

The Library's Changing Role in Supporting Music Research: Part of the special collection on MusicLab Copenhagen.

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Abstract

The widespread use of digital tools to access scientific literature and other relevant information combined with a shift towards Open Research is changing how research is conducted and academic libraries are adapting their research support services to respond to this change. In this paper, we present the case of MusicLab, and especially *MusicLab Copenhagen – Absorption* with The Danish String Quartet, which served as a mechanism for the University of Oslo Library to test how it can support researchers in developing Open Research practices. MusicLab is a collaboration between the University of Oslo Library and the University of Oslo's Centre for Interdisciplinary Studies in Rhythm, Time and Motion. Through this case, we outline the role of the research library in supporting Open Research including the different legal and data management issues occurring when conducting open research on intellectual works and people. The insights from this paper will be useful for other academic libraries looking to expand their research support services and for researchers looking to further develop their Open Research practices.

Keywords

Copyright law, embedded librarianship, GDPR, innovation, open research, research data management, research support, scholarly communication

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Introduction

Libraries have a long history of making information and knowledge accessible to their communities. They are often places and services where people can find sources of knowledge that have been curated and systematized, making it easier to find quality material on any subject. In recent years, libraries have also begun to make room for expression and debate and acting as being a “third place” (Bruxvoort, 2017)—a place in addition to the home and workplace/classroom where people from any subculture or layer of society are equal patrons (Aabø & Audunson, 2012). For example, in Norway, more and more libraries have acquired the status of “literature house,” where the library frames activities such as book releases, concerts, and debates, and there is an integrated café. Globally, we also see the emergence of maker-spaces, libraries of things, gaming rooms, music

studios, and more. In addition, we see some libraries taking on the role of facilitating citizen science.

Academic libraries are a specialized form of library that provide services to a specific community, namely researchers and university students. In the not so distant past, academic libraries were one of the primary providers of scientific literature in universities and researchers had regular contact with librarians (Atkinson, 2016). This role has changed gradually over the past 30 years with the emergence of digital platforms

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that enable researchers to search for, and access, scientific literature independently. As these platforms have become more widespread and user-friendly, academic libraries have responded by shifting towards developing more active research support services and becoming a “third place” for scholarly communication and experimentation. Another development is the Open Research (also referred to as Open Science or Open Scholarship) paradigm aiming to make research/science “more accessible, inclusive and equitable for the benefit of all” (UNESCO, 2021). Moreover, research is increasingly using large datasets, digital objects, large networked digital platforms, and other digital systems (Koltay, 2019). The increasing use of digital methods and tools in research has led to the emergence of exciting opportunities and complex challenges related to producing and communicating research results. The University of Oslo Library (UiO Library) has years of experience with both event production and research support, as well as a developing digital scholarship service, so building on this was a natural choice, in general and specifically in the case of MusicLab, an innovation project by RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion (RITMO) and the UiO library.

In this paper, we first briefly present background information on Open Research and how the library supports this. We then present the MusicLab concept, and in particular the case of MusicLab Copenhagen—Absorption (MLCPH) with The Danish String Quartet (DSQ) (RITMO & University of Oslo Library, 2021), including data management, copyright issues, and data privacy issues. We elaborate on our role, provide guidance for others who want to support music research, and discuss possible improvements.

Open Research

Open Research represents a significant paradigm shift in academia, while building on traditional academic norms (David, 2008). The Open Research paradigm is rooted in the democratic principles of access to information and knowledge. Different aspects of Open Research are emphasized around the world. A UNESCO survey from 2020 lists different aspects of Open Research including open access to scientific publications, open access to data, science outreach and communication, open source code, open collaborations, open evaluation, co-design of research projects, citizen science, open innovation, and open infrastructure (UNESCO, 2021). Some of these aspects, such as open access and open data, do not require direct interaction and dialogue with the public while other aspects, such as outreach and co-design, emphasize the involvement of non-researchers in the research process.

The shift towards Open Research has been underway since the 1990s, as a consequence of the possibilities for open dissemination with digital technologies, but challenges remain (Swiatek et al., 2020). Researchers are increasingly being required to adhere to Open Research practices that demand making research results more transparent and

accessible, typically through the use of digital technologies. However, in many cases, there is a lack of infrastructure, training, and support for researchers (Dutoit, 2022). There are also legal and ethical restrictions on research that makes it difficult to implement Open Research practices.

Open Research Librarianship

Academic libraries play an important role in the development of Open Research skills and practices. In both open access and the delivery of research data management services academic libraries have played a central role from early on (Marcum & George, 2009; Okerson & O’Donnell, 1995). A systematic review by Liu and Liu (2023) showed that academic libraries offer assistance with open access, research data management, open science, open educational sources, and public research. Today the UiO Library, in line with the aforementioned trend, offers an array of courses and services for open research, including open access publishing, research data management, reproducibility, and foundational programming skills. The Library has also tested embedded librarianship, which provides advice on specific cases and solving problems as part of a research team. This ensures a practice-driven approach and a close connection between library staff and services and the research community.

