

With the Open Science Fellows Program, Wikimedia Deutschland e. V. teamed up with a number of different partners to support researchers from Germany, Austria and Switzerland over a period of five years to open up their own research work, thereby contributing to Free Knowledge. By offering qualifications, mentoring, funding and networking with others who are actively involved in disseminating Free Knowledge, a total of 90 fellows were trained as Free Knowledge practitioners and ambassadors. By participating in the program, the fellows were able to substantially broaden their knowledge about the theory and practice of Open Science, raise awareness for the subject within their academic community and pass on their knowledge. Many initiatives promoting Free Knowledge in academia have emerged from the community of practice that has evolved from the program and around it and a number of changes in favour of Open Science at an institutional level have been achieved.

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# What is the starting point of the Open Science Fellows Program?

#### What is Open Science?

Open Science pursues the goal to develop research and make it a joint task, i.a. through transparency, collaboration and equity in order to improve accessibility and quality of academic work. This approach is related to the joint collaborative work also practised in Wikipedia – yet transferred and applied to the sphere of academic work and research.

To achieve this goal, Open Science approaches cover a wide range of different levels. Not only is it possible to share research findings and processes, but theories, methods, areas of application and interim results are also made available to a larger number of people. Moreover, disclosing research processes can offer insights into how they actually evolved and were realized. This in turn leads to more accountability by making transparent what worked well and what did not succeed. Open Science not only provides the opportunity to reflect one's own research process, but also to learn from other researchers.

# Why is Open Science science done right?

- Open Science improves academic work Open Science leads to greater transparency in research, the dissemination of research results and participation in knowledge production, which strengthens the innovation potential in academia. Notably, the replication of studies becomes easier, because research processes and results (e.g. structured data, methodical approaches or software) are created to be reused. As a result, research is easier to comprehend, which can improve the quality of academic work. Not least the COVID-19 pandemic has made it very clear how important this is in order to overcome challenges that society may face.
- Open Science is equitable/democratic Together with the open nature of Open Science, the Open Science Manifesto ¹ also highlights its collaborative aspect. It actually unfolds its real potential when it facilitates collaboration between researchers across different disciplines, but also between a wide range of players in society, thus facilitating a more extensive and democratic knowledge production.



# Why do not all researchers work (more) openly?

Although many institutions have recognized the relevance of Open Science and take it seriously, by no means all people in academia work according to its principles. Adopting Open Science policies, building and expanding the necessary infrastructure for Open Science as well as fostering Open Science in terms of research policy and with institutional and financial support are measures that create a nurturing environment favouring the practical implementation of Open Science. However, incentive and reputation systems that would convince more researchers to practise Open Science are still missing. Those who work openly are frequently not sufficiently rewarded, often have to manage a heavier workload, and in the worst case even fear a negative impact on their career in academia. Specialist knowledge and skills and potentially also contact points offering advice are necessary in order to transfer Open Science effectively to the everyday work of individual researchers. Many professionals in academic institutions (still) lack the concrete competencies for open scientific work, for example in the area of research data management. This creates the need for adequate structures at an institutional level to motivate researchers early on in their career to critically examine the principles of Open Science. First and foremost, however, more than anything,

more qualification schemes are necessary to

enable staff in academic institutions to work openly. Together with the necessary impulses at a political and institutional level, it is important for the ongoing development towards Open Science that the researchers themselves are actively involved in shaping the process – not individually, but in a networked and collaborative structure! <sup>2</sup>

2 From principles to practices: Open Science at Europe's universities 2020-2021 EUA Open Science Survey results (https://www.eua.eu/ downloads/publications/2021%20os%20survey%20report.pdf)



#### Open Science Fellows Program shaping Open Science together

This is where Wikimedia Deutschland e. V. started out with its Open Science Fellows Program in 2016. By offering funding, qualification schemes, mentoring and interdisciplinary networking, the program contributed to empowering researchers in Germany, Austria and Switzerland to apply principles of Open Science. In the course of individual research projects, participants experimented with a variety of different approaches (as shown on the project pages of the individual Fellows Program years, for example), to open up their own work to others and enable them to experience it.

