience in the context of an oversaturated digital world, and also how digital tools facilitate the transmission of music. An important part of GRAME's outreach work is the workshops they put on for children in schools, offering scientific and musical activities, allowing them to put themselves in the shoes of today's artists.

Marek Chołoniewski | Composer, Sound Artist, Director of the Electro–acoustic Music Studio at the Academy of Music in Kraków, Director of Audiosphere Lab, Intermedia Department at the Fine Arts Academy in Kraków, PL
»Our role as a teacher is to show the value of all instruments and to show how to use them, how to merge the old and the new«

Marek Chołoniewski set up GrupLab as an informal medium for his students to learn in a more interdisciplinary way. GrupLab does not distinguish between professional and amateur musicians. They join in common performances and look at graphic scores, for example, as well as using digital instruments that are around them and low tech and mechanical constructions to produce music in the same measure. Another facet of this »sound art« is the open concerts for everyone over Zoom (also the case pre-pandemic). Marek Chołoniewski additionally highlighted the importance of working with the archive in the digital era, which is what he does with the »Time Machine« initiative. His group has hosted over

6   https://www.dikubi-meta.fau.eu/musicalytics

1,000 concerts and the idea is that performers play back previous concerts, performing with their past selves in the present. This allows us to keep performance elements from the past alive.

Discussion

A problem in digital music-making and learning is that we are too often reproducing the same popular music with little creativity. Andreas Lehmann-Wermser sees this happen in schools in Germany. Older machines were unable to replicate sounds, and now with digital instruments we can sample sounds from nature. We therefore have to use digital tools wisely. For example, on a tablet where a traditional musical instrument is represented, people with special needs are empowered to express themselves musically, but this could limit other people's expression.

Another issue Andreas Lehmann-Wermser highlighted is that digital media often transmits western culture and meaning through the pre-programmed sound banks and the names of the platforms. It is thus important to ask, within an educational context, what is being achieved with digital media in artistic practice: is it increasing participation and opening up new avenues of creativity, or is it reproducing markets »western capitalistic values«? Catinca Dumitrascu argued that it depended on the digital tools at hand. In fact, many of the DMIs and apps that GRAME works on do not contain pre-programmed sound banks, so they do not have a long history of western music within them. This lack of prior context allows them to exist in a new framework, fostering an open space for experimentation. The performer brings their »universe« to the digital tool/app to create sound. Furthermore, for children with no prior music knowledge, it is easier to learn with digital instruments.

The discussion continued about our relationship with sound when making music in the age of digitisation. New apps and tools should force us to learn to listen better and more closely, rather than relying on machines to help us hear, by turning up the volume, for example. »Good technology« would aid our return to »sound intuition«. An experiment Marek Chołoniewski

likes to perform with his students during online classes also involves tuning back into our senses, to forget about the digital and use our bodies, especially our ability to see and hear. He might ask students to listen to the background noise in their room and then share these recent sensory experiences with each other, as they are no longer sharing the same space of the classroom during the COVID pandemic. He also strongly advocated not comparing acoustic and digital instruments, as digital tools are now such an integral part of our society – therefore they should be treated as »normal« and students should instead learn how to merge these new methods with old ones.

At the end, all three panelists emphasised the importance of not losing sight of the artistic project at hand, rather than focusing on the digital tool facilitating the project.

To Conclude

The aim to offer a space for a transnational and inter-professional exchange in the field of music, technology and arts education was achieved. The feedback received from both speakers and participants was positive, praising the diversity of topics, level of engagement and opportunities to network. The Genshagen Foundation was able to reach more people than at a physical event, with attendees coming not only from France, Poland and Germany, but also Iceland, Russia, Serbia and the USA among others. The informal exchanges were also used very productively in parts. Despite distance and COVID-19, lively and expert exchanges and reflections still went ahead, although maybe not in as much depth as some people had hoped. What became clear was the enthusiasm for future collaboration and research, especially in the field of artistic research, with many people leaving the event feeling inspired about the potential of music and digitisation.

