



Kaleidoscope 2020

Sharing knowledge and ideas.
Linking information.
Advancing the world.



Welcome to the ETH Library.

What you can expect from us:



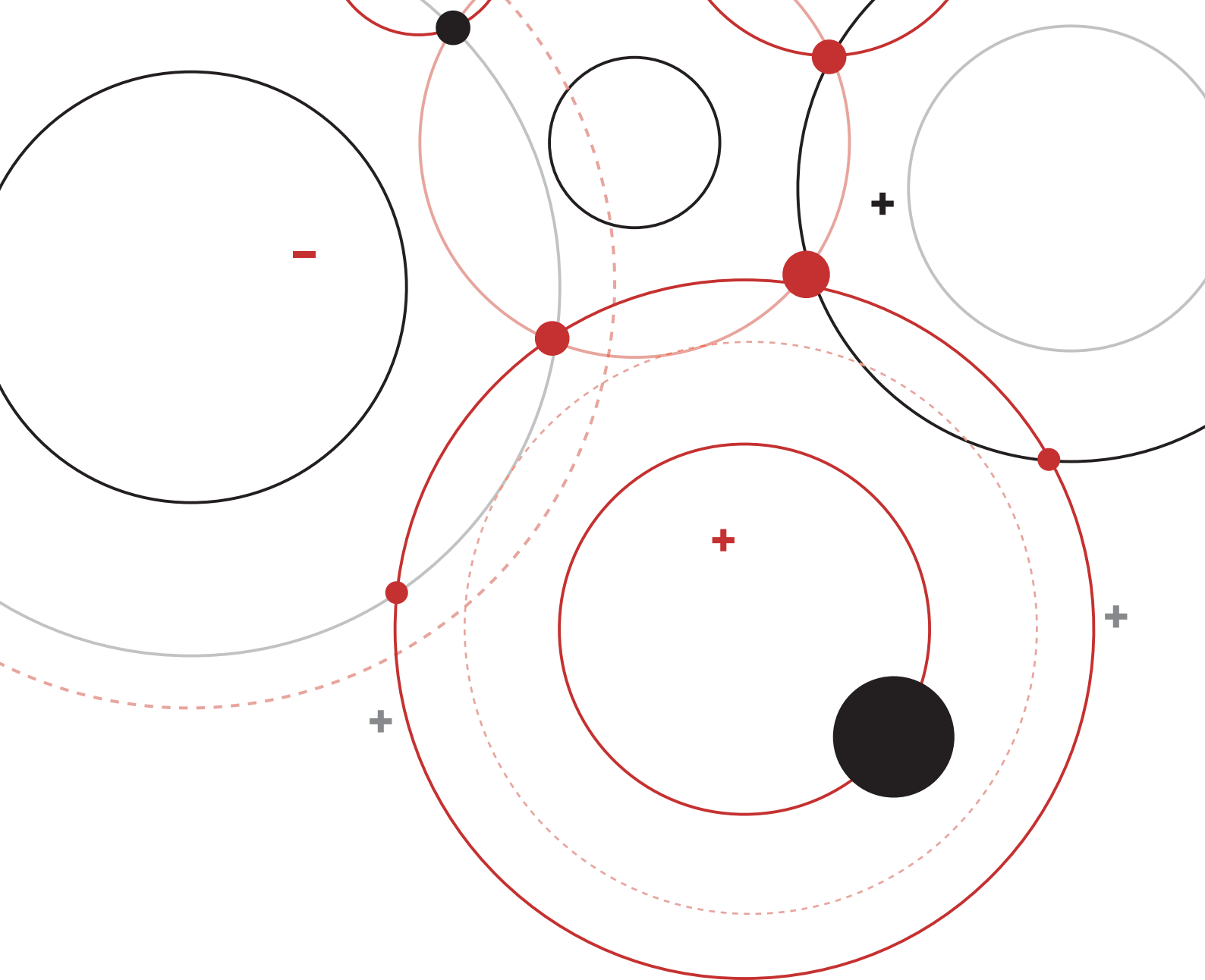
Information and Literature

Whether you require printed or digital formats or physical objects, we provide you with whatever you need for your research, teaching or degree. At the Swiss Federal Institute of Technology (ETH Zurich), we provide you with freely accessible specialist literature, collections, data and specimens in a clearly structured manner, and also show you the available contents of the physical collections. We also have quiet reading, study and work spaces.



Publishing

We run the Research Collection as a repository for your publications and their dissemination, management and documentation, and offer specialised advice on data management and publishing issues, for example data management planning, open access and long-term archiving. We provide additional support for publishing in open-access journals by covering the expenses.



Cooperation

We digitise collections in cooperative projects and provide you with our expertise on digitisation and information organisation. As an active partner in integrated scientific knowledge production, we develop and provide infrastructures and tools that cover the entire scientific value creation chain in cooperation with internal and external partners and by participating in expert committees and associations.




Knowledge & Learning

Our exhibitions, online platforms, guided tours and co-creation campaigns, where we actively involve our customers, take the know-how of ETH Zurich to the public. Our courses, workshops and webinars teach you skills in conducting searches, scientific writing, reference management, open access and data management. We also offer individual advice on all these topics.

Foreword





Knowledge and information work in the digital world becomes more effective, efficient and ergonomic – a workplace with people at the centre.

The paradigm shift in science communication is advancing. The exchange of data and knowledge on the Internet has become commonplace. Information is obtained online, research data is digitally edited and processed, findings are published electronically and conferences are held online. COVID-19 has accelerated these phenomena.

With the ETH Library 2020–2024 strategy, we have also set ourselves the goal of making digital work easier. Our vision is to use pioneering information services and tools that are built around people to create personal workspaces in the physical and digital. Together with our customers, according to their needs.

In 2020, the ETH Library dealt with two main recurrent themes through the entire year: strategy and the pandemic. Both kept us busy in addition to normal library operations. We managed the COVID-19 pandemic very well. With our extensive range of digital services, we were able to comprehensively provide for our customers even during the lockdown, because our library never closes.

I am very grateful to all ETH Library staff for their great commitment and willingness to be flexible and engage in the new work demands of this extraordinary year.

As planned, we began implementing the projects of our strategy for 2020–2024 in January. A COVID-19 task force, which we set up at the very beginning of the pandemic, coordinated infection control and prevention measures for the public and employees. Then came the lockdown. Our first priority was to maintain the provision of information and services to members of ETH Zurich, closely followed by the need to convert our training and consulting services to a virtual format. We report on this in more detail in the chapters “Library strategy” and “Library 24/7” in this issue “Kaleidoscope 2020”. The “Library surrealism” chapter covers our activities to manage library operations during the pandemic.

Despite the difficult working environment, we were able to successfully complete various interesting development projects in 2020. The five-year project “Swiss Library Service Platform”, SLSP for short, resulted in Switzerland’s first national library platform. On *swisscovery*, 470 academic libraries offer their entire holdings of information and media with a harmonised search interface. The ETH Library initiated and co-led the SLSP project. We revamped our library website in 2020. It now follows the ETH Zurich umbrella brand design and has state-of-the-art technical features. Several information products and tools that we have implemented in research-related cooperation projects with various ETH Zurich departments, as well as in our own development work, are equally forward-looking. We developed new functionalities for the information platforms e-rara and E-Periodica that offer exciting possibilities for interested parties and researchers alike. You can find out more in the chapters “Library digitisation” and “2020 in Brief”. We hope you enjoy reading this year’s Kaleidoscope and welcome discussions. ■

Rafael Ball,
Director of the ETH Library

Content

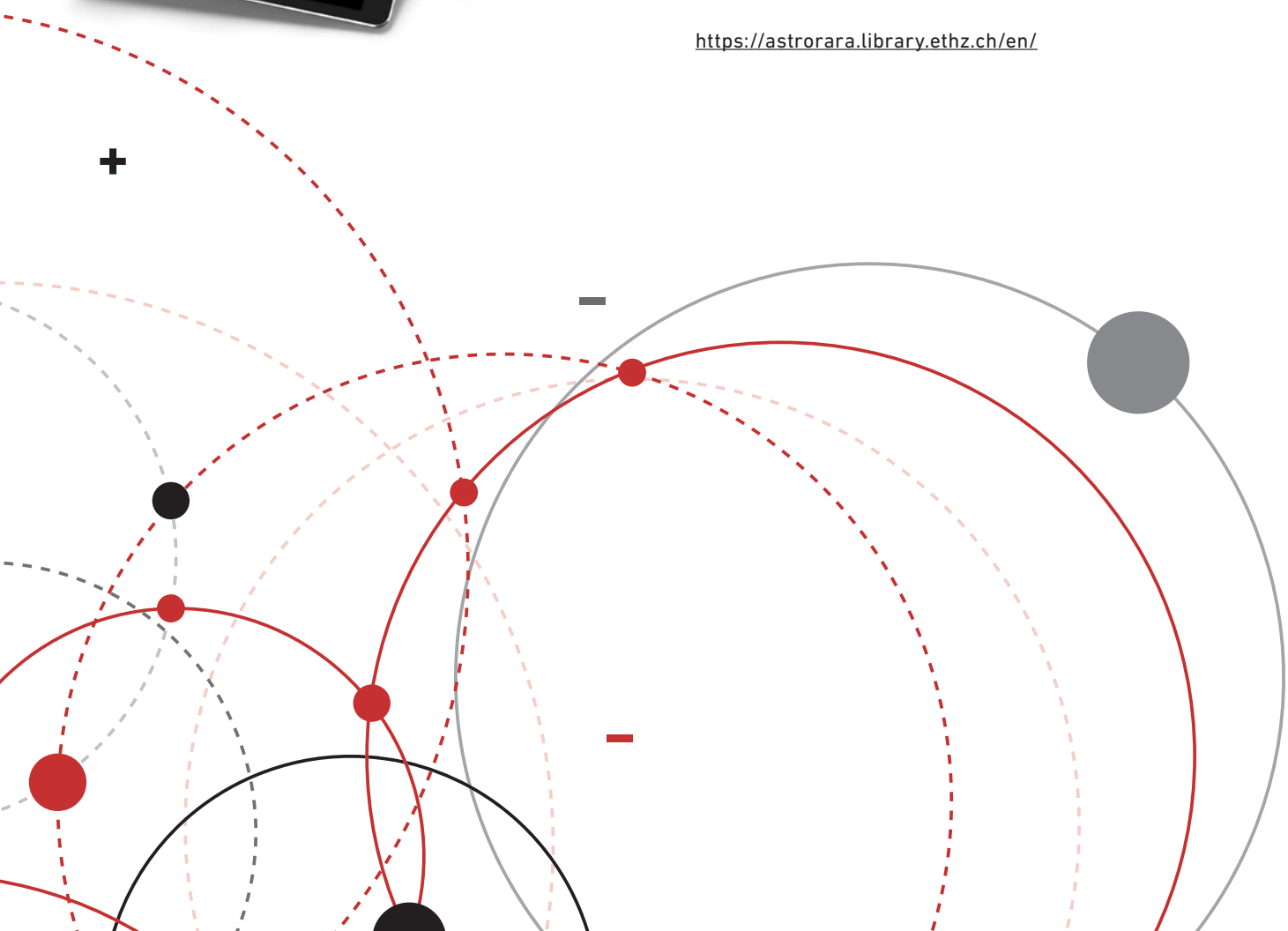


Digitisation meets design

The cover picture and the basic graphic design of this ETH Library Kaleidoscope 2020 are based on historical observations of celestial phenomena. As the main library of ETH Zurich, we digitise, inter alia, scientific findings from the observation of the universe recorded in old and new documents and use modern forms of digital information brokerage to present them.