As Association for the Promotion of Free Knowledge, Wikimedia Deutschland supports the development, collection and dissemination of free content. The goal is to foster equal opportunities to access knowledge and education. In the area of academic and scientific research, we therefore work on improving open access to theories, methods, data, research results, educational materials as well as hard- and software to promote Free Knowledge in academia together with others that share our vision. As a global social movement, Wikimedia particularly champions knowledge and communities that have been excluded by power structures and privileges. This is why Knowledge Equity <sup>3</sup> plays an

essential part in our strategic focus. We want to follow-up on the debates about equity that have emerged within the Open Science community over the past few years. This is not just about questions of access and the accessibility of scientific work, but also which knowledge this work is based on and whose knowledge it is. It is about equity of different knowledge practices and formats as well as questions of equitable representation and participation of knowledge holders. Correspondingly, we also placed special thematic emphasis on Knowledge Equity during the final year of the program, making the debate the focus of the fifth round as a result.

# How did the program work in practice?

#### Program design and structure

The Open Science Fellows Program is based on four pillars that determined the structure and design of the program, while leaving enough scope to develop content and needs-oriented developments within this structure. Over the five-year period of the program, shaping the content of the pillars has been an ongoing process of development. In essence, the program worked with the following elements:

Qualification

Workshops (online/offline) and webinars on Open Science principles, i.a. via the Lernraum Freies Wissen 4 (Virtual Free Knowledge Learning Space) (from 2020)

Events (online/offline) to facilitate networking and interdisciplinary exchange

### **Funding**

Fellowship of up to €5,000 realization of the respective project plans

Mentoring

Self-organized mento-ring tailored to individual needs, offered by Open

and accommodation costs if

Childcare during events

#### Visibility and Networking

projects and program years vi the Wikiversity program page

Communication via social media und podcasts

workshops, scientific papers, talks and science slams

#### Mentoring

Throughout the entire duration of the program, experts with extensive experience in Open Science accompanied the fellows. They supported the fellows to help them realize their projects, open up their research and exchange and network with others who are active in the sphere of Open Science. Mentoring took place continuously throughout the entire program, mostly in regular intervals, to enable fellows and mentors to react to challenges and changes along predefined milestones in order to achieve their individual project goals. The interdisciplinary or specialist and needs-oriented exchange on a level playing field characterized the underlying tendency of mentoring.

#### Qualification

Qualification on the basis of the Open Science principles took place with the launch of the eight-month program in different formats that were developed by means of individual and self-organized mentoring on the one hand and specific and themed workshops on the other hand. The first run of the program was still limited to a period of six months, including only ten fellows and five mentors to begin with. The pilot project showed that on the whole, the concept was working. This led to the conclusion that involving more mentors in the qualification process could be considered and

4 https://lernraumfreies wissen.de/

<sup>3</sup> https://blog.wikimedia. de/2021/09/14/knowledge equity-how-to-make-wikimedia-more-diverse-participatory-and-equitable/

Fellow-Programm Freies Wissen 2016-2021





more fellows could benefit from being qualified. The digital self-learning platform offered an It would also make more sense in terms of group dynamics in order to discuss Open Science in its many facets, try it out and jointly put it into practice. This structural change, along with other adjustments, was implemented when the Volkswagen Foundation joined the Stifterverband and Wikimedia Deutschland as a further program partner. Accordingly, the team of mentors was increased to 10 persons and the group of fellows to 20 participants. The themed workshops were primarily designed by academic partners (see the chapter: The program - a network of partners) and realized in cooperation with the program team. In the course of the program years, alumni and fellows also contributed content to qualify fellows from subsequent years, or they were available as contacts. As a reaction to the changing and restricted learning and teaching conditions during the COVID-19 pandemic, the Free Knowledge Learning Space was initiated in the final year of the program.

additional option to learn about the main topics Open Science, scientific communication and Knowledge Equity that people were able to experience flexibly in their own time and based on their own specific interests.