Speakers' Biographies

Friederike Abitz, Germany/Belgium
Is a professional facilitator and experienced moderator with special expertise in participatory design - in real life, online and in mixed media. Abitz guides change processes and moderates conversations with the intention of being truly meaningful. In addition to traditional methods such as teambuilding and project management she uses techniques like Dragon Dreaming and Theory U. She has degrees in Packaging Technology (Dipl.-Ing. (FH)) and Business (M.Sc.) and is a passionate folk musician.

→ https://www.friederikeabitz.com

Michael Ahlers, Germany
Is a professor of Music Education and Popular Music at the Institute of Fine Arts, Music and Education at Leuphana University, Lüneburg. His current research projects focus on digital music interfaces or digitally-assisted musical practices. He has worked on numerous projects in recent years as part of the DiKuBi- Meta-Project: »Digitisation in Arts and Cultural Education«, looking also at how digitisation can increase inclusivity as well as improve individual practice in music education.

→ https://www.leuphana.de/en/institutes/ikmv/personen/michael-ahlers.html

Guillaume Batista-Pina, France
Is an artist and creative moderator who specialises in digital practices in contemporary art. A graduate of the Beaux Arts de Nantes, he has collaborated with several artists in recent years. He worked in AMPLI's project »Music, Digitisation and Handicap«, which aimed to help individuals with disabilities to create and practice music through digital tools. He has also worked on other projects facilitating musical education and creation, and creates instruments to this end as well.

→ https://guillaumebatistapina.com

Marek Chołoniewski, Poland
Is a composer, sound artist and performing musician, specialising in contemporary and experimental music. He is also director of the Electroacoustic Music Studio and the Academy of Music in Kraków, as well as being president of the International Confederation of Electroacoustic Music (ICEM). In addition, he creates many sound and video installations and has given performances, workshops and lectures internationally, as well as collaborating on numerous international artistic projects.

→ http://www.studiomch.art.pl/

AC Coppens, Germany
Is a strategist, curator, speaker and founder of THE CATALYSTS, a boutique agency boosting the development of innovative and creative players in digital technology, media, science and film, music, design and the arts. Blending critical thinking, creative strategy and future-oriented research, as well as a solid background in the performing arts, Coppens is frequently invited to major international events to host, present keynotes, and moderate thought-provoking discussions.

→ www.catalysts.agency

Krzysztof Cybulski, Poland
Is a musician and sound artist, combining analogue, digital, acoustic and mechanical elements in a post-digital approach to create interactive sound installations and instruments. He is also co-founder of the new media art collective »panGenerator« in Warsaw. The panGenerator project combines the digital with the physical world in its installations and has exhibited at festivals such as Ard Electronica Festival, Athens Digital Arts Festival, WRO Media Art Biennale and the Warsaw Autumn Festival.

→ http://krzysztofcybulski.com/ab.php

Martin Donner, Germany
Is a researcher at the Institute of Education and chair of Education with a focus on Culture and Aesthetics at the Friedrich-Alexander-University of Erlangen-Nuremberg (FAU). He works on the German Federal Ministry of Education and Research (BMBF) funded project »Musical Interface Designs: Augmented Creativity and Connectivity« (MIDAKuK). Previously he also worked with the educational »AppMusic« project at the Arts University in Berlin and as a composer of stage music.

→ https://www.martindonner.com

Catinca Dumitrascu, France
Has been working in the field of cultural mediation since 2012. At GRAME, the National Centre for Music Creation, she is head of outreach and education, where she initiates and implements pedagogical streams with a strong emphasis on new educational tools that integrate artistic performance, musical creation and the design of new musical instruments. In her studies, she specialised in French and comparative literature and graduated from the Ecole Normale Supérieure (ENS) in Lyon.

→ https://www.grame.fr

Linus Eusterbrock, Germany
Is a research assistant at the Institute for Music Education and the Institute of European Ethnomusicology at the University of Cologne. He is currently working on the project MuBiTec-LEA: »Learning Processes and Aesthetic Experiences in App Music Practices«, funded by the German Federal Ministry of Education and Research (BMBF). His PhD project investigates aesthetic experiences in mobile music making. He has published on music education, ethnomusicology and digital humanities.