The dots, orbits and plus signs on the cover are inspired by the interactive web application "AstroRara", which we used to convert Galileo Galilei's observations of the orbits of Jupiter's moons from his 1610 work "Sidereus Nuncius" into moving images in 2020. The plus signs are used in solar research, specifically in sunspot projection drawings, to record daily observations of sunspots. Researchers use them to measure solar activity. Among other things, "AstroRara" also displays a compressed form of Christoph Scheiner's sunspot observations between 1 and 18 June 1625 as they move across the solar disc.

<https://astrorara.library.ethz.ch/en/>





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ETH zürich



ETH Library




Library management // Library strategy

Consistent customer focus, holistic support along value chains and a Connector to act as an integral platform consolidating resources in the medium term. Strategic alliances, co-creation and customer care are some of the central elements and fields of action of the ETH Library strategy for 2020–2024. This strategy is part of our continuing effort to integrate the ETH Library into the process of academic value creation.

As the knowledge hub of ETH Zurich, it is our duty to take the initiative in shaping the paradigm shift in scientific communication, which we do with the help of pioneering, people-centric tools and information services developed together with target groups. We mobilise our relevant expertise in the digital sphere to promote the vision and mission of ETH Zurich.

Our strategy for 2020–2024 is anchored in the DNA of the ETH Library. In both the analogue and digital spheres, it builds on the foundation of our library as a long-standing member of global networks. In 2020 we started to bring this strategy to life. Cross-sectional teams carry out the determined measures in daily library life. Change ambassadors present objectives and proposals to the library staff and then carry back their ideas and suggestions to the steering bodies. The ETH Library is well prepared to face any challenges the future might bring.

 With its strategy for 2020–2024, the ETH Library is setting an example for a new era of cooperative information organisation and knowledge generation together with its customers.

The shift in scientific communication is not new

Academic discourse and knowledge generation are interlinked in every sense of the word, so these changes are not new for our library. The transformation caused by digitisation and the world wide web has long been part of academic libraries' everyday work. 30 years ago, we at the ETH Library were already devising and organising international digital channels to source and distribute scientific information and knowledge communication together with publishers, intermediaries, other libraries and networks. We even developed and co-developed several services ourselves, as there was nothing comparable on the market yet. We gained a great deal of experience and expertise in these years.

The library as an integral part of value creation

Today's issues no longer just comprise organising sourcing and distribution channels for specialist literature. It's passé to simply deliver information and services through a one-way channel. Tools and services are required for scientific work in the digital sphere, collaborative knowledge production, digital publishing, secure research data management, sustainable archiving and the like, but also in order to exploit the new opportunities that modern digital technology offers. At the ETH Library we know what is important when it comes to knowledge, data and publication management, and we are also constantly working on providing novel services and tools for research and teaching.

Based on our already available skills, our strategy for 2020–2024 is part of our continuing effort to integrate the ETH Library into the process of academic value creation.

Analysis along the value chain

While devising our strategy, we analysed the academic value chain in detail and uncovered numerous requirements. Libraries are required to provide solutions in many more areas today than they were just a few years ago.

Based on our analysis of the value creation process, we derived the starting points for building the ETH Library strategy for 2020–2024. As the main library of ETH Zurich, we want to take the initiative in shaping change and set an example for a new era of knowledge organisation.

The vision of the strategy for 2020–2024

The vision of our strategy for 2020–2024 is based on several guiding principles. First and foremost, we want to accompany and support our customers in a culture of enablement so that they can perform their personal tasks in the areas of knowledge and information more effectively, efficiently and ergonomically. If we succeed in improving the efficiency of knowledge transfer in this manner, that means that our services will contribute to making the world easier to understand, whether in the past, present or future. As the globally networked knowledge hub of ETH Zurich, the ETH Library will continue to be a trusted partner and service provider for research and teaching. We want to expand this partnership, mainly using new opportunities provided by digital and networking technologies. Another guiding principle of our vision is offering pioneering services to give impetus to knowledge generation and further development, as well as its transfer to society.



For quite some time now, our library has offered personalised consulting on all questions regarding information procurement, knowledge and research data management.



The different stages of scientific value creation are repeated cyclically in everyday research. Scientists use existing knowledge to formulate new research questions, draw on new knowledge and make their findings available as a basis for further value creation. Source: ETH Library

Strategy development based on the origins of the ETH Library

The strategy for 2020–2024 reaffirms the DNA of the ETH Library. We added current customer survey and benchmarking results to our experience in service development with increased customer involvement and cooperation in order to develop our goals. With this approach, we succeeded in designing a bold strategy with ambitious goals that builds on existing know-how and the strengths and skills of our staff.

Three strategic excellence positions

The highest level of the ETH Library strategy for 2020–2024 features three strategic excellence positions: (1) Consistent customer focus. Customers are at the centre of everything we do and are involved in developing the information structure. (2) Holistic support along the entire value chains, from knowledge acquisition and generation to knowledge transfer. (3) An integrated platform embedded in the university environment as a central digital connector that is networked externally with digital, physical and social services.

Important strategic fields of action

We have derived strategic fields of action from the elementary excellence positions to put our strategy into practice.

■ **Customer-focused services:** We want our customers to be able to build their own personal research, learning and working environment using the comprehensive range of services of the ETH Library, which comprises digital, physical and social offers. We actively involve our customers as co-creators in needs analyses and the development and setting up of services and content and provide them with digital tools to ensure consistent, interactive customer dialogue. Incessant customer focus is also the foundation for the other fields of action.

■ **Customer care teams:** Staff members are available to provide personal consulting for customers on specific and more complex issues. The teams focus on the respective customer segments.

■ **Strategic alliances:** In addition to our current core services, we are expanding our portfolio with complementary offers from other providers. We are building on our relationships within ETH Zurich and the ETH domain and are specifically forming alliances with strategic partners in this area. Both nationally and internationally, we utilise existing networks and act as a pioneer in modernising the national library organisation.

■ **ETH Library Connector:** Using a centralised digital solution platform, we intend to provide access to our products and services with a modular product system that customers can personalise. Customers will be involved as co-creators in the development of this Connector.

Change ambassadors present objectives and proposals to the sections

A team made up of staff members from all sections and from various management levels is supporting the implementation of the strategy. As change ambassadors, they act as intermediaries between project management and the ETH Library sections. They carry information and proposals to the sections and communicate the staff's ideas, reactions and moods to project management. The change ambassadors incorporate expertise from their specialist fields into the change process.

First specific initiatives launched

The concrete implementation of our strategy is taking place simultaneously in various areas within the ETH Library. For example, a pilot project was launched to systematically anchor co-creation in the development of the ETH Library services, and the increased involvement of customers is being implemented in ongoing projects and further developments of our services. We have also gathered initial experience with "sounding boards", feedback committees consisting of the target groups of the ETH Library, and have held a customer survey on the scientific community's perception of the ETH Library.




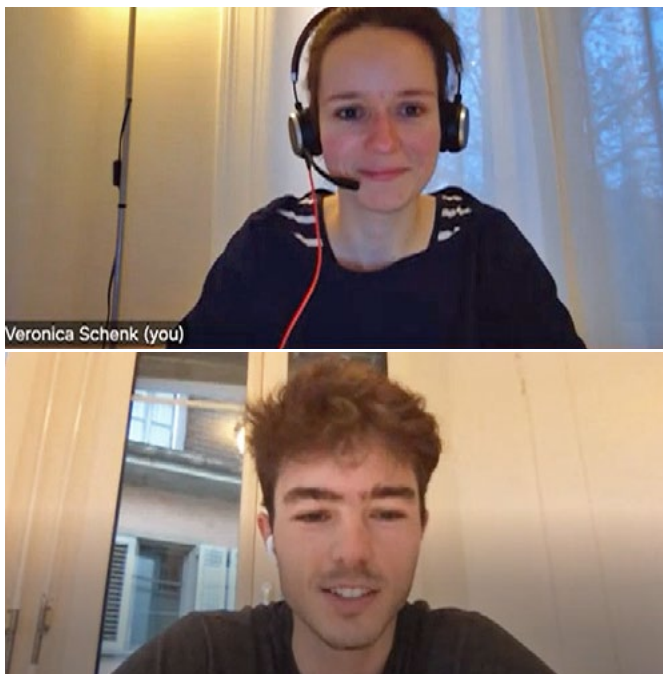
Through their participation in workshops and surveys, our customers provide us with valuable feedback for developing our services according to their needs. Source: ETH Library

Co-creation: generating services and content with stakeholders

Co-creation refers to a process of collaboratively developing new or further products and services with members of different stakeholder groups of a company or institution. For several years, collaborative content generation and metadata optimisation have been an integral part of the modus operandi of the ETH Library. Some particularly notable examples of this are the Image Archive on the ETH Zurich image platform E-Pics and the georeferencing of Image Archive holdings on the sMapshot platform of the School of Management and Engineering Vaud. For more than ten years, volunteers have been working on improving and making the content accessible. These activities began with the indexing of the Swissair photo archive from 2009 to 2013, which was launched at the ETH Library by the support of Swissair retirees. Other projects followed.

With our strategy for 2020–2024, we are implementing co-creation as a continuous process in order to involve our customers at various points in the development process for our services. We intend to utilise co-creation in selected pilot cases for various specialist fields in the ETH Library.

 We want to create personal, digital workspaces for scientists, such as desks or labs, that they can return to every day to pick up their work right where they left off.



We design and develop our services together with our stakeholders in the co-creation process. Source: ETH Library, Screenshot: Veronica Schenk, intervista market research institute

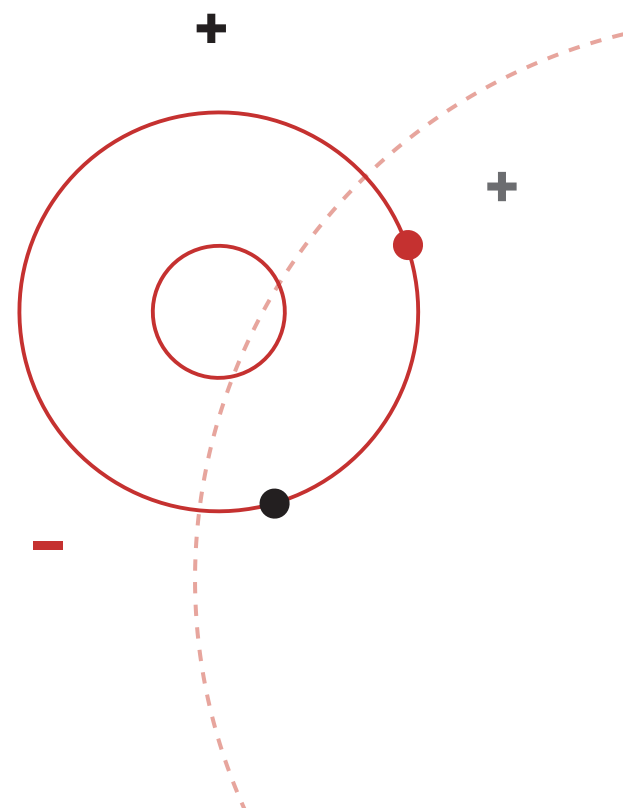
Personal workspaces for digital research