Making knowledge open and accessible is a core ideal in the library, and there is great potential in supporting researchers in making their activities more open and accessible. The goal from our point of view is not only to disseminate new knowledge (communicating *science*), but also to help demonstrate in practice how research is conducted (communicating *research*), even by bringing data collection into the library or the library into the data collection. Making research and knowledge available also means to make it comprehensible, meaningful, relevant, and engaging. This is why we, as librarians, are committed to good communication, stating why the research matters, and all in all creating engaging scholarly communication.

Ideals embedded in Open Research such as dialogue, involvement of participants, trust, transparency, and sharing, impact the data collection and data management. Due to copyright regimes and increased focus on data, research publication as capital and the notion of Open Research dating back to fourth and fifth centuries, are challenged (Borgman, 2007; David, 2008). Consequently, new models for conducting Open Research exploiting the potential of using technologies to promote openness are needed. Just as research struggles to find a way of balancing the ideals embedded in research ethics with the legal frameworks in a digital context, the so-called copyright wars (Lessig, 2009) in the music industry represent a similar challenge to find a legal space for innovation and creativity. As Lessig writes, “Now that technology enables us to rebuild the library of Alexandria, the law gets in the way” (2004a, p. 95). While the music in question may still have a commercial life, the chosen publication platforms and the intention of

accessibility should be figured in as something not actually competing with this commercial use, but purely scientific. In MusicLab, these experiences are used to test and explore how science can be conducted as openly as possible while respecting legal, practical, and technical boundaries.

MusicLab

MusicLab started off as an idea fueled by the research needs of RITMO (n.d.) and the eagerness of the UiO Library (n.d.) to communicate science to people. The library also had ambitions to further explore concepts of open and embedded librarianship and innovative ways of supporting researchers and research communities practicing open research. The idea was to create an opportunity to conduct research on the interaction between performers and audiences in a “natural” setting, a concert. The project had the aim of producing more authentic research results, uniting art, Open Research, and edutainment (educational entertainment). Emerging from discussions between the first author Solveig Sørbo, composer and academic librarian from the library, and research musician/music researcher prof. Alexander Refsum Jensenius from RITMO, MusicLab soon involved tens of participants from a wide array of fields and has produced results in the form of events, audio, footage, sensor data, workshops, media contributions, papers, and more.

Each MusicLab revolves around a research question, and the participants are taken on board as audience, research subjects, part of the discussion etc. Participants get immediate access to their own data and data of others, and are invited to use the data. MusicLab, as an Open Research project, is founded on the idea that research and society in general benefit from transparency in all stages of research.

Broadly speaking, MusicLab is three things:

- a part of RITMO’s research on music as an inherent human faculty;
- a series of edutaining and interactive concert-experiments;
- an innovation project pushing the boundaries of open research.

The model for MusicLab events is described more extensively in the editorial, but in short in consists of the following elements:

- concert;
- data; collection/experiment;
- intellectual warm-down;
- data jockeying;
- workshop (optionally).

The performance and data collection go hand in hand, while the warm-down—an interdisciplinary panel discussion—serves to enhance the understanding of the research

topic amongst all participants, including musicians, researchers, and audience. Finally, the live data jockeying gives a preliminary understanding of how the data can be interpreted. In some cases, a workshop with for instance concert-goers, researchers, and data jockeys is held in advance to give people hands-on experience with the technology in use (see Figure 1). We have also held a TestLab (RITMO & University of Oslo Library, 2020) where we tried out different technologies in order to practice and get ready for MusicLab—Absorption (RITMO & University of Oslo Library, 2021), and while the conditions at the time did not allow for physical audience, the library hosted and live-streamed the entire event.

Part of MusicLab is to conduct Open Research in interaction with the audience, to involve and create dialogue with the audience. This is a core aspect of citizen science (Golumbic et al., 2017; Turrini et al., 2018), and a great way to communicate science since it invites participation. The events are open to everyone, and the participants are taken on board as audience, research subjects, participants in the discussion etc., and they get immediate access to their own data and data of others.

Citizen science has three interrelated goals: creating knowledge, sharing scientific skills and knowledge with the public, and promoting civic engagement in science (Turrini et al., 2018) There are three fundamental elements: “1) Inclusion of citizens in the scientific process; 2) Contributions to both science and the public, and 3) Reciprocity, that is, two-way communication between scientists and the public” (Golumbic et al., 2017) Citizens are invited as audience and participants in MusicLab by being encouraged to wear sensors, being curious, participating in the discussion, asking questions during the warm-down and the live preliminary data analysis, data jockeying, and accessing data later if they wish to test their own ideas with them. However, there is a great potential in involving both audience and musicians in defining the research question and method design, and enabling them to participate in the analysis part by arranging more hack labs. MusicLab is not a typical citizen science project where volunteers are encouraged to collect or describe data, often in online environments (Lee & Darch, 2019); it does, however, share many of the qualities and goals of citizen science, including the creation of engagement and dialogue with the research participants while gaining new knowledge. When professional musicians and audiences are engaging in research during the MusicLab events, civic engagement in science is promoted and the public is both creating and gaining new knowledge. The events are not simply data collection but also interaction and dialogue through the intellectual warm-up and data jockeying taking place after the concert. So far we have mostly reached people who are somehow connected to one of the collaborating partners, but also communicate our project widely in the media with the aim of also reaching out far beyond our own borders. Retaining volunteers is a known challenge in citizen science projects (Raddick, 2013). Our experience