→ https://www.hf.uni-koeln.de/39842

Speakers' Biographies

Juliane Gerland, Germany
Is a professor at the Faculty of Social Sciences within the Department of Music in the fields of childhood education and social work at the Bielefeld University of Applied Sciences. She was also active in the Network for Culture and Inclusion, run by the German Minister of State for Culture and the Media (BKM), and works on the »be_smart« project for young people with complex disabilities. Her research focuses on inclusion and interaction in music schools and during processes of musiking.

→ https://www.forschung-kulturelle-bildung.de/ueber-uns/koordinierungskreis/192-juliane-gerland

Marc Godau, Germany
Is a professor of Music Education and Music Didactics at the Clara Hoffbauer University of Applied Sciences in Potsdam. He has worked on several projects funded by the German Federal Ministry of Education and Research (BMBF), including MuBiTec: »Music Learning with Mobile Technologies«. His research focuses on technology mediated music learning in formal and informal contexts, popular music education, and professionalisation of music educators. He is one of the leading researchers on music making with educational apps in Germany.

→ https://www.fhchp.de/prof-dr-marc-godau

Andrea Goetzke, Germany
Works as a curator and cultural producer in Berlin. Currently, she organises a programme on collective practices. Goetzke is co-founder of Music Pool Berlin. She runs a music festival (Torstraßenfestival) and a park music series (Picnic FM), hosts a radio show (Byte.fm), and has worked on projects with Haus der Kulturen der Welt, Ableton Loop, re:publica, and the Goethe Institute. Andrea Goetzke has a background in digital culture and open source, with the UN, and environmental studies.

→ https://musicpoolberlin.net

Hainbach, Germany
Is an electronic music composer and performer based in Berlin. He uses experimental techniques to continually shift audio landscapes. His YouTube channel has allowed him to reach a wider audience and he has performed his music internationally at venues in the UK, Norway and the Netherlands as well as in Germany. More recently he has explored live concept performance collaborations and has also created live sculptures to make his music even more immersive.

→ https://hainbachmusik.com

Julia Hülsken, Germany
Is a researcher on the DiKuBi-Meta Project: »be_smart« at the Bielefeld University of Applied Sciences and funded by the German Federal Ministry of Education and Research (BMBF). The project aims to explore the impact of digital devices for music making purposes on the participation of young people with complex disabilities in cultural education.

→ https://www.dikubi-meta.fau.eu/be_smart

Aki Ito, France
Is a composer who works with electronic music and new technologies as well as instrumental music. She is one of the founders of the Astérismes project. She designs sounds and processes to create new concert experiences where the audience is the central focus. She collaborates on numerous multidisciplinary projects internationally including projects with the ISMM team of IRCAM in France.

→ https://asterism.es

Anna Anetta Janowska, Poland
Is a cultural economist and an assistant professor in the Public Policy Chair at the Warsaw School of Economics. She is particularly interested in the cultural and creative industries, mainly the recording industry, and a lot of her research centres on the concept of »free«/»open« culture in the era of digitisation. She is currently working as a researcher on the EU Horizon 2020 project CICERONE (Creative Industries Cultural Economy Production Network).

→ https://sgh-pl.academia.edu/AnettaJanowska

Pierre Jodlowski, France/Poland
Is a composer, performer and multimedia artist, as well as being artistic director of the Musica Electronica Nova Festival, produced by the Philharmonic in Wroclaw. He is also the co-artistic director of éOle (contemporary music centre in Toulouse) and was also in charge of the Novelum Festival in Toulouse for many years. In addition, he has collaborated with artists and ensembles internationally and has had work commissioned by the IRCAM, GRAME, the Academy of Arts in Berlin and others.

→ www.pierrejodlowski.com

Pascal Joguet, France
Is a co-founder and the CEO of Joué, which makes simple and accessible electronic instruments, blurring the lines between the analogue and digital worlds. Joguet is an entrepreneur and inventor, developing the Lemur multi-touch controller when he launched his first music tech company »JazzMutant« in 2002. Since then he has worked with many businesses and start-ups, creating and developing new products.