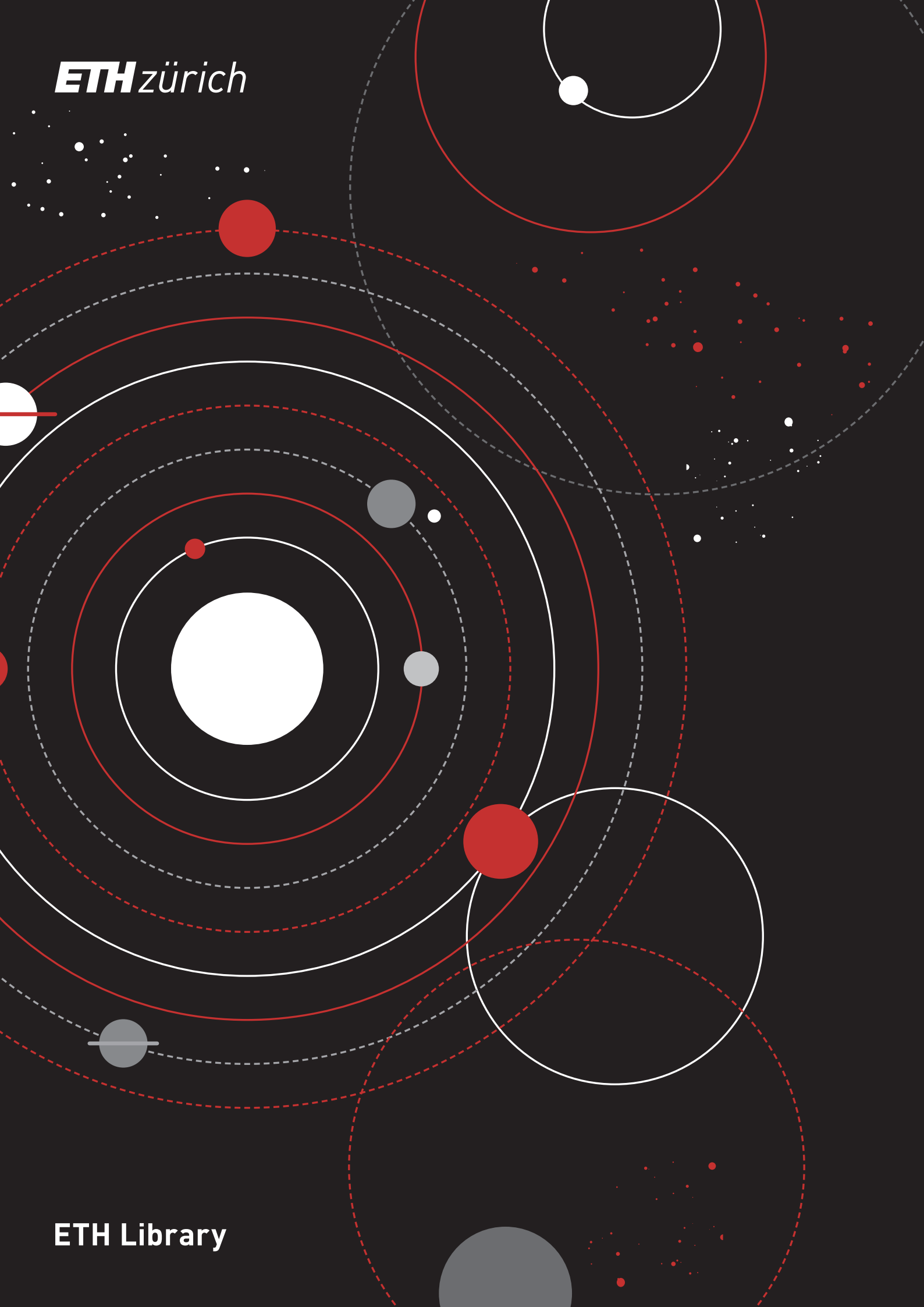
In future, we will also make greater use of co-creation as a process of participatory product and service development in order to improve academic tools and services together with researchers, lecturers and students in a needs-based manner. Our aim here is to support scientists by providing a working environment in which they can perform their everyday tasks in the areas of knowledge and information more effectively, efficiently and ergonomically. A digital study space that supports them in their research, rather than distracting them from their working objectives with widely diverging information sources and complicated handling.

We want to create personal, digital workspaces for scientists, such as desks or labs, that they can return to every day to pick up their work right where they left off.

Customers give us good marks

In the 2019/20 customer survey, our customers from the scientific community confirmed our good standing as the main library of ETH Zurich even before developing our strategy. Overall, 1,819 participants were involved, around 1,000 of which are members of ETH Zurich. With a score of 4.36 out of a possible 5 as an overall rating, they validated our work to date. They experience the ETH Library as a useful, competent and professional institution that is respected in the scientific community. Around 87% of those surveyed would recommend the ETH Library and its services to others today, even before our strategy for 2020–2024 takes effect. We intend to ensure that this remains the case in future. ■





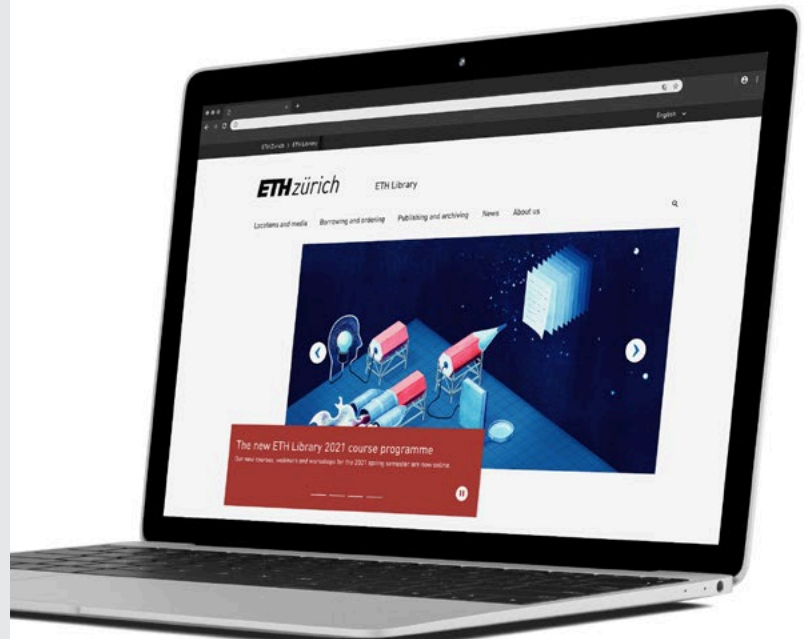
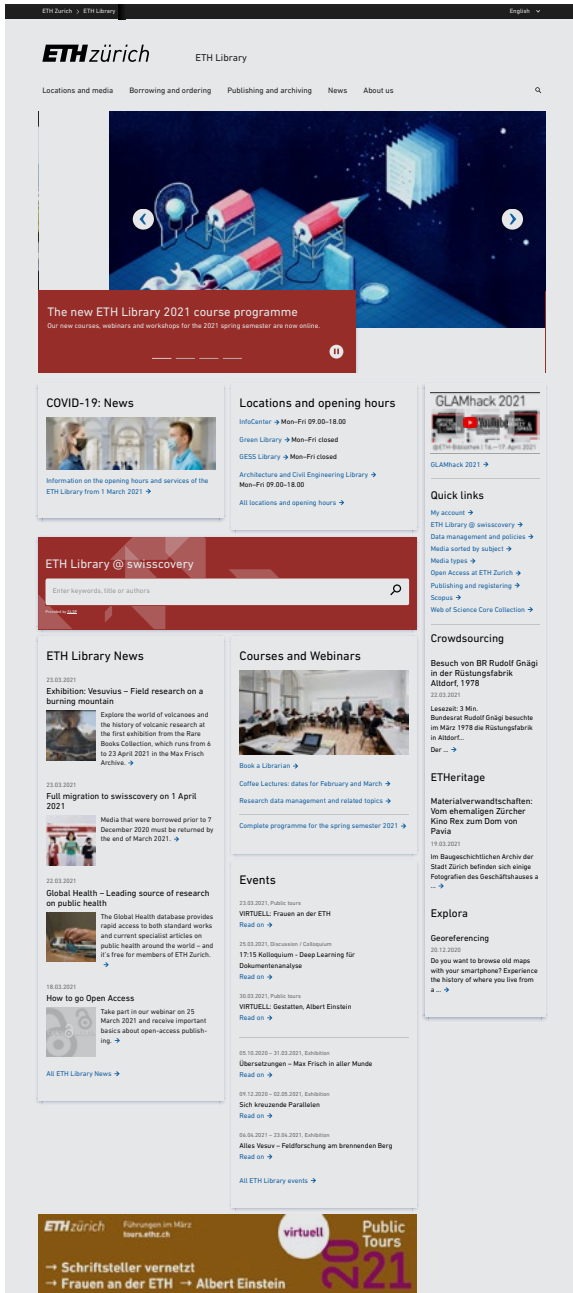


Services //

Library 24/7

The ETH Library never closes. Seven days a week, customers can access our online information services around the clock. We provide convenient, modern communication channels such as chat, WhatsApp, comment, feedback wall and email for our customer dialogue. As an academic library, we have consistently made use of the potential of digital solutions from the outset to offer our holdings and collections digitally and in inspiring forms online.

When COVID-19 containment measures suddenly froze local library operations in March 2020, our digital expertise proved to be a godsend. We were able to switch to working from home immediately. We succeeded not only in maintaining the existing online services uninterrupted but also in providing additional ones very quickly. Our training and education range required the most extensive adjustments to the new circumstances. Our employees tackled this with aplomb, and the customers appreciate the resulting service very much, so that we are now permanently adding online courses and workshops to our portfolio. Relaunching our website as a showcase for all our services fitted in well with the digital-only environment. Like all our services, it is available on the Internet around the clock. Online services are not subject to any lockdowns.

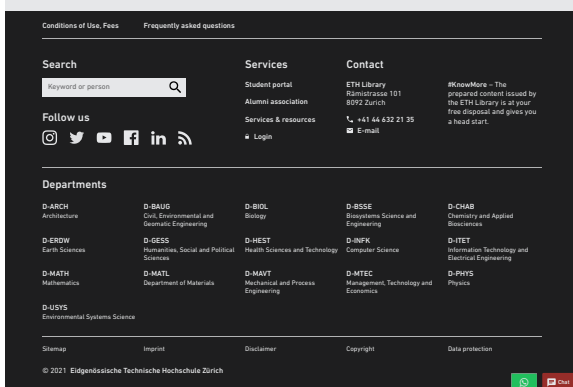



Source: <https://library.ethz.ch/en/>

The new ETH Library website: customer-centric in the design of ETH Zurich

The website is our flagship in the digital universe and the central point of access to our diverse services. It needs to be up to date, which requires a major overhaul every few years. We also wanted to transition our web presence to the brand design of the ETH Zurich umbrella adopted in spring 2020. We approached this task with the project “ETH Library website new conception”.

We are now using the Adobe Experience Manager (AEM) content management system, which is widely used at ETH Zurich, in a configuration adapted to our functions which we carried out in cooperation with Corporate Communications and the IT Services of ETH Zurich. We launched the new website for the public in August 2020. And everyone’s a winner here: visitors are welcomed by an attractive website that gives access to our information sources and resources in an easy-to-understand manner and provides intuitive functions for calling up services and contacting experts. The website is up to date in terms of both content and technology. Using the corporate design of the university, the library is immediately recognisable on the Internet as an ETH Zurich institution.



 During the 2020 COVID-19 pandemic, we continued to press ahead with our strategy while closely involving customers in the design of our services. We asked them about their opinions on the redesign of the new library website, as well as on ongoing development projects.