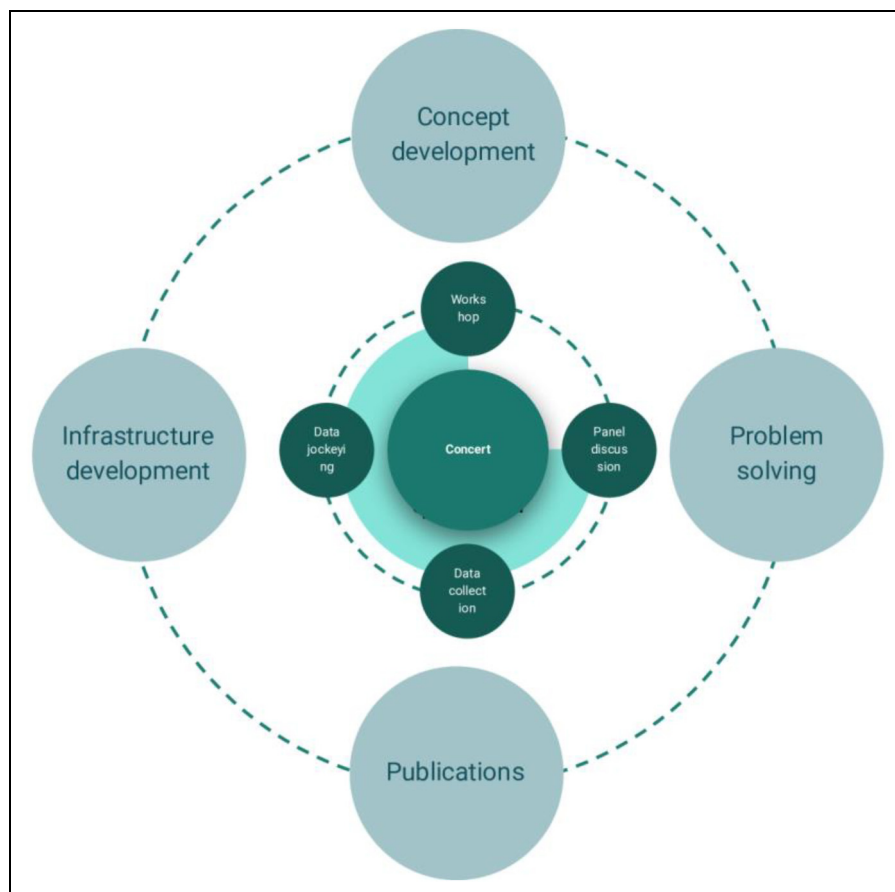


Figure 1. MusicLab as an innovation project (Jensenius, 2019).

so far is that audience members are keen to participate in the research. They gladly share their data and many are also curious to get insight into the workings of their bodies when experiencing music.

According to Cigarini and colleagues (Cigarini et al., 2021), “[...] public libraries can offer leadership in the promotion of citizen science and contribute to the mission of public libraries to act as local community hubs,” and indeed there are some initiatives (Ham et al., 2020; SciStarter, 2021). Often libraries and museums are involved in citizen science related to cultural heritage projects (Vohland et al., 2021). Libraries with scientific-expertise are, however, also mentioned as part of the professional infrastructure of universities, which can contribute in providing access to the public in citizen science projects (Vohland et al., 2021, p. 271). A recent masters thesis with MusicLab as a case of citizen science, concluded that, “[b]y getting involved in public research projects in collaboration with the research communities at their own institutions, the university libraries can contribute to research being made visible, to a greater awareness of the research processes and to society in general being able to gain ownership of research and contribute to being part of science and new knowledge formation.” (Ibabao, 2022, our translation from Norwegian).

In MusicLab we encourage people to use the data collected, and at one occasion we also had a public “hacklab” (RITMO & University of Oslo Library, 2018) where participants could play with data collected in volume 1 using different tools. More of these hacklabs may possibly increase civic engagement in music research, especially if their participation could also be of use in publications for which they should be properly credited (Ward-Fear et al., 2020). If we want people to get engaged in research as citizen scientists and also as research participants, we need to think of ways to credit them beyond the feeling of contributing to the common good, such as research metric credits (EU-Citizen.Scienc, n.d.; Ham et al., 2020).

The main MusicLab model was clear from its conception, and from this seed, more aspects of MusicLab emerged. While the practical parts of hosting MusicLab were pretty straightforward thanks to the collective expertise of RITMO and the library, the management and sharing of data entailed some challenges, as we shall see.

The close collaboration we have had with RITMO researchers can be considered a form of embedded librarianship (Carlson & Kneale, 2011; Mushi et al., 2022; Press, n.d.), which is when librarians get closely acquainted with, and support, a research environment, coming to

understand their field of study including their ideas and methods. Various subsets of domain analysis (Hjørland, 2002) may offer further insight, and developing an interdisciplinary phenomena-level thesaurus (Sørbo, 2017), might come in useful when storage is sorted.