Dr. Vanessa Hanneschläger

German Literature Archive Marbach



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### Besides the exchange with the fellows, I learned the most from my mentor



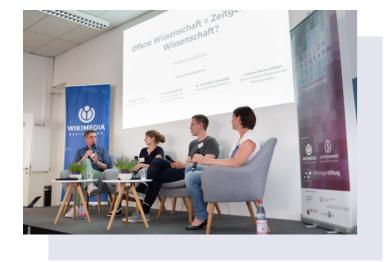
I was very fortunate to be selected as a Fellow for the Open Science Fellows Program in 2017. As a Germanist with a focus on modern Austrian literature, I was perhaps a somewhat unusual candidate for the undertaking of implementing a research project using Open Methods; as a researcher from the field of digital humanities, on the other hand, I already brought with me some knowledge about the benefits of Open Data and the importance of freely usable research infrastructures.

During my fellowship, I was able to advance my dissertation project on the significance of foreign languages in the stage works of the Austrian Nobel Prize winner for literature Peter Handke and enrich it with open access. Not only did I benefit personally from this, but above all my research. During the fellowship, I integrated all elements of Open Science into my own research practice to learn what Open Working means and entails in everyday life. In the process, I gained a lot of insights into idealism and realism – and learned to understand that Open Science must not only mean free accessibility, but must always go hand in hand with high quality data and documentation. In the meantime, I have completed my dissertation and teach open access to my own students.

Besides the exchange with the other fellows, I have learned the most from my mentor Peter Kraker. Peter is a pioneer of Open Science who supports free access to knowledge with an independent infrastructure through his project Open Knowledge Maps. Since he is based in Austria, as I am, he not only broadened my content perspectives, but also

helped me get involved in developing national open access strategies. Thanks to him and another Austrian mentor, Katja Mayer, I became a member of the Open Science Network Austria 5 core team. This allowed me to support the strategic and political anchoring of Open Science in the Austrian political and funding landscape. Since we still have not made Open Science a matter of course throughout Europe, despite predominantly funding research with public money, the opportunity for strategic collaboration in this area was a particularly pressing concern for me. The insights, contacts and topics of my Fellowship accompany me in my work to this day and have enriched my research in a lasting way.

5 https://oana.at/en/





Funding primarily helped the fellows to realize their respective project plan independently within the eight months of the program. As a matter of principle, the designated use of the fellowship was intended to be beneficial for the realization of the envisaged and agreed project goals and accountable on that basis. Prior to the program, the fellows were able to state their intended use of funding in a financial budget. Applicants for the year 2020/21 were able to choose between fellowships in the amount of €3,000 or €5,000 for the first time. This differentiation was introduced with the fifth program round to ensure that projects that required extra funding became identifiable and were supported accordingly. Previously, fellowships in the amount of €5,000 had been paid out to all selected fellows in two instalments over the course of eight months.

#### Visibility and Networking

Networking between fellows, mentors and partners largely took place in the context of qualification and networking events (online/ offline) in the course of the program. Open exchange formats such as a weekly fellow meetup organized by fellows in the fifth program round that continues beyond the end of the program emerged alongside. In addition, a mailing list for the wider circle of program participants served to connect alumni, fellows

and mentors with each other irrespective of already existing events. At the same time, this list facilitated themed exchanges and calls or invitations, for example to participate in surveys or open as well as self-organized events. The alumni email distribution list remains active beyond the end of the program. In accordance with the program's logic of intended outcomes, fellows assumed and alumni still assume the role of multipliers and advocates of Open Science within their institutions, research groups and specialist disciplines. This happens via interviews on the podcast Open Science Radio 6, for example, or via talks, contributions to the Wikimedia blog, research papers or science slams. The fellows and alumni also communicate on Twitter 7, talking about their engagement with Open Science. The fellows were free to choose which communication channels or formats they wanted to use in order to allow for their work to be experienced. The goal was to make the learning curve of the fellows visible, if at all possible, and to disclose it to others. Documenting the progress of the project took place on project pages 8, and reflections about the participants' own work within the program were captured in interim and final reports as well as project diaries.

- 6 http://www.openscienceradio.org/tag/fellowpro-(in German only)
- 7 @OpenSciFellows, #fellowsfreieswissen
- 8 The project pages are accessible via the pages giving an overview of the individual program years on the Wikiversity presen ce of the Open Science Fellows Program. There, you can find links to the interim and final reports (years 2016/17-19/20) and the project diaries (year 2020/21).