COVID-19 highlights electronic resources

The portfolio of electronic resources that ETH Library customers can access is vast. In 2020, the growing range of journals available to scientists at ETH Zurich alone comprised a total of 3,264 e-journals. In addition to e-journals, e-books and academic databases, electronic resources include major subject-based platforms such as E-Periodica, e-rara, e-manuscripta.ch and the ETH Zurich image platform E-Pics, as well as our archive and research databases, which serve as research tools to make extensive holdings systematically searchable, for example those of the Thomas Mann Archives, the Max Frisch Archive, the University Archives and the ETH Zurich Collection of Prints and Drawings. For some years now, we have increasingly supplemented our portfolio with blogs and individual services offering specific information prepared for online use as well as interactive functions. We offer sophisticated tools matching these services that allow customers to work with the content.

While our customers were able to seamlessly continue using our original electronic services during the lockdown, the closure of the physical library and the phase of restricted operation had a massive impact on our teaching and training services.

Doctoral students complete RDM Summer School via Zoom

A week of intensive research on the complex topic of research data management, conducted exclusively via computer – is that even possible? Registration for the ETH Research Data Management (RDM) Summer School, which was planned as a physical event in June, was already underway when the lockdown was ordered. The teaching format, which was launched in 2019 and has been very well received, thrives on the direct exchange between participants, which is why a cancellation was also initially considered. Following a survey of those who had already registered, Research Support Services, the section in charge, decided to hold the RDM Summer School entirely as an online event. Several of the respondents had expressed concern that a cancellation would have a negative impact on their studies to




Holding the RDM Summer School via Zoom proved successful: all the participants and lecturers attended for the whole week and the atmosphere was positive. Source: ETH Zurich, photographer: Henry Luetcke

the point of extending their duration of study. Participants of the summer school can acquire credit points according to the European Credit Transfer and Accumulation System (ECTS) in addition to data management competence.

The fact that new registrations took place after the announcement of online implementation, but none of those who had already registered cancelled their registrations due to the change-over, proved that the decision to hold the summer school remotely was the right one.

None of the content was cut, but some organisational adjustments had to be made. For example, the physical marketplace of information resources that concluded the RDM Summer School in 2019 was transformed into brief consultations in small groups of no more than three people. As both the experts and the participants appreciated this change in terms of a closer focus, we plan to continue using some elements of it in the future. With the necessary caveats, the next RDM Summer School is scheduled to return on site in June 2021.



The ETH Library has a vast portfolio of electronic resources. During the lockdown, our digital sources, services and expertise proved to be a useful benefit to our clients.

Reviewing and consulting on data management plans continues smoothly

Not all of our consultation and other services had to be adapted for the lockdown period, as some of them were originally designed not to be used on site.

For example, the services provided by our Research Data Management and Digital Curation group also include one-to-one consultations for customers and the frequently associated review of data management plans (DMPs), which we check, among other things, for their conformity with research funding requirements. Even before the closure of the university, scientists contacted us mainly by email and only digital documents were exchanged. The services in this area could therefore continue to be offered unchanged, even though none of the parties involved was present at ETH Zurich.

Workshops on demand and RDM series also moved online

Workshops, which we prepare upon specific request according to the needs and wishes of members of ETH Zurich, are firmly anchored in the university's training concept.

We regularly hold a series of workshops on research data management (RDM) and related topics twice a year. The planned dates did not fall within the lockdown period, but due to the difficulty of implementing an interactive format in compliance with the protective regulations for restricted operation, and based on our positive experiences with the summer school, we decided to also conduct the RDM workshop series with six workshops online. The number of registrations was even higher than for previous on site events.

Advantages of online training: lecturers demonstrate tools on screen

It has been a smooth transition from physical to online training courses and online consultations offered by our E-Publishing group on publishing tools, network platforms and current issues such as open access or predatory publishing. In consultation with our customers, we moved all of our events that were not already designed as webinars into the virtual space. We also organised new training courses and consultations online upon customer request.

The online training courses also revealed the advantages of the format, such as being able to show customers directly on the computer how to use a tool and the travel time saved.

New format "Coffee Lectures": acquire relevant know-how in 10 minutes

Several sections that share their expertise in the training courses offered by the ETH Library have jointly developed a concept for the implementation of Coffee Lectures at the ETH Library. Coffee Lectures are short training sessions that provide concise introductions to various topics in the field of information literacy. A presentation lasts a maximum of ten minutes and participants can subsequently ask questions. The events take place via Zoom and no registration is required. The topics covered include all aspects of information searches, scientific writing and publishing – from using reference management software to research data management and archiving. Members of ETH Zurich can also submit suggestions for topics they would like to see covered in a Coffee Lecture. The first series of Coffee Lectures was launched in June. Two more followed in September and December.

Research Collection available without restrictions

Throughout all the pandemic protection measures, the Research Collection remained available without restrictions to members of ETH Zurich for uploading publications and publishing research data. Working from home, the team managing the Research Collection at the ETH Library ensured the seamless continuation of the service. During this period, customers mostly received consultations by email, and in rare cases by telephone. While the first phase of the lockdown saw a slight decline in the volume of publications, it settled at the usual level after a few weeks. Some customers used the lockdown to review previous publications and systematically upload them to the Research Collection.



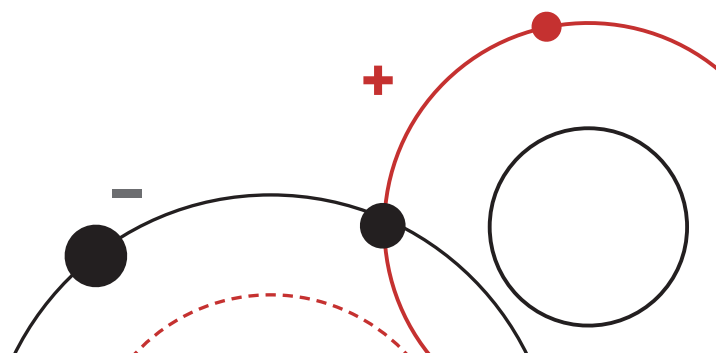
Even during the pandemic, our library never fully closed. Online services are not subject to any lockdowns. Source: ETH Library, illustration: Andres Bucher

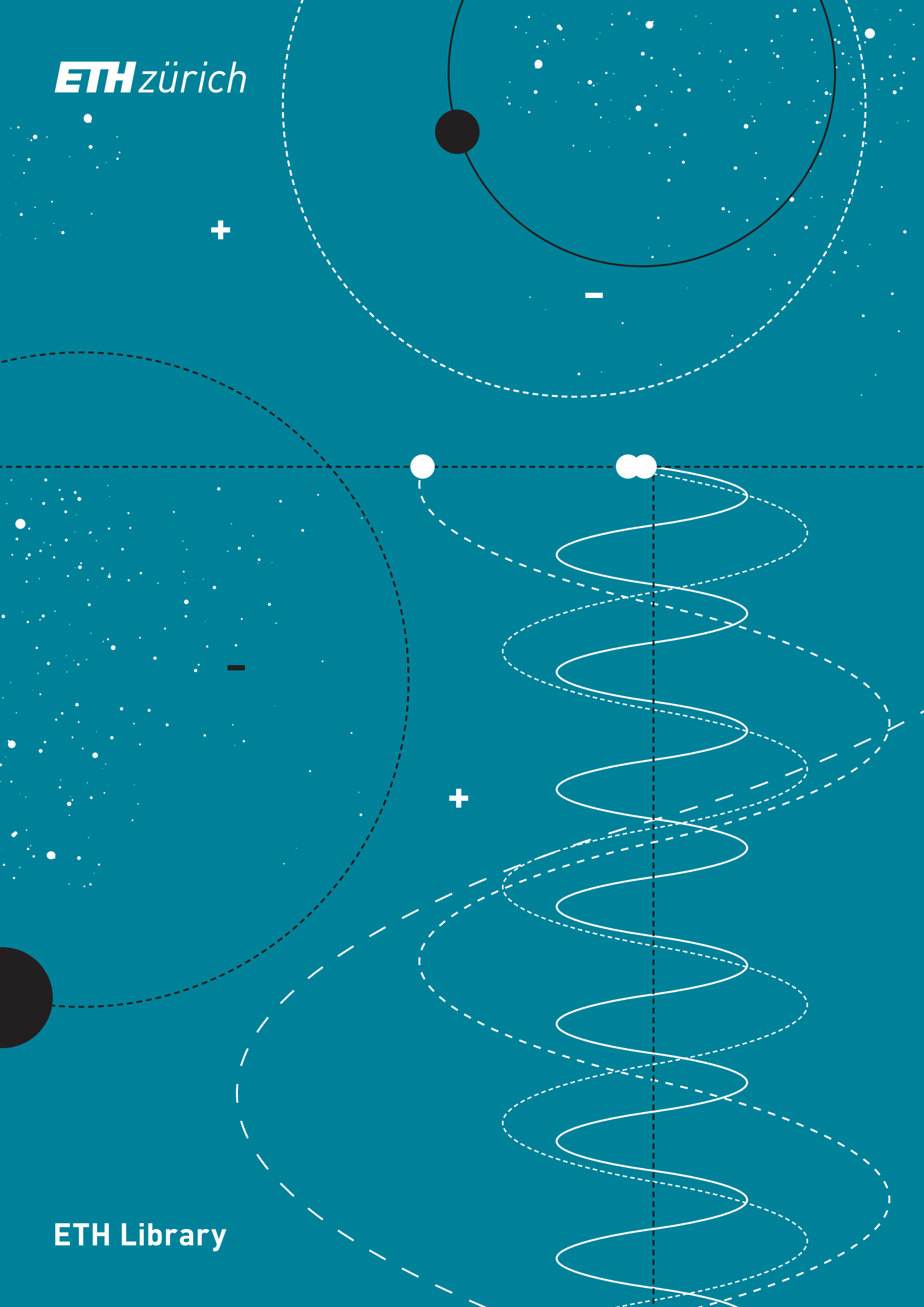
Normal operation and workflow optimisation at the ETH Data Archive

Normal operation continued at the ETH Data Archive during the lockdown. In addition, employees succeeded in completing several challenging projects and achieving important results in ongoing projects. For example, a workflow for importing medium-sized data packages into the ETH Data Archive, which had previously only been partially supported by script, was further automated. Together with the Library IT Services, important work was completed in the data processing system working in the background. Some data flows were fundamentally restructured to make workflows more efficient.