The library has contributed with event management, communication and media coverage, and support with different aspects of data management, and by pinpointing the legal issues that limit openness and how to overcome these limitations in short and long perspectives. The library has been in charge of many of the production practicalities including the coordination of on- and off-stage contributors, being host in several of the productions and being in charge of the audiovisual production. In most of the MusicLab events, the library had a whole crew in charge of multitrack audio recording, live audio engineering, multi-camera filming and streaming, and event management and hospitality. Ensuring the topic of each event would be thoroughly discussed, the library also found and booked experts for the panel discussions, and took care of coordination and marketing.

MusicLab research and its relevance to people is communicated both to the audience and in a series of media coverages/appearances and academic presentations. This responsibility is shared between RITMO and the library, and the first author has for instance spoken about MLCPH on the Norwegian National Broadcast (Sørbo, 2021) and gotten several media outlets' attention (Ballade, 2022; Klassiskmusikk.com, 2022; Sørbo & Jensenius, 2018; The Strad, 2021, 2022; 'Tønes gitarer, Kajsas joik og Sibelius sang [Tønes's guitars, Kajsas's joik and Sibelius' song]', 2022). With this we hope to contribute to civic engagement in research for the common good. This will be discussed below.

The complexity of MusicLab provided a perfect opportunity to push boundaries and explore how to make science more open. It requires considering a complex web of practical, legal, and ethical dimensions, especially when dealing with material that can be a subject for copyright or related rights, and human subjects. The library, by the third author, contributed to identifying and dealing with these different dimensions in MusicLab. Becoming aware of the boundaries led us to take part in meetings with stakeholders and participate in organizing two workshops. The workshops addressed the conflicting ideals of music research and data sharing and how to best balance the ethos of research and Open Research (David, 2008) with the protection of copyright and rights related to copyright such as those of performers and producers (Åndsverkloven, 2018; World Trade Organization, n.d.).

The library has provided guidance regarding various aspects of data management since MusicLab first began. In the early stages, this involved practical support with file organization, storing video files, and providing simple documentation. Over time, problems related to data privacy protection, management of copyright, file transfer, overall file organization, and general data management

planning emerged and solutions needed to be developed. In order to address these aspects, the following sections provide an introduction to data management and relevant legal issues.

Data Management

As briefly mentioned, the library has assisted, and continues to assist, the RITMO researchers with data management. We have coordinated a variety of workshops and meetings with relevant experts in specific areas, worked directly with the RITMO data manager, and contributed to writing data management plans for the first iterations of MusicLab including MLCPH. This involved five or more meetings and numerous digital discussions between library staff, RITMO staff, legal experts, technical experts, and researchers. Furthermore, the library involved in planning for the events from deciding on research questions through to planning the event and determining technical requirements. In the case of MLCPH, we ran something called a TestLab, which was both a research project in itself and an opportunity to test the different equipment and related data management aspects that would be used in Copenhagen. We contributed with legal support from the library and coordinated with the legal support at the central administration and legal experts in privacy at the IT department and helped develop a strategy and templates for how to manage privacy requirements (discussed in detail below). One of the aims of data management in MusicLab Copenhagen was to make the data as open and as FAIR as possible. All data and documentation that can be shared openly is available on a repository located on the Open Science Framework: osf.io/v9wa4 (Høffding et al., 2021).

An important learning from working with MusicLab is that just because something is written in the data management plan does not mean that it will actually be followed. There is a necessity that the contents of the plan are clearly communicated to those participating in the project at all times and that their responsibilities are well understood.

Another lesson learned in the course of multiple iterations of MusicLab is that good data management planning is key to making data openly available. The sharing of research data, which is an essential aspect of Open Research, is not a straightforward issue. Descriptions, metadata, and thorough documentation of data collection, analysis, and the technologies used are needed in order for research data to be of value for future research or other purposes (Borgman, 2015; Corti et al., 2014).

Furthermore, legal constraints on human subjects' data and copyright protected material makes data sharing a complex and seemingly impossible goal. These different legal constraints on the data require the researchers to seek the necessary permissions, before the data collection takes place and to organize the material according to permissions and constraints on sharing. The data management must be done according to privacy and/or copyright

constraints on the data (Kvale & Darch, 2022). In MusicLab, the data management planning highlighted the importance of identifying how the data is thought to be shared before any collection of data is taking place. By thinking and talking through the different boundaries that applied to the different data early on, the data could be directed to appropriate storage according to its content. In addition, file naming, folder structures, procedures for data transfer were agreed on, readme files were prepared, and potentials for data loss discussed. As the data collection happens all at once during one event, it's crucial that all the equipment is working and that all the data is transferred to proper storage immediately after. Further setting aside time immediately after the event to describe the data was identified as a potential risk for data loss, in terms of not getting the proper documentation while the event was still fresh in mind of the team.

While the data stewards from RITMO are in charge of the data management, the library was consulted multiple times and contributed to the drafting and development of a data management plan that could be implemented as a documentation of procedures for data management (Kvale & Pharo, 2021). Springer and Cooper (2020) suggest that Open Research and data sharing is best supported by the identification of, and tailored support towards, emerging data communities. This is also the approach used by the UiO library, where RITMO as a research center represents an emerging data community. MusicLab hence became an example of an on-the-ground collaboration where open research is explored in partnership between researchers and the library. We had several meetings and email correspondences and drafts about legal matters, and the first author travelled to Copenhagen as part of the research team. The active involvement of the research library proved essential to the research and provides a “raison d'être” for the research library. The experience gained by the different staff that have been consulted and involved in MusicLab at different stages leads to a better understanding of the challenges researchers face, and potential gaps in policy.