→ https://jouemusic.com

Speakers' Biographies

Benjamin Jörissen, Germany
Is a professor and holds the chair of Education with a focus on Culture and Aesthetics at the Friedrich-Alexander-University of Erlangen-Nuremberg (FAU). He is UNESCO chair in »Arts and Culture in Education«, director of the DiKuBi-Meta-Project: »Digitisation in Arts and Cultural Education« and leads the project MIDAKuK: »Musical Interface Designs – Augmentation of Creativity and Connectivity« with Michael Ahlers, Leuphana University Lüneburg. He researches on post-digital culture, aesthetic education, and identity theory.

→ https://joerissen.name

Tanja Klepacki, Germany
Is a senior researcher at the UNESCO Chair in Arts and Culture in Education at the Friedrich-Alexander-University of Erlangen-Nuremberg (FAU). She is also the executive manager of the Chair's Academy of School Theatre and Performative Education in Nuremberg. Her fields of work include theoretical studies about processes of cultural tradition and transformation as well as empirical studies in the field of aesthetic and cultural education.

→ https://www.paedagogik.phil.fau.de/person/tanja-klepacki

Jens Knigge, Germany/Norway
Is a professor of Music Education within the Faculty of Education and Arts on the Levanger Campus at the Nord University in Norway. He was one of the contributors to the MuBiTec project about »Music Learning with Mobile Technologies«. More recently he has been working with a research group looking at music-related learning processes that facilitate music teacher education and co-edited the book Music Technology in Education. Channelling and Challenging Perspectives (2020). Knigge is also active as a musician, performing in concerts.

→ http://jensknigge.info

Olga Kozmanidze, Germany
Is a performer and sound artist. In 2016, she co-founded »Sentire«, which is a system engaging participatory performance and interactive sound. Sentire won a special prize at the »New Instruments for Music Therapy« competition (2019) and received funding from the German Federal Ministry of Education and Research (BMBF). Olga Kozmanidze also runs workshops for adults and children to express themselves through sound and movement. Appearances include: Just Mad Art Fair in Madrid, Miami Art Basel and Eufonia festival in Berlin.

→ http://okozmanidze.tilda.ws

Andreas Lehmann-Wermser, Germany
Is a professor at the Hanover University of Music, Drama and Media and works on the »Digitisation in Arts and Cultural Education« (DiKuBi) research project: »musicalytics«, which looks at musical non-formal learning in a digital learning environment. In addition he is director of the Institute for Music Education Research in Hanover and is a member and speaker for numerous specialist societies for music education and pedagogy, including the ISME (International Society of Music Education).

→ https://www.dikubi-meta.fau.eu/musicalytics

Helen Leigh, Germany/UK
Is a creative technologist, specialising in music technologies, craft-based electronics and education. She designs and makes musical instruments, from interactive art installations to mainstream commercial products. She is a lecturer in London at the graduate and postgraduate level on physical computing, electronics, music technology and play. She is also the author of The Crafty Kid's Guide to DIY Electronics and has written for Make, Hackspace Magazine and Hackaday.

→ https://www.doitkits.com

Melissa E. Logan, Germany/US
Is an artist, musician and performer living in Hamburg, Berlin and Upstate New York. Logan's work focuses on interactive installations and often include painting and electronic music. She is also co-founder of »Chicks on Speed«, and has lectured, performed and exhibited internationally with CoS, including presenting their »objectinstruments«. She is represented by the Galerie Gisela Clemant in Bonn and founded the University of Craft Action Thought, which is a label and performance company.

→ https://www.vimeo.com/uniCAT

Annie Luciani, France
Was a research engineer at the French Ministry of Culture and director of the ICA-ACROE (Artistic Creation Engineering) in Grenoble. The ACROE and ICA laboratory run a global research programme that promotes development, creation and pedagogy in computer music and animated image synthesis and together they explore multisensory digital arts. Luciani is also an artist and she is in charge of the European Art Science Technology Network for Digital Creativity (EASTN-DC).

→ http://www.acroe-ica.org

Valeria Merlini (aka JD Zazie), Germany/Italy
Is an experimental DJ and sound artist living between Berlin and Bolzano. She works predominantly with electro-music and plays with the boundaries of DJ mixing, free improvisation and composed music in her work. She performs as a solo artist but also within large ensembles. She is also the artistic director of the »MuseRuole- women in experimental music« festival and has performed at various events and exhibitions internationally.