No registration restrictions at the ETH Zurich DOI Desk

Digital Object Identifiers or DOIs unmistakably identify electronic documents such as research publications, doctoral theses, digital images and the like. The service of the ETH Zurich DOI Desk, which is operated by the ETH Library on behalf of the university, continued as usual. Not noticeable to customers, it was provided in full by staff working from home. DOI registration was available, new customers were added, and all contracts with existing customers were renewed in order to transfer them to DataCite's new membership model. The ETH Zurich DOI Desk is an official DOI registration agency for Swiss universities and research institutions, for libraries, archives and others. ■








Communication of knowledge //

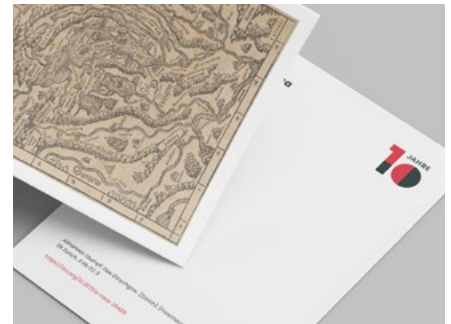
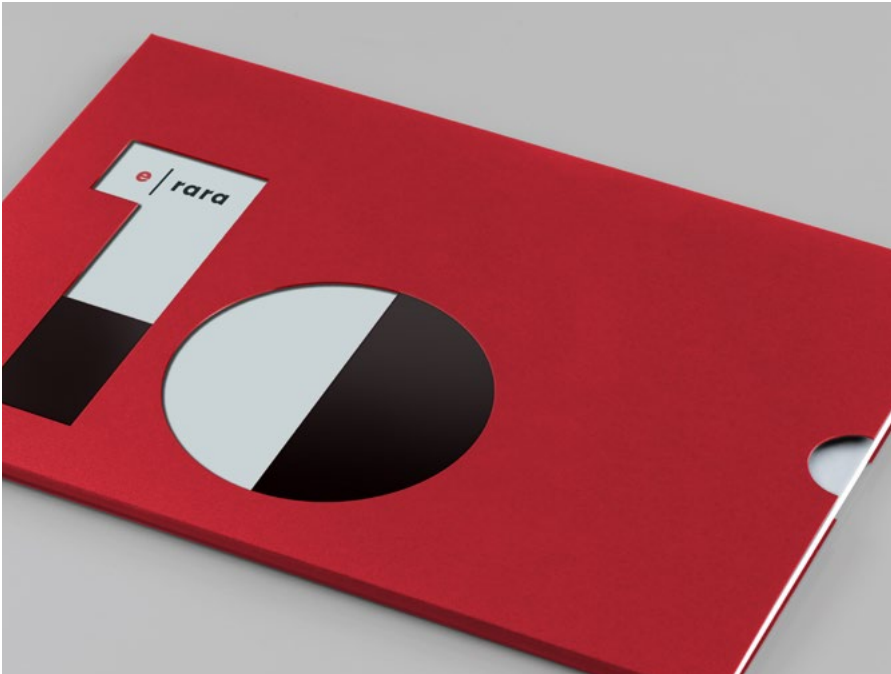
Library digitisation

By applying the recent achievements of computer and information science to digitised resources, we can unleash information products with unprecedented functionalities. Through its own research, as well as through research-related cooperation projects with ETH Zurich departments and other partner institutions, the ETH Library is reviving a treasure trove of knowledge that has accumulated over centuries. We translate newly created knowledge into contemporary knowledge communication.

Digital technology and its online linking capabilities are causing a huge revival for printed records by making them easy to access digitally. In a matter of seconds, for example, text passages matching a research question can be extracted from the full texts of old and rare books from the 18th century, which are available for public access on the e-rara platform. Strong analysis processes uncover contextual relationships between individual titles and groups of works in architectural treatises from the 16th to 18th centuries. Condensed and visualised on the "Graph" platform, all the displayed points can be called up with a mouse click and traced back to the original work. An interactive animation shows the orbit of the Galilean moons around Jupiter in February of 1610, and a web dictionary is created in parallel with the material collections at the ETH Materials Hub. This adds a new dimension to the provision of expert knowledge. e-rara, the digital platform for printed works from Swiss libraries provided by a network of 24 institutions, celebrated its tenth anniversary in 2020. Unfortunately, the celebration had to be postponed, but the platform got a fabulous new makeover.



 Digitised resources, powerful data analysis processes and the possibilities of interlinking information on the web have opened up entirely new opportunities to reuse and repurpose existing knowledge in books and records.



A birthday present for e-rara: stronger focus on research and teaching

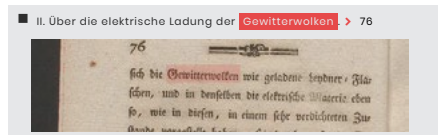
After ten years and with around 78,800 titles, e-rara was converted to a modern intuitive design in 2020. Thanks to the responsive design, the digitised resources can now be researched even more easily on tablets and smartphones.

Numerous technical improvements for working with these resources facilitate academic work. Digitised images and book pages on e-rara can be edited on or downloaded from the platform. Single pages can be shared via social media for scientific discourse. For each title, an overall description of the structure and properties of the digital representation of the object – called an IIIF manifest – is provided. IIIF is an international standard for the interoperability and exchange of digital photos and digitised resources. You can compare and explore images of book pages,

pictures and illustrations provided in the IIIF standard format in more detail across different platforms. Using your mouse wheel or touchpad, you can also zoom in and out of views on e-rara smoothly. All bibliographical information on the respective work is clearly structured in the title view. Digital Object Identifiers (DOI) distinguish each object uniquely. You can download complete works, chapters or single pages in PDF or JPG format. The bibliographic information is provided in the standardised Research Information System (RIS) format so that you can import metadata into your own reference management.

The ETH Library headed the development and implementation of the new e-rara design, supported by two agencies.

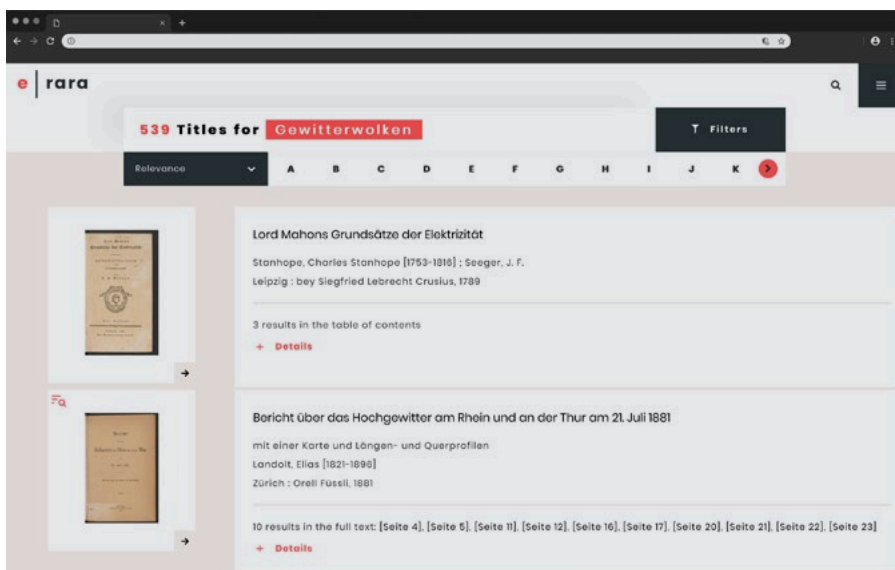
**Successful OCR:
following thunderclouds to the electrical
science of the 18th century**



Following the successful completion of the project “OCR for 19th century texts”, the ETH Library expanded the project for automated full text recognition on e-rara using Optical Character Recognition (OCR) to digitised 18th century prints in 2020.

Using OCR, 1,600 publications issued between 1771 and 1800 were retrieved, as well as further prints accessible on e-rara from the old books collection of the ETH Library, and the data records obtained were added to the title entries. You can now search these full texts electronically on e-rara, both in general and within each individual title. For example, the keyword “thunderclouds” finds hits for 531 titles on e-rara. How many hits there are and where these were found is indicated for each title.

Around 13,000 of the total 20,400 digitised prints made available by the ETH Library on e-rara were searchable in full text at the end of 2020. The full texts are available as integrated files, with images in PDF format. Alternatively, you can download the full text without images as a TXT file.



For the book “Beiträge zur theoretischen und praktischen Elektrizitätslehre” by Gottlieb Christian Bohnenberger [1732-1807], there is one hit in the table of contents and 14 in the full text. Clicking on “+ Details” shows and links to the corresponding text passages. Source: ETH Library, e-rara.ch

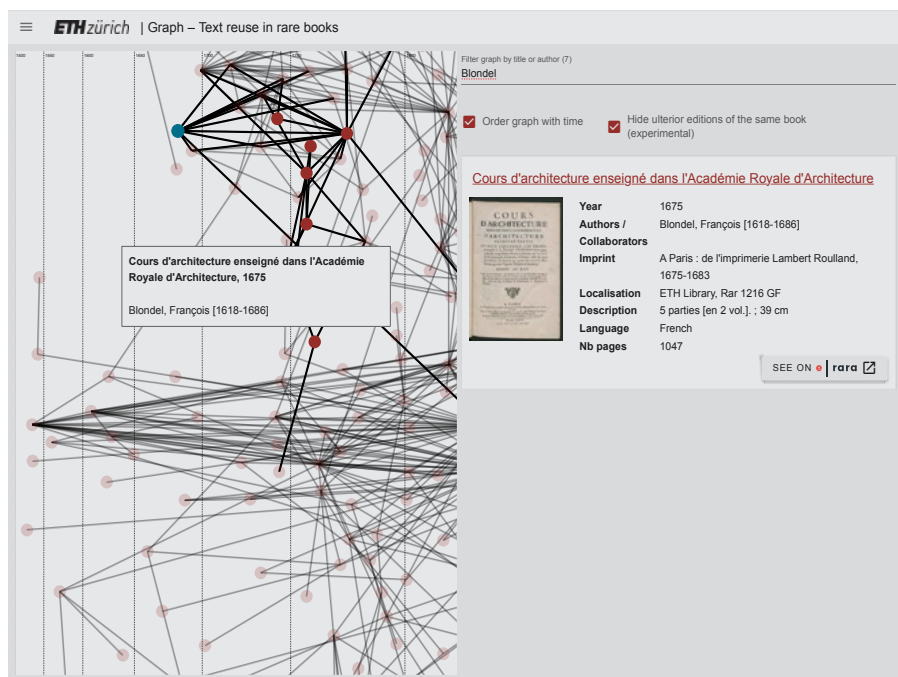
Research tool for e-rara:

Graph makes connections in architectural treatises visible

The “Graph” platform is the first subject-specific research tool based directly on the content and open interfaces of e-rara. It enables the computer-aided text analysis of currently about 500,000 pages in about 1,000 architectural treatises from the 16th to the 18th century. You can use the platform to discover which books have been influenced by others. You can also locate groups or families of texts within the vast bulk

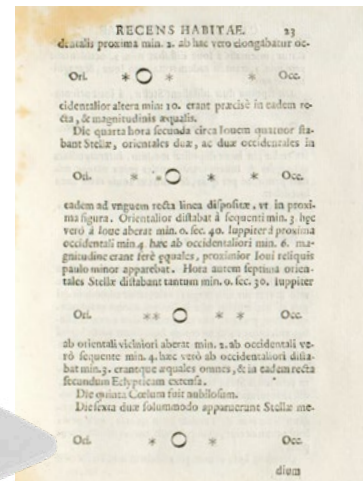
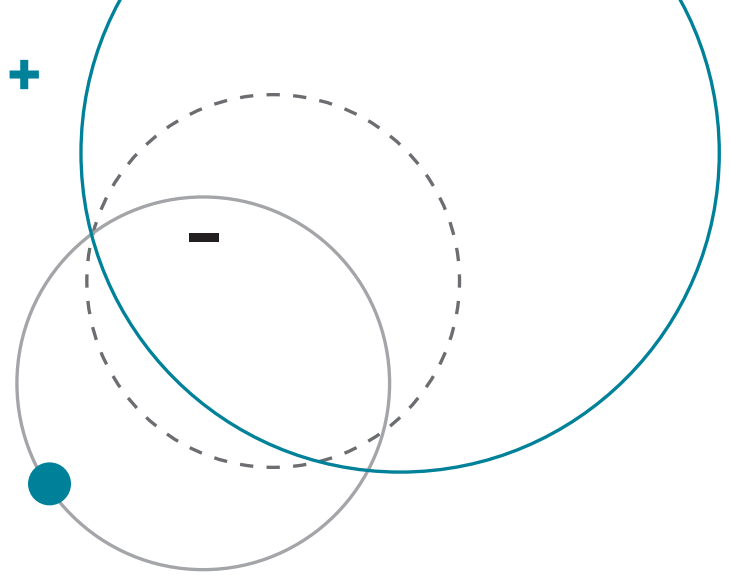
of available printed material. The platform was created in a research-related experiment in cooperation with the ETH Zurich Department of Architecture (D-ARCH). Graph is based on machine learning methods.