Through this collaboration the library gained hands-on experience in finding better solutions for conducting open research at all stages of the research cycle to apply in further work with consultancy and policy work and RITMO gets a partner with a broad knowledge of different aspects of Open Research including data management, open access, and licensing.

An important insight gained is that data management planning is necessary to enable making data openly available. Human subjects and copyrighted material make the data management planning particularly complex. How to deal with issues such as data storage, file naming, versioning, transfer times, keeping track of files, documentation and description, and getting permission to share data openly by obtaining necessary consent, were learned through experience and dialogue between the researchers, the data manager at RITMO, and research data services at the library.

Legal Issues

RITMO and the UiO Library, through MusicLab events, strive to make as much as possible of their research, research data, and associated data as open as possible to contribute to Open Research. This is compliant with the Policy for Open Research from the Norwegian Research Council (The Research Council of Norway, 2019).

The baseline of the research is either music or performing arts, or a combination of both. These categories are core examples of creative works which can be, but not necessarily are, protected by copyright, or rights related to copyright. Another essential legal issue with MusicLab events is the data privacy question. The events are recorded on video, and there might occur collection of other data that can be subject to data protection. In addition to copyright and data protection, there are also issues regarding various agreements, such as contracts with performers and artists, or with external participants such as crew. We will address the two first topics here, and just briefly address the last one. It is important to note that this is not an exhaustive list of legal and ethical implications regarding open research. The report “Hvordan skal vi dele forskningsdata?” [How shall we share research data?] (The Research Council of Norway, 2021) provides some general guidance for licensing of research data in a Norwegian context, but it still does not address the complexities encountered in specific cases such as ours.

Copyright. The concept of open research can be a cause of conflict of interest in intersection of copyright and administration of these rights. The purpose of copyright is to protect the creator's rights, whilst open research practices strive to make everything as accessible, transparent, and reusable as possible.

Intellectual property rights are, as stated by WTO (World Trade Organization, n.d.), “the rights given to persons over the creations of their minds.” Intellectual property rights can be divided into copyright and industrial property like trademarks and patents. Our focus in this article is on copyright and industrial property will not be addressed further.

Copyright, and rights related to copyright, are the legal rights a creator has to their literary or artistic work. Copyright covers a variety of different mediums from books to databases and technical drawings. In the context of music research, the work can be a phonogram or musical work, but also choreographies, performances, productions etc. The Berne Convention (1979) mentions explicitly musical works in both article 2 on protected works and article 11 on Certain Rights in Dramatic and Musical Works. (Berne Convention, 1979). It is important to keep in mind that protected categories can be specified through national legislation. Another issue to address is that not all works have copyright protection. Examples of this are works where the term of protection has expired (Berne Convention, 1979, article 7). Another example is

when the work does not have a sufficient level of originality. The Norwegian Copyright Act states that protected works must be an expression of individual and original creative effort (Åndsverkloven, 2018, §2 2nd paragraph).

The legal rights of a copyright holder can be divided into two categories: economic rights, and moral rights (WIPO, n.d.). The latter are non-economic rights like the right to attribution in accordance with fair manners. These moral rights cannot be waived, neither according to international instruments nor according to national law in Norway or Denmark where MLCPH were held (Åndsverkloven, 2018, § 5; Ophavsretsloven [Copyright Act], n.d., § 3; Berne Convention, 1979, article 6bis). Central economic rights that can be pursued by the copyright holder are the right to decide whether someone can reproduce the work, publicly perform it, or record, broadcast, translate, or adapt the work in question. In accordance with freedom of contract, the copyright holder may transfer these rights partially or in their entirety. This also entails that they are free to agree to collective management of copyright and related rights. These agreements are often made with collective management organizations, which tend to be non-profit organizations owned by their members.

It should be noted, however, that there are several exceptions to the protection of copyrighted material. One example is the use of quotations and illustrations for teaching purposes (Åndsverkloven, 2018, §29 and §43; Berne Convention, 1979, article 9). There is also a more extensive exception for use in libraries, archives, and museums based on contractual licenses (Forskrift Til Åndsverkloven [Regulations to the Copyright Act], 2021; Åndsverkloven, 2018, §§43–46). However, these exceptions cannot typically be applied in an Open Research environment, and won't be addressed further. The only grounds for using and sharing materials openly (as is the case with open research) in its pure form are by agreement with the copyright holder or those who have derived rights from the copyright.

The music material in MusicLab is varied and has different rights holders. This means that an assessment of who has rights, who possibly administers rights, and licensing needs to be done each time. The table below shows some examples of material and rights used at MusicLab (see Table 1).