Dr. Stefan Skupien

Center for Open and Responsible Research (CORe) at Berlin University Alliance



### Engaging with Open Science has given me new career opportunities in academia



As a Fellow of the 2019/20 cohort, I had actually initially been involved with a specific research project involving open source. However, the equally central aspect of networking with like-mindedpeople during the meetings in Berlin and Kiel and learning new content about Open Science then opened up even further perspectives for me. Based on the Fellows Program, I was able to convincingly apply for one of the newly created administrative positions for Open Science.

Today, I have been working for 1.5 years as the coordinator for Open Science at the Berlin University Alliance<sup>9</sup>, an association of Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin and Charité. One of the alliance's goals is to jointly promote research quality and openness in academia and to deepen initiatives and rewards in the various institutions. As coordinator, I now work with experts from a wide range of disciplines and research supporting institutions to provide resources to meet the needs of researchers and teachers. In doing so, we also keep an eye on international, national and especially Berlin science

Together, we want to facilitate networking, training and education and infrastructure based on research results, policy analyses and pilot projects. Fortunately, the wheel does not have to be reinvented due to the various active communities from the open access and research data sectors. Instead, we benefit from the knowledge and experience of the communities just as I continue to learn from them. Rather, it is now also a matter of introducing Open Science-relevant indicators into

the internal assessment procedures in order to meet a central demand of the Open Science community for a cultural change in academia. For this, the knowledge from the Fellows Program and my own experiences from university administration help me.

In this respect, the Fellows Program was a twofold door opener: On the one hand, I can contact colleagues more quickly today because they were part of the program. For example, Lisa Kressin works as an Open Science officer in the Leibniz Association's presidium and is part of the regular meeting of the Open Science community in Berlin, which I moderate with colleagues. On the other hand, the task as coordinator confirms my initial expectation that a career in academia is also possible and important beyond research and teaching in the science supporting field.



Open Science

have taken part in the program as mentors in the course of 5 years



partnerorganizations

have supported the program
financially or their expertise





# The program – a network of partners

A strong network of partners supported the program and made it possible. The role and contributions of partners varied. The Göttingen State and University Library, Open Knowledge Maps and the University Library of the Freie Universität Berlin offered workshops and webinars as part of their in-person sessions, for example, dealing with subjects such as "Open Access", "Responsible Research and Innovation", "Academic Search Engine Optimization" or "Open Science Training Approaches". The Leibniz Information Centre for Science and Technology University Library Hanover, the Natural History Museum in Berlin as well as the ZBW - Leibniz Information Centre for Economics in Kiel each made their premises available for the qualification workshops in the years 2018–2020. innOsci in turn contributed content and organizational input to planning and realizing a digital winter school during the final year of the program. And finally, the Stifterverband (2016-2020) and the Volkswagen Foundation (2017–2020) predominantly supported the program with funding and administrative assistance. In the later stages of the program, it had additional support due to the foundation of an advisory board initiated by several former mentors. This board supported the program team in its development and in identifying relevant trends in science policy.

## The application and selection process

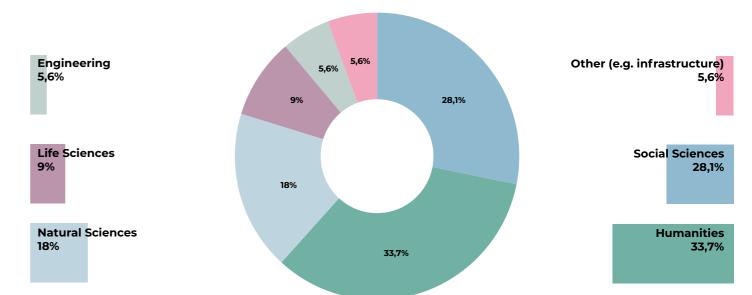
Interested applicants were invited to apply with their current or planned research project, clearly identifying which aspects of their research they would like to open up in line with the ideas of Open Science. Decisive criteria for the selection of the projects were: (1) The motivation to open up their own research in the context of the Fellows Program in line with the ideas of Open Science and to explore together with the other program participants how questions of Knowledge Equity can be integrated to a larger extent into their own research practice and the academic system as a whole.

(2) Ambitious, yet achievable goals and tangible results that can be presented (teaching materials, workshops, publications, source code, best practices or similar outcomes) by the end of the respective program year and (3) contribution of the planned research project with reference to facilitating Free Knowledge, in particular by demonstrating the willingness to spread the ideas of Open Science and Knowledge Equity in their own institutions and communities.