The prototypical new research tool, in the development of which experts from no less than three sections of the ETH Library were involved, can be tried out online. We are excited to find out how the research tool will be received and whether, for example, users also want to apply it to text corpora from other disciplines. Further projects in the field of text analysis based on natural language processing are planned with the Maarten Delbeke Chair at D-ARCH.



The content-related similarities between works recognised by computer are visualised as a graph. Source: ETH Library, <https://graph-rare-books.ethz.ch>

In the AstroRara app, you can compare the drawings of the moon's positions printed in the book with the positions of Jupiter's moons, calculated back with celestial mechanics, on every single day in February 1610.
Source: ETH Library, astorara.library.ethz.ch



Sidereus nuncius magna, longeque admirabilia spectacula pandens ... Galileo Galileo ... : nuper a se reperti beneficio sunt observata in lunae facie, fixis innumeris, lacteo circulo, stellis nebulosis, apprime vero in quatuor planetis circa [...]. Venetiis : apud Thomam Baglionum, 1610. ETH Library Zurich, Rar 4342: 1, <https://www.e-rara.ch/zut/doi/10.3931/e-rara-695?lang=en>


AstroRara: interactive animation explains celestial events

The eight million titles in the ETH Library holdings include more than 75,000 volumes of monographs and periodicals published between the 15th and 19th centuries. The core of the collection consists of astronomical and mathematical works.

We developed the innovative web application AstroRara on the basis of these. AstroRara is a pioneering work and a unique service of the ETH Library. Its aim is to breathe digital life into illustrations from selected old astronomical prints so that they can be explored interactively. That's why the most important components were making the works visible and enabling operation via touchscreen. In addition to the animation that provides a playful way to discover knowledge, the app offers background information on authors and works as spoken texts in audio files, or alternatively as explanatory texts for users to read.

AstroRara presents a selection of works, one of which is the book "Sidereus nuncius" by Galileo Galilei. Based on this book's drawings of Jupiter's moons in February of 1610, the development group created an interactive image showing their orbits during the course of the month.

AstroRara works on mobile devices and as a browser application on desktop computers. The AstroRara web app won a bronze medal at the Best of Swiss Apps Awards 2020. The application is periodically updated with more interactive content.

 We need educational cooperation across institutions and organisations if we want to be able to communicate modern, networked knowledge with a reliable quality that covers a whole range of subjects.

ETH Materials Hub:

documenting knowledge about materials physically and digitally

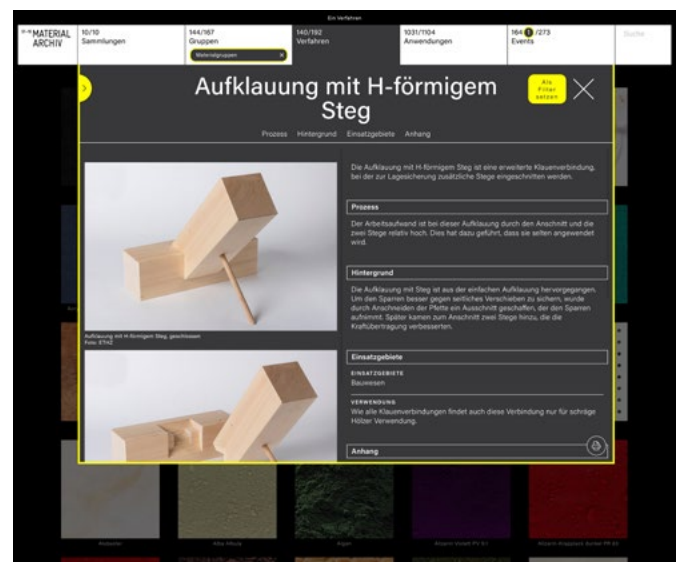
The ETH Materials Hub is a joint project of the ETH Library and the ETH Zurich Architecture Department. Examples and sample uses of materials in past and present constructed environments are supplemented by a range of printed and digital specialist literature that offers comprehensive knowledge regarding occurrence, production, use, processing and recycling of the materials. One focus is on explaining manual and industrial manufacturing and processing techniques. Around 3,800 samples made of clay, ceramics, glass, metal, stone, plaster, lime, cement, bitumen, plastic and wood are available for research and teaching in the systematic, publicly accessible collection in the Architecture and Civil Engineering Library at Höggerberg.



ETH Material Hub, Architecture and Civil Engineering Library, Höggerberg, 2021.
Source: ETH Material Hub

Unique educational network brings materials collections to the Internet

With the ETH Materials Hub, ETH Zurich has become a member of the Swiss Material-Archiv association founded in 2007, which sees itself as an educational network. This network comprises ten supporting institutions that offer their materials collections on the joint platform www.materialarchiv.ch in a highly developed form of modern science communication. The network cooperation is unique in the world to date, and ETH Zurich is a member of its management board. The idea behind the joint



As a reliable source on the Internet, materialarchiv.ch provides detailed information on more than 1,300 materials used in object and industrial design.
Source: <https://materialarchiv.ch/>

platform is that the quality and breadth of modern knowledge offers can only be covered by a network, if at all. The database www.materialarchiv.ch adds a new dimension to the provision of expert knowledge. As a reliable source on the Internet, this sophisticated platform provides detailed information on more than 1,300 materials that are or have been used in object and industrial design for construction, the manufacturing of products, packaging materials, etc. It offers information on where to find physical samples of the material described and shown in pictures, to which group the material belongs, which processes are used with the material and where and how it can be used. Users can also find exemplary applications and information about events such as technical discussions, colloquia, tours and specific exhibitions, etc. And this is only the top level of the web encyclopaedia. The deeper you go, the more detailed and pattern-specific the information becomes. ■



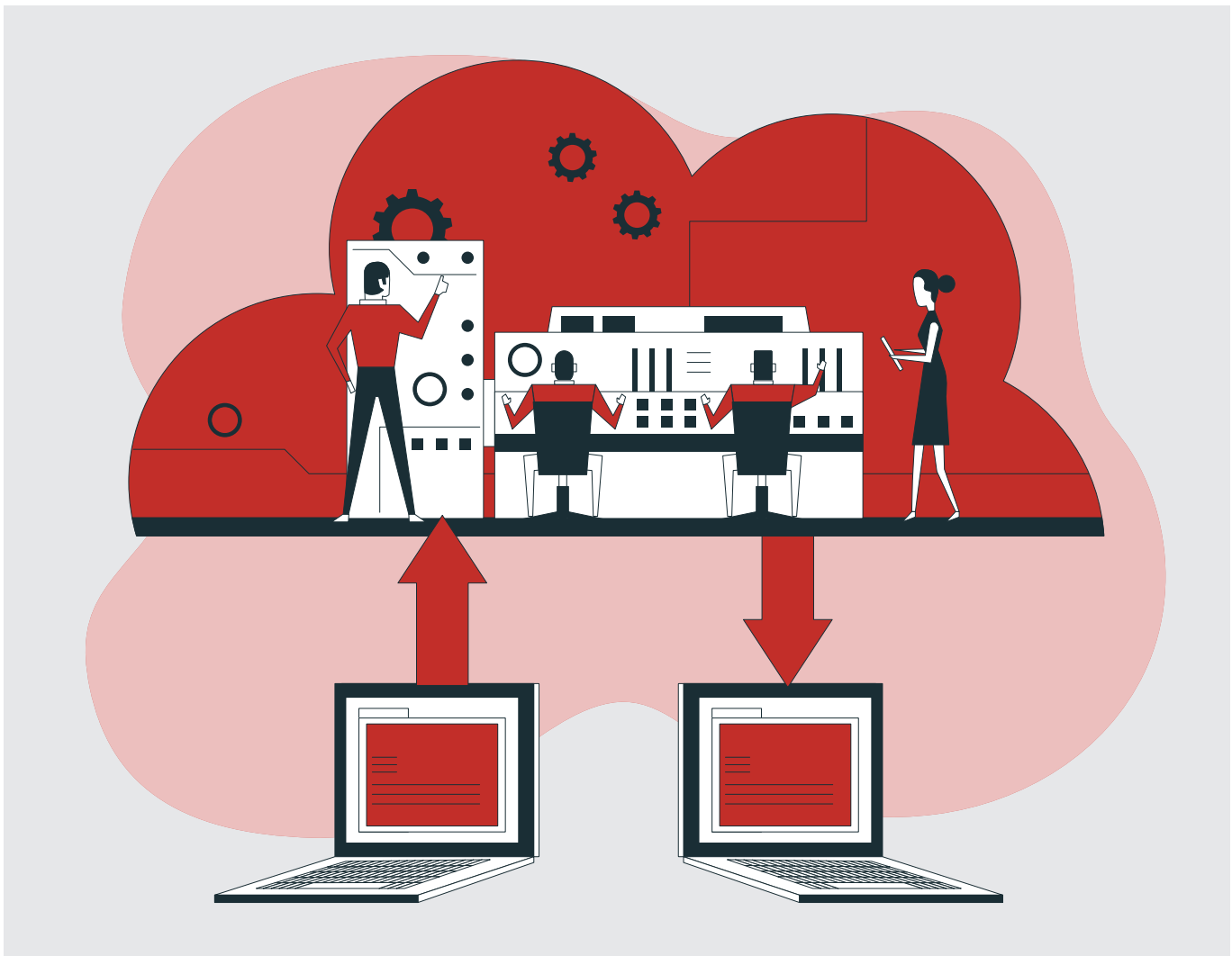


Outreach and Networking //

Library networking

swisscovery. It may be hard to believe, but since 7 December 2020, 470 academic libraries in Switzerland have been providing their entire media holdings via a joint national library platform. On the day *swisscovery* went live, this included over 40 million books, series, journals and non-book materials, as well as more than three billion electronic articles. An optional joint courier service delivers the ordered media to any participating library. This Swiss library coalition is unique in the world, and it still has untapped potential.

The vision of a joint “library for Switzerland” first emerged in the late 1990s. But how and when can you reconcile a multilingual network and system landscape grown organically over decades? The opportunity to do this came when cloud technology shaped a new software landscape, heralding the end of legacy library systems. In 2015, the ETH Library initiated the Swiss Library Service Platform (SLSP) project in response to the technology shift and in view of the wide variety of websites and search interfaces that researchers must confront when searching for information. Fifteen leading libraries and higher education institutions from three of Switzerland’s four language regions joined forces for this ambitious project in order to provide one central access point to the entire media holdings of Swiss academic libraries. *swissuniversities* funded the SLSP project and the ETH Library was in charge of managing it.



swisscovery brings with it various synergy effects - freed-up resources that can be used elsewhere.
Source: Illustration "5928202", [Freepik.com](https://www.freepik.com)

SLSP

Swiss Library
Service Platform

by the fifteen universities that invested finances and personnel hours in the SLSP project to build Switzerland's nationwide library platform.