Collective Management. RITMO's intention is to make the material openly available, preferably with a Creative Commons CC-BY license. CC licenses, “a kind of environmentalism for culture” (James Boyle in Lessig, 2004b) allow content owners to “[mark] their content with a tag that expresses a kind of freedom” (Lessig, 2004b), and play an important role in the advancement of Open Research, such as in the case of open access journals. From an Open Research perspective alone, CC-licensing would work well with MusicLab; however, this idea and practice (in our case/when applied to research involving musical works) collide with collective management

organizations' goal of ensuring that their members get paid for all usage of their works. The collective management organizations often only grant rights to primary users, in our case RITMO. If someone else wants to use the material for their own research and republish it, they must contact the organization of the country where the material is being used and make an agreement, unless the desired use falls within one of the exception areas in the previous section. This is not compliant with the idea of Open Research, and herein lies one of the main challenges with MusicLab specifically, and research involving art in general.

This is a hard nut to crack, even though the collective management directive opens for the possibility of the copyright holder to “grant licences for non-commercial uses of any rights, categories of rights or types of works and other subject-matter that they may choose” (Directive 2014/26/EU, 2014, article 5 (3) and preamble 19). Implementation¹ and interpretation of the directive is not necessarily consistent, and it is important to have a good dialogue with the different organizations. These challenges are not unique when dealing with publishing data based on copyright protected materials. The legal landscape is complex due to different regulations, agreements, and ownership of the material and almost no event is alike.

Another aspect of the collective management agreement is the economics. The organizations secure their members income by collecting payment based on reporting of streamed time and download. It is essential that they have the mechanisms to attend to the copyright holder's rightful compensation. However, with this model, the potential costs for MusicLab are an element of high uncertainty that is impossible to estimate. Yet another issue is funding after a research project is finished. All projects have an end date, and it is not possible to shift the responsibility of running costs of an uncertain amount. The combination of economics and possibilities to share and license makes it insurmountable to publish material administered through collective management organizations and this is a hindrance for open research. At the same time most copyright holders, who are directly contributing to MusicLab, willingly agree to let RITMO publish the recordings with a Creative Commons license, without any compensation other than that which the Creo tariffs for performing artists, approximately 500 Euros (Creo, 2022).

Data Privacy. Another legal aspect is that of protection of personal data² regulated through the General Data Protection Regulation (General Data Protection Regulation, 2016) in the EU, and in the EEA countries that have implemented the regulation in national law.³ Pictures and video footage of identifiable persons are considered as personal data.⁴ This is relevant with regards to the possibility of sharing footage in an Open Research environment.

To process personal data, one must have a lawful reason. A central basis is consent from the person (“data subject”)

Table 1. Examples of music rights in different editions of MusicLab.

| Creator(s) | Event | Title | Year | Description | Copyright owner | License |
|--|-------|----------------------------------|------|--|-----------------------------|-------------------------|
| Charles Martin, Victoria Johnson, Kari Anne Bjerkestrand, Alexander Refsum Jensenius | ML1 | Stillness under Tension | 2017 | Improvisation | Performer | TBD - CC-BY? |
| Magnar Åm | ML2 | Det var mjukt | | Notated, composed music | Heirs | All rights reserved |
| Cagri Erdem, Qichao Lan, Katja Henriksen Schia, Alexander Refsum Jensenius | ML4 | | 2018 | Produced/composed/improvised music with dance and live graphics | Performer | TBD |
| Renick Bell | ML5 | Algorave set | 2020 | Programmed/improvised | Performer | CC-BY |
| Dag Erik Knedal Andersen, Cagri Erdem/Al | ML6 | | 2021 | human improvising with machine | Performer and programmer | TBD |
| Ludwig van Beethoven | ML7 | Strygekvartert nr. 16 opus 135 | 2021 | Notated, composed music | Public domain | Public domain |
| Alfred Schnittke | ML7 | Strygekvartert nr. 3 | 2021 | Notated, composed music | Heirs | TBD |
| Johann Sebastian Bach | ML7 | Kunst der Fuge Contrapunctus XIV | 2021 | Notated, composed music | Public domain | Public domain |
| Folk music | ML7 | Folkemusik | | Folk music arranged by DSQ | Performer/ Public domain | TBD |
| Bjørn Charles Dreyer | ML8 | Movement I | 2021 | original music, composed/improvised by performer (with live graphics by Olivier Lartillot) | Performer | TBD - possibly CC-BY-NC |

(General Data Protection Regulation, 2016, article 6(1)(a)). Other options can be applied, as “processing is necessary for the performance of a contract to which the data subject is party” (General Data Protection Regulation, 2016, article 6(1)(b)), or “processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party” (General Data Protection Regulation, 2016, article 6(1)(f)) among others. The latter requires that there has been a balancing of the interests of the data subject and the controller.

In addition to GDPR, the right to protection of one’s image must be considered. The right is established in Norwegian Law through the Norwegian Copyright Act §104 (Åndsverkloven, 2018). There is not necessarily a corresponding provision in other countries’ legislation, like the Danish Copyright Act. However, the right to one’s image can be based on the Convention for the Protection of Human Rights and Fundamental Freedoms article 8, Right to respect for private and family life and has been an issue in several cases before the European Court of Human Rights (European Court of Human Rights, 2021). There are several exceptions from the right to one’s image in The Norwegian Copyright Act §104. As images of public interest, the person is not the main motive of the picture or assemblies among others.

Several types of data are collected from data subjects during a MusicLab event (see Table 2). The data is collected either by sensors, video, sound, or photographs.