→ https://jdzazie.tumblr.com

Speakers' Biographies

Shintaro Miyazaki, Germany
Joined the Department of Musicology and Media Studies within the Faculty of Humanities and Social Sciences at the Berlin Humboldt-University in October 2020 as a junior professor in Digital Media and Computation. He also works as a senior researcher at the Institute of Experimental Design and Media Cultures (IXDM), part of the University of Applied Sciences and Arts in North-Western Switzerland. His research currently focuses on the critique of capitalist designs of media technologies.

→ http://shintaro-miyazaki.net

Alexandra Murray-Leslie, Germany/ Norway
Is a performer and artistic researcher, currently Professor at Trondheim Academy of Fine Arts, Norwegian University of Science and Technology (NTNU). She is co-founder of »Chicks on Speed« art collective. Her current artistic research involves designing »objectin-struments« for networked performance and developing pedagogic techniques for telematic real-time audio-visual collaboration. She completed her PhD in 2018, at the Department of Engineering and IT, The University of Technology Sydney.

→ https://www.ntnu.edu/employees/ alexandra.n.murray-leslie

Gaël Navard, France
Is a composer, musician and professor in Electroacoustic Music Composition at the Nice Conservatoire and is a member of the Scientific Council of the Academy of Excellence »Human societies, Ideas and Environments« at the Université Côte d'Azur. He is also the coordinator of the MPEi research project (Multidimensional Polyphonic Expression Digital Music Interfaces, from high-end soloist ensembles to large pedagogical orchestras) funded by the IDEX (Initiative of Excellence) UCAJEDI.

→ https://www.cirm-manca.org/ fiche-artiste.php?ar=142

Imke Niediek, Germany
Is a professor at the Institute for Special Education at Leibniz University in Hanover. She also works on the German Federal Ministry of Education and Research (BMBF)-funded »be_smart« project, which explores experiences of young people with disabilities and examines the potential of digitalisation for inclusive music education. Her research interests lie in research methodology in the context of severe disabilities, augmentative and alternative communication and interactions in inclusive groups.

→ https://www.ifs.uni-hannover.de/de/ niediek/

Portrait XO, Germany
Is a hybrid music artist who explores the possibilities of where we can go with AI, sound and new media. She is also the founder and creative director of the recently formed SOUND OBSESSED, which is a hybrid arts collective and music label for musicians working at the intersection of art, sound, science and emerging technologies. She is also a founding member of the IASAS (International Association of Synaes-thetes, Artists and Scientists).

→ https://www.portraitxomusic.com

Christian Rolle, Germany
Is a professor of Music Education at the University of Cologne. His main research interests include philosophy of music education and comparative aspects of music education. He acts as a coordinator of the MuBiTec project: »Music Learning with Mobile Technologies«. Furthermore he is involved in the Creative Europe project ´Future Songwriting´ about composition pedagogy in the digital age. He has been active in various advisory boards and associations in his field of research.

→ https://www.hf.uni-koeln.de/37245

Marcin Rupociński, Poland
Is a contemporary classical music composer and media artist. He is an assistant professor in the Department of Media Art at the Academy of Fine Arts in Wroclaw and is also a lecturer in the Faculty of Composition at the Academy of Music in Wroclaw. He has also been a fellow of the IRCAM grant in Helsinki and Paris. His main interests lie in syncretic use of media, multimedia installation, and computer-aided composition.

→ http://www.rupocinski.pl/

Friederike Schmiedl, Germany
Works as a research assistant in the German Federal Ministry of Education and Research (BMBF)-project »Digitalisa-tion in Arts and Cultural Education« (DiKuBi-Meta) at the FAU Erlangen-Nuremberg. Previously she worked as a culture manager and is pursuing a dissertation project at the Chair of Pedagogy with a Focus on Culture and Aesthetics at the FAU. She completed a Master's degree in cultural pedagogy and further training as a music journalist and postgraduate studies in business administration.