SLSP AG was founded on 30 May 2017, just under two and a half years after the launch of the SLSP project. The founding capital was CHF 520,000. ETH Zurich is a member of the Board of Directors, along with five other representatives of the founding universities and two independent members.

At the ETH Library, we are actively committed to promoting the national library platform in order to advance the transformation of Switzerland's library system. We began implementing this

SLSP: from project to limited company of the universities

swisscovery is operated by the Swiss Library Service Platform AG (SLSP AG), a non-profit limited company. It was founded

challenging development goal in 2015 with the ambitious SLSP project, the large scale of which we were aware from the outset. Our undertaking has been a success: *swisscovery* represents real added value, both for customers and for Switzerland's academic libraries.

Central platform:

***swisscovery* replaces NEBIS and other library networks**

After one and a half years of conception work, followed by three and a half years of intensive organisational work and technical development as well as extensive testing, *swisscovery* went live as planned on 7 December 2020. Considering the scope of the project, this is truly not a matter of course, but an outstanding achievement by all those involved.

Switzerland now has a central service provider for library services: The Swiss Library Service Platform AG, founded by libraries and universities.



As a national network of academic libraries, SLSP will replace previous Swiss library networks such as NEBIS. NEBIS, whose network office (NVZ) was situated at the ETH Library, was dissolved on 31 March 2021. The tasks of the NVZ were successively transferred to SLSP AG.

Harmonised interface:

access media throughout Switzerland from a single account


swisscovery makes research and circulation easier and more efficient. The software workflows are process-oriented in line with the natural patterns of information searching and ordering. Based on the search result display, you can see whether a title is available at your own library and, if not, which library provides it. If the book, article or material you are looking for is available at your own institution, you can order or reserve the medium with just a few clicks. If the title is not available on the library's own premises, the process works just as smoothly, provided the participating library offers its customers the use of the libraries' joint SLSP courier service "SLSP-Courier". Around 160 libraries do so. If a printed article is requested electronically, but is not yet available in digital form, a prompt digitalisation can be requested. You only have to register once for *swisscovery*. The new access data make all the different log-ins superfluous that were previously needed for the various information sources. *swisscovery* harmonises search portals, accounts, fees and loan periods for all 470 affiliated libraries.

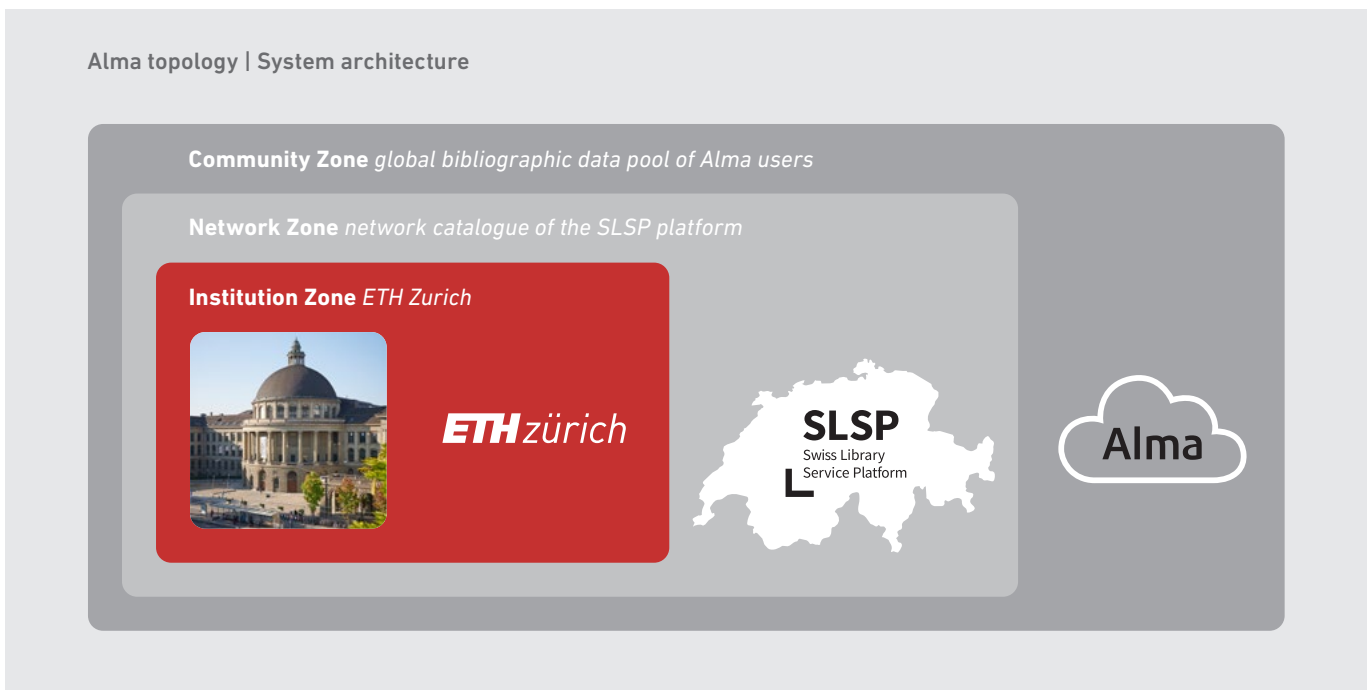
We offer our customers support for all their system change-related concerns at the ETH Library. It is important to us to ensure an easy changeover. Our support is available through all channels: by telephone, email, via chat and feedback wall and, of course, in person with on site consulting at all our locations. We provide users with answers to their questions, or even step-by-step instructions for individual work stages.

In the cloud instead of on the client server:

Alma replaces the Aleph library system

The technical foundation for *swisscovery* is the Alma cloud software from Ex Libris, with Primo VE as the discovery system. Before awarding the contract, the development partners in the SLSP project evaluated the software system in detail and compared it with other market offers. Alma replaces the multi-tier client server software Aleph used by NEBIS, also an Ex Libris product. Extensive tests were carried out to successively determine how the expected huge data holdings of the libraries participating in *swisscovery* could be migrated and what preconditions had to be created for all involved parties in the transition to Alma. After initial local testing, large migration tests began in 2019 with nine institutions dubbed pioneer or vanguard libraries.

 *swisscovery* combines access to the media offers of currently 470 academic libraries in Switzerland. The data and systems are managed centrally.



Alma topology: Alma is divided into three levels. This system architecture allows the ETH Library to operate an individually configured Institution Zone together with the other libraries of ETH Zurich. Our customers benefit from the common appearance and uniform processes of all the libraries of ETH Zurich. Source: Photo: ETH Zurich, photographer: Gian Marco Castelberg, illustration: ETH Library, Sebastian Brassel

Migration test:

vanguard libraries provide and share expertise

As one of the vanguard libraries, the ETH Library contributed its expertise and data holdings to these feasibility tests. Expert groups dealt with issues such as indexing, linking to external sources, terms of circulation and requirements of the shared circulation courier. During the test event and the system configuration, employees at the vanguard libraries provided their expertise in the role of functional experts.

In 2020, the data of all NEBIS libraries were successfully transferred in a final test migration. For the Institution Zone of the ETH Library alone, this affected 3.6 million pieces of media.

In order to ensure a smooth transition, not only with regard to data migration, the functional experts of the ETH Library prepared and conducted a comprehensive training programme for the staff of all libraries at ETH Zurich on topics related to the transition to SLSP AG and *swisscovery*.

Two projects, one environment:**transferring NEBIS and introducing *swisscovery* at ETH Zurich**

In the course of the entire transformation process, and as part of the “Change NEBIS” project, we completely transferred both the services of the ETH Library previously provided in NEBIS and the previously cleaned NEBIS data to SLSP and supported the affected network libraries in the change process.

At the same time, our project “ETH goes SLSP” paved the way for the optimised provision of all ETH Library services in *swisscovery* as well as the implementation of the new systems and structures at the ETH Library.

A benefit to all:**better handling, standardisation, cost reduction**

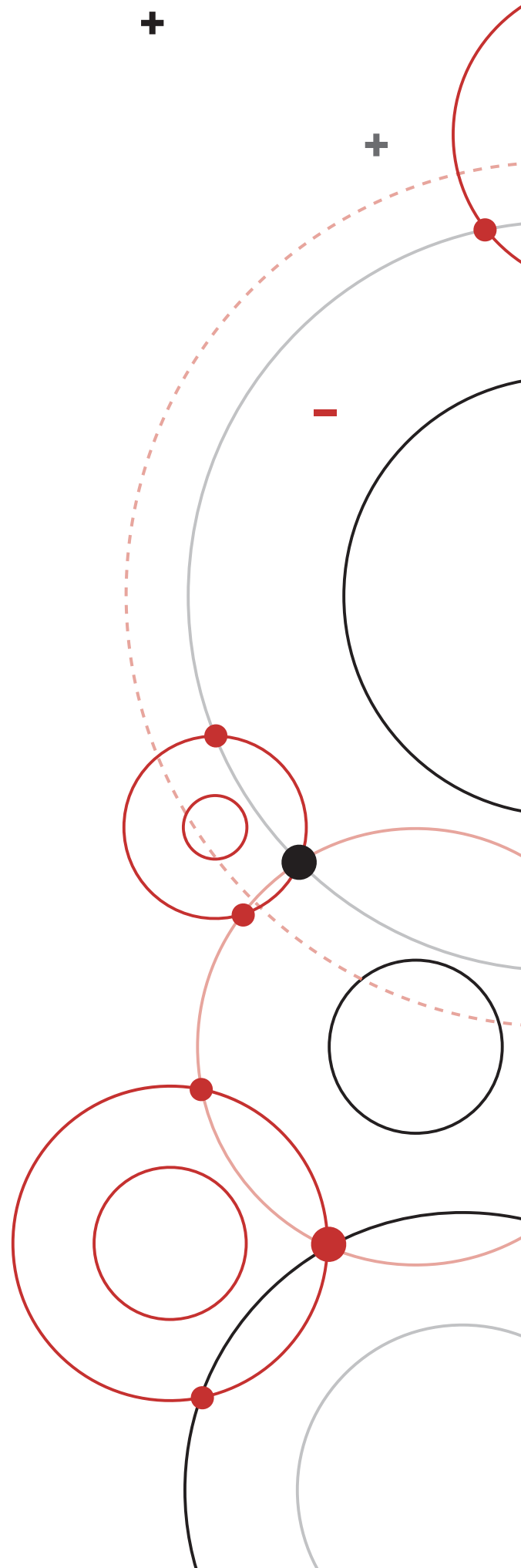
The new joint library platform offers users throughout Switzerland a uniform and immediately comprehensible information provision service.