The application and selection procedure was a multi-stage process <sup>10</sup>, parts of which were openly visible, since the submissions were accessible on Wikiversity. Assessment and

10 Following the check of formal criteria by the Wikimedia program team, the submitted projects were assessed by fellows and alumni using a standardized review form. The final selection of fellows was in the hands of the mentors, based on the rankings previously prepared by the fellows and alumni.

### Disciplinary background of the Fellows



evaluation were anonymized unless the applicants agreed to release them as a compact summary. Over the years, mentors and also alumni took part as peer reviewers in order to continue to share their specialist scientific or academic expertise as well as the knowledge they had gathered on Open Science. Each annual call for proposals was accompanied by targeted publicity, ranging from the production of program flyers, posters and video testimonials to placing banners on social media.

# Continuous evaluation and development

From the beginning, the program was accompanied by a thorough multi-stage evaluation process. Surveys carried out before and after taking part in the Fellows Program asked the fellows about their level of knowledge about Open Science. All events and qualification measures were evaluated. In addition, the fellows wrote detailed interim and final reports or kept a project diary where they described their project results and activities to make Open Science more visible.

An agreement between mentee and mentor at the beginning of the program was helpful to define the joint goals for the duration of the program as a measurement of personal success. A final survey was carried out at the end of the program in September 2021, and a total of 52 out of 90 former fellows took part. Based on the results of the evaluation as well as the ongoing advice from mentors, partners and the advisory board, the program continued to evolve over the years, for example in terms of the contents of the qualification schemes or the application and selection process.

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Fellow-Programm Freies Wissen 2016-2021



Dr. Xenia Schmalz Ludwig-Maximilians-University Munich



### I was able to share my acquired and existing knowledge about Open Science with other people in academia



Before the COVID-19 pandemic, I regularly organized "Open Science Beers" meetings: these meetings served as a platform for informal exchange for Open Science enthusiasts from various disciplines. Science communicators and researchers from diverse disciplines participated, including psychology, statistics, computer science, medicine and physics. The topics we discussed were also diverse. For example, we discussed the benefits and potential problems with science communication, and the uneven gender balance in the Open Science community. The highlight of the meetings was an external experiment on the experimental tokamak device "Golem" ": the device is located in Prague (Czech Republic) at the Czech Technical University, but is made available to external scientists and interested parties upon request and can be controlled via a browser app.

In addition, I have held several workshops on Open Science. In the workshops, I present the current situation in research science, with a focus on the replication crisis, and present concrete solutions that colleagues and students can apply in the future. I now offer a longer workshop of 8 hours annually for students in the Master's program "Learning Sciences" at the Ludwig-Maximilians-University in Munich. I have given shorter workshops as part of conferences and seminars, such as at the 2019 Summer School of the Doctoral Network of the German Association for Academic Speech Therapy and Speech-Language Pathology or the 2018 meeting of the Austrian Society for Psychology in Linz. Also

in my own department I have given a workshop on Open Science as part of our regular seminar series and at other universities in Australia, Switzerland,

The COVID-19 pandemic has called for creativity in communication formats. To keep in touch with the academicscientific community, I organized an online lecture series in 2020 in which international Open Science experts, among others, gave presentations on issues and practices in Open Science. I made the recordings and slides freely available: In total, the recordings from the lecture series have been downloaded nearly 200 times 12. I have also continued to engage with Open Science through regular blogging and on Twitter.

Participating in the program has made me more aware of the scope of Open Science, allowing me to pass on a broader overview in the workshops rather than focusing on my own area of research. Through discussion with the Fellows, I have gained a lot of inspiration for different formats in science communication, which was especially helpful during the COVID-19 pandemic.