→ https://www.dikubi-meta.fau.eu/ dikubi-meta

Stephan Schmitt, Germany
Is the founder of both Nonlinear Labs and the much larger Native Instruments. His aim with Nonlinear Labs is to create digital musical instruments that offer musicians a high degree of expressive-ness. The main product of Nonlinear Labs is the C15, a high-end keyboard synthesiser.

→ https://www.nonlinear-labs.de

Speakers' Biographies

Norbert Schnell, Germany
Is a professor of Music Design in the Faculty of Digital Media at Furtwangen University. Prior to this, he was a researcher in interactive digital audio processing and interaction design at IRCAM in Paris. He chaired the 6th International Conference on New Interfaces for Musical Expression and co-founded the Web Audio Conference. His current work focuses on collective interactions based on mobile and web technologies in the context of art and music, collaborative digital media, and pedagogy.

→ https://hs-furtwangen.de

Adam Stark, UK
Is the managing director of MI•MU, an organisation dedicated to placing human expression at the heart of music technology. He has led the development of the MI•MU Gloves - sensor-enabled gloves for the composition and performance of music. He holds a Ph.D. in computer science from Queen Mary University of London. He has worked as an academic researcher and created a number of artistic projects, including a 5,000 LED sound-responsive tree installed in London's Roundhouse in 2014.

→ https://www.mimugloves.com

Adam Šwitała, Poland/Iceland
Is a composer, musician, researcher, adjunct lecturer at the University of Iceland, as well as member of the Advocacy Standing Committee of the International Society for Music Education (ISME). He was a board member of the Polish Music Council (2017-2020) and before that the president of the Polish Association for Music Education. In 2019 he also coordinated a nationwide research project which investigated music teaching practices and infrastructure in Polish schools.

→ https://adamswitala.com

Marion Voillot, France
Is an architect and designer. She is currently a PhD Student at the IRCAM (Institute for Research and Coordination in Acoustics/Music), the CRI (Center for Research and Interdisciplinarity) and the Center for Research in Design (ENS/ENSCI), all based in Paris. Her research projects focus on early childhood education at the intersection between Design and Science. She investigates the learning process through the development of tangible and digital instruments.

→ https://www.marionvoillot.com/

Verena Weidner, Germany
Is a professor of Music Education at the University of Erfurt. She is a project leader within the German Federal Ministry of Education and Research (BMBF) project MuBiTec-LINKED as well as being a member of the BMBF -Project QUALITEACH. Additionally, she is a member of the board of the German Association for Research in Music Education. Her main research interests are philosophy of music education, classroom discourse, systems theory, and digital culture.

→ https://ampf.info/c/

Carsten Wernicke, Germany
Is a researcher at the Institute of Fine Arts, Music and Education at the Leuphana University in Lüneburg. He works on the MIDAKuK project, funded by the German Federal Ministry of Education and Research (BMBF), »Musical Interface Designs: Augmented Creativity and Connectivity«. He has also worked as a researcher at the University of Music Weimar.

→ https://www.leuphana.de/en/portals/midakuk.html

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Astérismes by Aki Ito and Jean-Philippe Lambert
→ asterism.es/en/asterismes-2/

Eurovision AI Song OFFICIAL MUSIC VIDEO by Portrait XO
→ youtube.com/watch?v=S3LiUr-WLdQ

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Noise Bodies_MUZEUM SUSCH by Chicks on Speed → vimeo.com/387881683

MiMu Gloves - Music Through Movement by Adam Stark, Chagall et al.
→ youtube.com/watch?v=CvyVQqCO8pY

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The Wall of Sound - a collaborative sampler/sequencer in public space → vimeo.com/386468233

Profile
The Genshagen Foundation aims to strengthen Europe's cultural diversity, political capacity to act, social coherence and economic dynamism. At the intersection between civil society, the state and the business world, we offer a forum for consultation and conversation, and we seek to foster dialogue between France, Poland and Germany, as well as promote European integration as a whole. The location of the Foundation, Genshagen Castle, offers a space for encounters and exchanges between actors from the worlds of art, culture, politics, business, science and the media. Through its varied events and publications, the Foundation helps to identify new approaches and solutions to current and future challenges in society and politics – always within the context of Europe.

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