Not all of these are considered personal data. An example of this is sensor data. They can monitor breath, heart rate, movement of the entire body, or just the pupils, to mention some. The sensor data are anonymous as long as they are not linked to a person or other personal data, and are therefore not an issue regarding processing of personal data (General Data Protection Regulation, 2016, preamble 26). In the case where all sensor data is anonymous, then data from the video recordings and photographs are the only personal data being processed under a MusicLab event.

In a MusicLab, the data subjects can be divided into three groups: performers, audience, and contributing audience. The performers and contributing audience are typically those equipped with sensors. The performers, musicians, dancers etc. are recorded on video, and in some cases wear sensors. The basis of processing their personal data is consent. They have signed a consent form stating how the data will be processed and shared. Furthermore, the audience is usually recorded by overview shots.

Images of assemblies are exempted from the right to one’s image according to the Norwegian Copyright Act §104c. This exception is, as stated in the preparatory works of the Norwegian Copyright Act, based on consideration of the right to free speech (*Prop. 104 L (2016–2017)*, p. 304). Even though most footage would be of the audience as an assembly, some footage could border on being

considered as portraits. The assessment has to be based on whether or not the persons are the main object of the picture, disregarding how many persons are in the picture. For example the Norwegian Data Protection Authority points out that a class photo is considered to be portraits since the persons are the main object (Datatilsynet, 2019). To avoid any issues with lack of consent according to the Norwegian Copyright Act was the audience informed about the filming and publication and sharing of the material through information on MusicLab's webpage (RITMO, 2022), through notices and posters at the venues and through announcements from the stage prior to the start of the event. And by attending the event, the audience members consent to the publication of possible portraits according to the Copyright Act §104.

However, footage can still be used to identify persons and the material is containing personal data.. The conclusion in the MusicLab case was that the processing and sharing of the pictures and video of the audience is based on the legitimate interest of RITMO balanced to the audience member's interest (General Data Protection Regulation, 2016, article 6(1)(f)). However, one should be careful to conclude that this is the solution in all similar cases and in future MusicLabs.

At some of the MusicLab events the video recording of the audience is an essential part of the research. This was done in volume 3, Rhythm, where muscle activity and motions were recorded by sensors and video. The sensor data were still anonymous, but the video recordings were focusing on selected members to register motion.

In any case, the assessment of the grounds of lawfulness of processing according to GDPR must be sustained for each MusicLab event, since the primary research data sources differ. Furthermore, the data can only be stored on a platform within the EU/EEA, like the UiO (University of Oslo) domain or an OSF (Open Science Framework) server within the EU. Publishing it on a platform outside EU/EEA will trigger the need for measures according to GDPR due to transfer of data to a third country. This is such a comprehensive legal discussion that it will not be addressed here.

Legal Implications in the Case of MusicLab Copenhagen. With cross-border collaborations, such as MLCPH, one has to take into account the law of the country where the different actions are carried out to evaluate lawfulness. The Copenhagen event will be used as an example here, but

the questions and challenges are transferable to similar events within EU/EEA.

The legal harmonization based on EU legislation and implementation of other international instruments simplifies the assessment of the legal landscape within the EU and EEA area. As previously described, there is still diversity between the national legislations.

The audience at MLCPH was thoroughly informed about the recording and publishing of footage of the audience. To attend, one had to purchase an entrance ticket, and one had to consent to being audio- and video-recorded in order to purchase the ticket. Information about publication was also stated on the handout leaflets and tickets.

The pieces featured in the MLCPH event were Ludvig van Beethoven's String Quartet No. 16 in F major, Op. 135, Alfred Schnittke's String Quartet No. 3, Johan Sebastian Bach's Contrapunctus, and Nordic folk music arranged by the DSQ. Out of these four, only two works are copyright protected: String Quartet No. 3 and the arrangement of the folk music. For the other two works, the term of protection has expired, both in accordance with national law in Denmark and Norway. If the DSQ had not created their own arrangement, then the assessment of the folk music would have been based on terms of protection and the result would have been that it was not copyright protected.

The DSQ are initially autonomous to grant the right to use their folk music arrangement and performance as they like. The challenge with publishing the recordings of their work, however, is their agreement with Koda (*Koda*, n.d.) on collective management of rights. Koda is a Danish collective management organization for composers and songwriters, their equivalent in Norway is TONO (Martinsen, n.d.). They are just two out of a large network of sister organizations around the world who collaborate regarding their members' rights.

The case regarding the works of Alfred Schnittke is similar to the case of DSQ. Alfred Schnittke died in 1998 and the rights as copyright holder were transferred to his inheritors, However, they also have an agreement with Koda, and Koda explicitly communicated to the researchers, that they alone had jurisdiction to negotiate copyright and would not allow the researchers to directly contact the Schnittke inheritors. Therefore it was not possible to reach an agreement regarding usage and sharing of his material, so it had to be removed from the public video recording.

Table 2. Research subjects groups in MusicLab.

| | Group 1: Passive audience | Group 2: Active audience | Group 3: Performers |
|---|--|--|-------------------------------|
| Data collection | Filming | Phone-based sensors, questionnaire, filming | On-body sensors, filming |
| Level of recognition Information | May be recognizable web + signs + aural + purchase option | May be recognizable in video only web + signs + sheet + aural | Recognizable sheet + aural |
| Basis for processing | Balancing of interests. | Written consent | Written consent |

Adding to the complexity of this already challenging rights environment are the rights that universities and other institutions have to research outputs, which, depending on jurisdiction and institution, can be embedded in employment contracts, institutional policies, or national laws. We will not discuss this added layer of complexity in this paper but mention it to reinforce the point that it can be very difficult to navigate.