# What did the program accomplish?

The primary goal of the program was to provide researchers with extensive knowledge about Open Science, for them to apply it in their research practice. On this basis, they were able to pass on their experiences to colleagues within their specialist disciplines and beyond as ambassadors promoting Free Knowledge. The idea was the ongoing development of a lively and ever-growing community of practice working towards Open Science practices in institutions, committees and networks.

in policies and procedures and Open Science as common practice in research and teaching. With this in mind, three central intended outcomes were defined to measure the success of the program:

Ultimately, the aim was to achieve longer-term

effects at an institutional level, with changes

### **Capacity Building**

The Fellow program pursued an impact logic according to which social and institutional changes are brought about by those involved in the system. Therefore, building competences to practise Open Science played a particularly important

### **Community of Practice**

It was the program's goal to ensure that active players in Open Science network with each other and jointly work towards further improvements in the overall conditions for Open Science at academic institutions.

### **Institutional Impact**

We want to achieve that more stakeholders within universities and research institutions work towards Open Science being recognized as good academic practice. This is the basis for bringing about change in institutional rules, norms and processes as well as in the contents of research and teaching, thereby firmly incorporating the principles of Open Science on a longterm basis.

# Outcome I: **Capacity Building**



The program helped me to see myself as an Open Science expert. This in turn gave me the confidence and legitimacy to actively promote Open Science in my research community.

The greatest impact could be observed when building the program participants' competences. This primarily refers to the qualification of the fellows in line with Open Science principles (i.a. Open Educational Resources, Open Data) and their role as Open Science ambassadors. Across all program cycles, a crucial factor for growing the fellows' competences was the individual supervision provided by the mentors. The concrete support the mentors offered to the fellows primarily meant practical advice for the individual projects. In this context, aspects such as using the right tools, research communication, transparency about methods applied during the process, and not least the publication of data and results played an important role.

The mentors also supported the fellows in their preparation of transferring the acquired knowledge in the context of talks or workshops and through networking with relevant contacts from the Open Science community. The unique feature of mentoring was that it was possible to tailor capacity building according to individual needs, following an individual pace without pre-defined instructions. Together with their

mentors, the fellows worked out a roadmap with clearly defined milestones for the realization of their projects at the beginning of the program, structuring the following eight months. Building competences did not just happen bilaterally, but also in teams of three, because two fellows were allocated to each mentor, facilitating interdisciplinary exchange, which was perceived as very rewarding by the participants.

In addition to mentoring, the academic partners and other experts supplied the fellows with a variety of offers for further qualification, including themed workshops or webinars. As the fellows themselves stated, all fellows were able to significantly extend their knowledge in Open Science due to the structure of mentoring and qualification. As a result, they were not only able to increasingly open up their own research, but to also transfer the knowledge they acquired to other people in their institutions and networks and motivate others to discover Open Science for themselves. This happened at events (presentations, meetups, workshops) and via publications (blogs, journals).





The alumni also had the opportunity to acquire additional competences across the program years by participating in webinars and workshops, or to participate in the program through their own contributions with the purpose of sharing knowledge. Moreover, selected alumni were actively contacted by the program team, motivating them to assume the role of new mentors in the program and to reinforce the team of mentors with their specific expertise. Therefore, building competence took place by adopting other roles and new areas of responsibility.

One way of demonstrating that the qualification of the fellows has a sustainable effect is through their statements in the final survey, with the participants predominantly stating that they continue to apply principles of Open Science in their work. The publications of around 73% of all interviewees are mostly or even exclusively open access. According to statements of many participants, the program made a major contribution to encouraging the fellows to explore Open Science and motivate others to also work more openly.



# Through the Fellows Program I ended up in Wikiversity



More than cycling: European Heimatforschung ein Ansatz für offene Daten und Narrative, samt Fernwehforschung und Radfahrerwissen" was the title of my application for the Fellow program. Historical cycling literature around 1900 is my topic. The idea for European local history research emerged on Estonian country roads in summer 2018 with a historical touring book in my luggage. The idea: think about local history research with supraregional perspectives!

Wikipedia helped to make forgotten regional cycling associations visible again since 2014.
Wikisource transcriptions succeeded even better with newspaper articles and books. Wikidata then appeared to me as a means for collections of materials that were too small for Wikipedia. The Open Science Fellows Program was a catalyst. In the end, there was no new definition for my local history research, but a change of perspective: local history research in Europe benefits from Open Science!

Tools from Wikimedia are now fundamental for this. Since 2019, we have been using Wikidata to build a library catalog for Die Gartenlaube, an illustrated family journal of the 19th century and major project of the German-language Wikisource. The tour book of Estonia was also transcribed in this way. I found the advertisement in the Revalsche Zeitung from May 20, 1897 for this book filmed at the Estonian National Library.

Everything is connected: Science communication with structured open metadata in Wikidata, its thumbnails on Twitter, Wikidata items of

bibliographic metadata of own publications to query and link with Scholia - Wikimedia Commons, Wikisource, Wikipedia, Wikidata and Structured Data on Wikimedia Commons. "Linked Open Storytelling" is what I call it: using hyperlinks and open data for project communication and research. Openness, Free Knowledge, open tools and infrastructures simplify work: research, PR, distributed projects.

1lib1nearby <sup>13</sup> I developed under pandemic conditions. The Wikidata query "Nearby" can "help keep distance and gain closeness," I wrote in April 2020, to connect country knowledge, shopping for daily needs, and output restriction, borrowing from Wikimedia's "1lib1ref" campaign to enrich Wikidata. Wikiversity is useful in all of this, and not just for program communication with the other fellows. I now use it as an open collection of course scripts on science communication topics: Homeland research and project communication.

Finally, I can embed Veloclichés in Wikimedia portals - illustrations digitized and vectorized into scalable graphics for lossless use and open sharing in the Commons. Everything is connected - linked open.

# Outcome II: Community of Practice



I benefit enormously from the contacts. I publish together with fellows from other disciplines, we help each other in many different ways (reviews, invitations to talks). The network I have gained through the program is extremely valuable, much more so than my own project.

> In the course of the five program years, a lively and productive community structure thrived among the program participants 14. Different activities have evolved independently from that network to jointly incorporate Open Science in institutions, networks and communities. A variety of specialist contributions on the subject of Open Science had its origins in this community, for example, and were published together. Examples are articles such as "Open Science, but Correctly! Lessons from the Heinsberg Study" 15 or a statement in response to a critical comment about open access, published in the journal "Forschung & Lehre" <sup>16</sup> as joint initiatives, where quite a number of fellows from different years got involved each time. We also particularly wish to point out the working groups that were founded at different institutions of the alumni, who were also sometimes involved in setting them up in order to promote Open Science. Taking part in the respective working groups and initiatives had a networking effect for fellows and mentors across the different years of the program. It led to the launch of the interdisciplinary Open Science Working Group at the Freie Universität Berlin, for example, or similar initiatives at the

universities in Frankfurt a. M., Marburg or Tübingen with fellows from different years of the program. Interinstitutional working groups were also founded to boost Open Science in the individual disciplines. The GfM scholarly interest group (SIG) "Open Media Studies" <sup>17</sup> or the "Network Open Access for Legal Studies" <sup>18</sup> are examples in this context.

The community structures that have evolved from the program have a lasting effect. Among other aspects, this is demonstrated by the fact that 92% of the interviewees in the final survey stated that they would continue to actively advocate the promotion of Open Science. Types of engagement can be manifold and range from qualification schemes for other scientists (e.g. workshops on individual aspects of Open Science or tools) to collaboration in open projects (e.g. open access journals), communication about their own work and/or Open Science on their own blogs, websites or social media channels, and finally to motivating colleagues and line managers at their own institutions, raising awareness for Open Science among them.

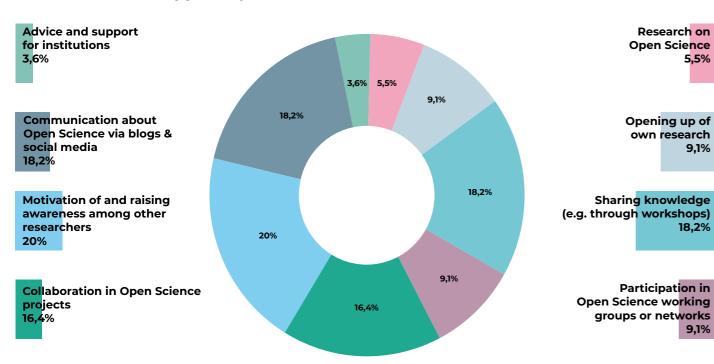
- 14 Fellows, alumni, mentors and academic partners
- **15** http://osf.io/axy84
- 16 https://osf.io/p6gmb/
- 17 https://gfmedienwissenschaft.de/gesellschaft/ ags/openmediastudies
- 18 http://www.juroa.de/ (in German only)

Research on

5,5%

9,1%

#### How the fellows support Open Science



In addition, 27% of all interviewees stated that they are a member of an Open Science working group. Currently, their activities are restricted or barely exist, partly because of the ongoing pandemic. To some extent, activities of the working groups happen across several universities. They facilitate networking, plan events and develop Open Science policies for individual institutes.