Together with the researchers, we worked on cracking the nut of sharing the material, through persistent communication with both musicians and Koda. Ultimately, however, a solution could probably only have come about through tri-part negotiations directly between Koda, the musicians, and the researchers. Due to time pressure and the researchers' research ethics considerations, this path was eventually dropped. The researchers did not find it ethically warranted to use the musicians as means to obtain an aim that was important primarily for us and the researchers.

Discussion and Conclusion

We have outlined in this paper how the UiO Library has taken a participatory approach to developing better services and support for researchers. One important step was to partner with a world-class research center at the University on an innovative data collection project that would enable both the library, the researchers, and the participants to learn. In this paper, we have focused on MLCPH, which has provided ample opportunity to learn about the needs of researchers and which has informed service development at the library spanning innovation, event and AV production, communication, data management, consideration of legal issues, and even taking part in effecting structural change. With a wide span of services comes the need for corresponding skills and competencies in the library staff. It can be debated if these are skills the library should have or if it is sufficient with close collaboration with other departments at the University. A challenge with basing the support mainly on collaboration can be the access to human resources and the change of priorities in other departments.

While we have managed to offer support and take part in a pioneering music research project, there are still points of improvement. Our intention has been to communicate science and research, facing limitations imposed by certain legal issues and practicalities on the way. What we haven't yet incorporated in the flow is communication activities such as a newsletter to which people may sign up for updates on projects they have participated in, more hacklabs, and more use of citizen science from idea to publication. In that lies a great potential. Another element could be to communicate more with involved musicians/performers, helping them to understand the effect of their own performance better. Keeping Golumbic and colleagues (2017) in mind, involving citizens in defining research questions and being even more involved in data collection, research design, and analysis could be worthwhile. This would primarily be the researchers' role, and may only be possible

after accumulating more data; nevertheless, the library could take a guiding role and design it into the workflow.

A knowledge management role has been explored to some extent, in that we have taken part in putting together interdisciplinary expert panels, but this too could be explored more. Furthermore, we are yet to take part in the information and knowledge organization, as there is currently no database of all MusicLab-related research, we have not contributed with controlled vocabularies, and the material has not been indexed. These elements have had to wait but are things we are eager to explore further.

The library collaborated on workshops and advocacy activities to raise awareness around the misalignment between Open Research practices and protection of copyrighted material and encouraging policy makers to move towards finding a solution. This is still an ongoing progress. And the status quo of the legal implications is that it all comes down to securing the rights to share, and making sure potential personal data is GDPR compliant. It is necessary to involve legal expertise early in the planning of projects with the intention of using and sharing this kind of data in order to navigate the legal landscape. Either through library staff with legal skills, collaboration with in-house lawyers, or preferably a combination of these. In consideration of the third-party participants, musicians, composers, performers etc., is it important to draft fair and clear legal instruments to secure rights to the material. These must state how the material is planned to be licensed and which material is in question. The criteria of clear and precise also go for the consent forms regarding processing of personal data.

When sharing research data from a MusicLab openly one must go through a checklist regarding the material and investigate the various issues. Is the material protected through copyright or other related rights? Is the creator also the copyright owner? And can the creator grant permission to share the material or are there any agreements that interfere with that? Are there others that manage or have rights by law or by contract to the material? Does any copyright limitation or exception permit the use of the copyright protected material? With what kind of license can you share the material that is copyrighted or has related rights? Is it only for non-commercial use, or is it possible to share it openly with a CC-BY license? Are you processing personal data? What is the legal basis of the processing and what other measures must be done in accordance with GDPR when processing data within the EU and EEA? Archiving options for all the different materials, with their different legal issues are yet to be in place. By naming and highlighting the different needs and rights it becomes easier to address the complexity of research data sharing.

Open Research is changing how we do research, and the library can play an important role. We need to be prepared for the changes that this brings, and the way we have chosen is to take part in innovation projects such as MusicLab, a pilot project, sandbox, and spearhead for moving this change forward and pushing boundaries. If

we can manage the complex web of challenges and opportunities in MusicLab, we will be more prepared for other similar challenges. We will continue to help improve all aspects of MusicLab and, consequently, music research in general.

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Notes

1. The directive is implemented in Norwegian Law (Lov Om Kollektiv Forvaltning Av Opphavsrett Mv. [Act on Collective Management of Copyright Etc.], 2021) due to EEA relevance.
2. Personal data is defined in article 4 as “any information relating to an identified or identifiable natural person (‘data subject’); an identifiable natural person being one who can be identified, directly or indirectly, in particular by reference to an identifier

such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.”

3. Regulations are not automatically national law outside the EU.
4. Images and video can reveal information about ethnicity or racial origin, which would usually be considered as a special category of personal data according to GDPR article 9. However, video footage and images are not considered special unless “processed through a specific technical means allowing the unique identification or authentication of a natural person” (General Data Protection Regulation, 2016, preamble 51).

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