21 Maximilian Petras **Kiel University** 



# The Fellows Program as a Community Booster



As part of my project for the Open Science Fellows Program, I started a community for jurisprudential Open Educational Resources. At the heart of a functioning community building is good networking among its members. Here, the program has made an elementary contribution with its networking events and the funding of the project itself. Former fellows from different cohorts, who are also legal scholars, have either participated in OpenRewi 19 from the beginning or contributed their contacts and expertise to our work:

Nikolas Eisentraut had published a freely licensed textbook and casebook on administrative law during his participation in the program. As a member of the OpenRewi coordination team he shared his experiences with Wikibooks. His advice and contacts with various legal publishers were also particularly helpful. It did not stop at hints and networking: Nikolas also became an author in the Basic Rights textbook and took over a very extensive chapter there. Julia Wildgans, a former participant in the program, started her own project in copyright law. She also became part of the coordination team and supported the organizational work significantly. Hanjo Hamann was one of the first fellows in the program – for us he was an important interface to the rest of the open access community in the German-speaking legal studies. In the numerous discussions with our joint mentor Benedikt Fecher, my fellow jurisprudence fellow from the same year Marie Herberger has had direct input on all the concepts and ideas developing in the process.

19 https://openrewi.org/

In addition to the meaningful networking with other legal scholars, of course, the contact with fellows and mentors from other disciplines also provided a variety of stimuli. First of all, Benedikt Fecher's trained view on the landscape of open access publishing. He encouraged our project to go its own way in publishing. Also Georg Fischer, who now works as a research assistant and editor at the Verfassungsblog in their open access project, always had an eye for the current community building at OpenRewi.

The science team at Wikimedia Deutschland has helped us build the community beyond the framework with their own community experiences. The Communities and Engagement team also approached us on their own initiative to offer help. Wikimedia Deutschland also put us in touch with the Free Education Alliance, which brings us together with many other initiatives.

# Outcome III: Institutional Impact



I came across really interesting impulses that I was more than happy to introduce in my institution. At the time, I launched a working group on openness, for example, which has brought together research, teaching and central facilities at the university.

Launching the working groups described in the previous chapter turned out to be an important step, because they can incorporate the topic of Open Science at the institutional intra- and interuniversity level for the longer term via the multiplier effect of workshops, meetups or informal regular group meetings. Individual examples reliably demonstrate how fellows were able to influence institutional policies and processes. In Göttingen in 2017, for example, a professorship was advertised with an Open Science passage after the in-house Open Science initiative co-founded by one of the fellows from the first program year successfully started a discussion on the the extent to which contributions to openness of research should be considered as a selection criterion. Including such criteria is an unremarkable step to begin with, yet it can be rated as an important signal for a changing understanding of good research practice and also of reputation logics that have come under criticism.

In general, we can state that institutional changes need time and that creating an environment with supportive conditions in academic institutions is a lengthy process

that requires ongoing commitment. The fellows themselves act as multipliers in their own institutions, yet as individuals without an official mandate by their institution (for example by nominating an Open Science representative) are often not in a position to bring about significant change. A future approach could be to work increasingly towards motivating institutions to nominate official contacts for Open Science. This could send a strong inward signal and create more visibility for the topic by advising and supporting researchers. With regard to open access and open research data, several universities have already established such points of contact. Moreover, the major research funding institutions as well as all major research associations have recognized the relevance of the topic and initiated relevant activities to promote Open Science.

### **About Wikimedia Deutschland**

Wikimedia Deutschland is a non-profit association with around 80,000 members that promotes Free Knowledge. Since its founding in 2004, the association has supported various Wikimedia projects first and foremost Wikipedia. The association advocates free access to Free Knowledge and is thus committed to a fundamental human right to education. Wikipedia, like other sister projects, is independent and free of advertising and only possible through volunteer work and donations.

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