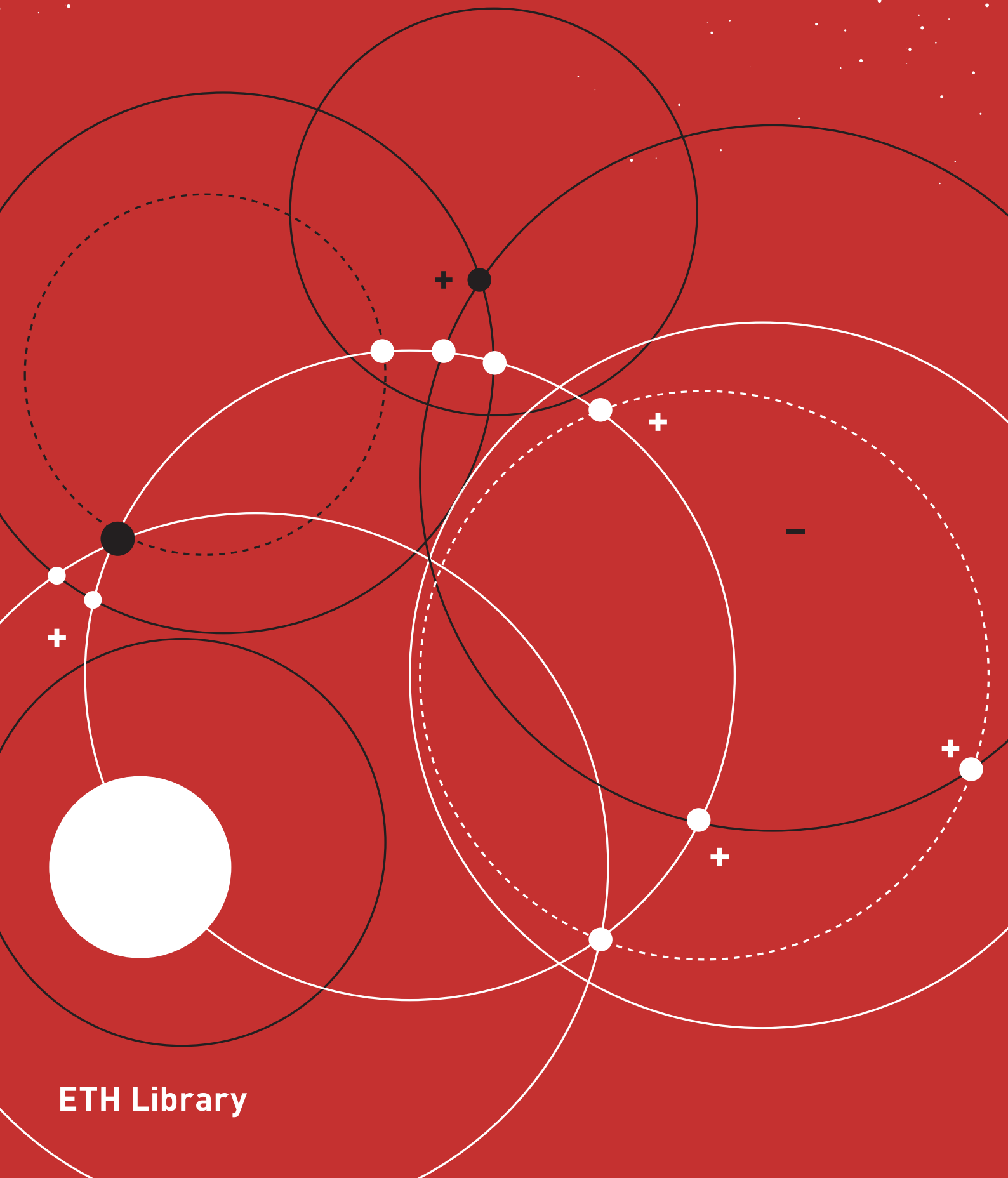
The libraries themselves benefit from synergies created by the national library platform. It pools competences, helps to prevent duplication and reduces costs through centralised outsourcing of the library system. For example, the network administration allows for centrally managed licence negotiations, uniform metadata standards and more efficient administrative activities and technical support. New and further technical developments, for example regarding comprehensive mobile services, can be promoted more cost-effectively while avoiding unnecessary development costs and multiple developments.

The new national library platform frees up resources that we can – and will – use to develop modern, novel library services to support teaching and research.

Untapped potential:**expansion under consideration**

swisscovery still has untapped potential. Expanding the national library platform to public libraries is currently under consideration. At the ETH Library, we are also involved in future developments at various levels, including our participation in the advisory board and in expert groups. Our further commitments include, for example, the post of the central coordinator, which is filled by an employee from the ranks of the ETH Library staff. He is responsible for the organisation, coordination and representation of the editorial work regarding the Integrated Authority File (Gemeinsame Normdatei, GND) for SLSP. ■







Library management // Library surrealism

The shelves are reminiscent of high-rise building shells. Reading rooms and study spaces are deserted and the offices have been abandoned. Transport trays are stacking up in the post room and staff members are performing extraordinary courier services. It's a truly surreal scenario, which is nevertheless our reality in the memorable year 2020. Coronavirus. COVID-19. Pandemic. Lockdown.

As soon as the protective measures were relaxed, we opened the ETH Library to the public. Of course, there were still restrictions such as wearing masks, disinfectant stations, one-way paths, plexiglass partitions and displaced furniture.

**Bitte
Abstand
halten**
—
please keep
distance



Yawning emptiness behind the circulation desk where there are usually stacks of ordered books, since these cannot be directly issued as usual...
Source: ETH Library, photographer: Maurizio Orlanduccio

Nearly 100 hours of COVID-19 task force meetings

At the very beginning of the COVID-19 pandemic in Switzerland, we formed a task force at the ETH Library. Its first meeting was held on 10 March 2020, just a few days before the Swiss Federal Council declared the highest risk level according to the Epidemics Act and the lockdown on 16 March.

The task force coordinated all activities to protect staff and customers, made proposals and informed executives about necessary measures to be implemented, e.g. regarding protection concepts for using rooms and equipment and the creation of rotation plans for staff on site after the lockdown. It also offered advice on all issues relating to crisis management.

One member of the task force represented the ETH Library in the ETH Zurich central coordination conference on the pandemic. The library team cooperated closely with central bodies of ETH Zurich such as Safety, Security, Health and Environment and Facility Management. By the end of the year, the crisis management meetings had taken up over two weeks of working hours.

Representatives from seven different organisational units worked together in the ETH Library task force.

By the time the end of the year arrived, the task force's activities were far from over. It will also remain in place for an extend-

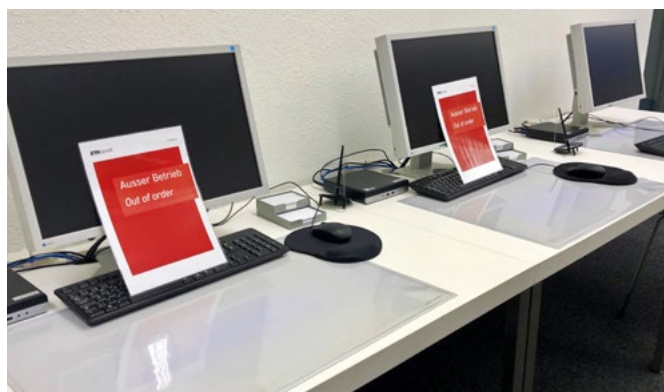


... By contrast, books to be packaged for postal delivery are piling up in the post room. Sending books directly to customers' addresses proved to be a necessary and extremely popular service. Source: ETH Library, photographer: Maurizio Orlanduccio

ed period in 2021, as each fluctuation from (partial) closure to (partial) return to the office or back to working from home will have to be accompanied by the appropriate measures to ensure a routine handling even of short-term changes, depending on the pandemic phase.



In June, July and August 2020, the postal delivery of documents was about five times more frequent than usual. The transport trays were piling up in the post room. Source: ETH Library, photographer: Maurizio Orlanduccio



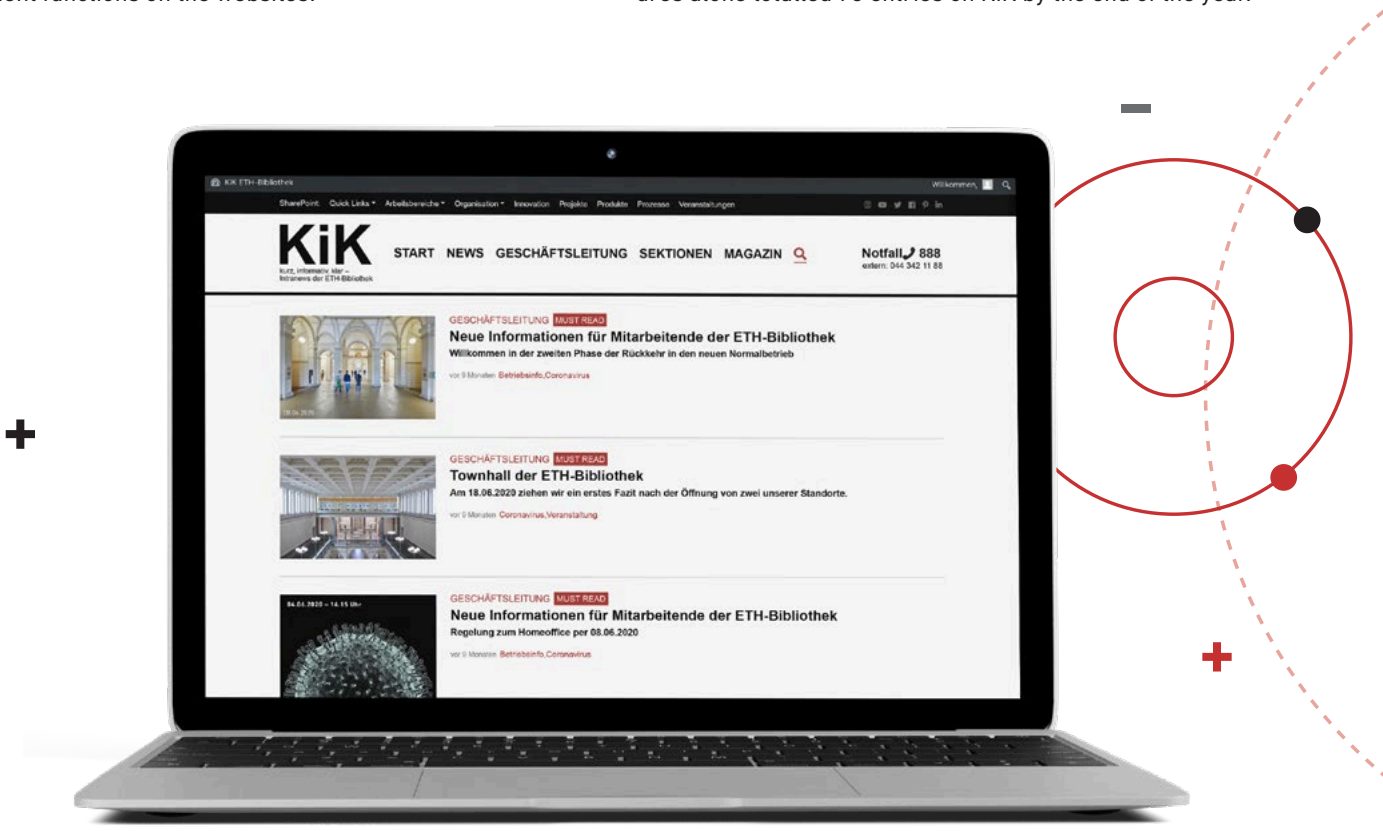
Two study spaces are out of order so that the third, at least, can be used by the library customers. Source: ETH Library, photographer: Michael Gasser

Mastering the fraught situation with adapted services and a great deal of communication

Despite all the restrictions, we have succeeded in maintaining the majority of the information services, training courses, publication services and cooperation projects of the ETH Library throughout the lockdown. This required several pragmatic solutions, unconventional measures and instances of personal commitment. We promptly communicated the services available online, the various opening hours, the expanded ordering service, the COVID-19 code of conduct, regulations and protective measures, and we answered questions via email, telephone and the chat and comment functions on the websites.

Within the ETH Library, we used our in-house communication platform KiK to inform executives and staff in a timely manner about the regulations in force at ETH Zurich as well as the necessary protective measures and how these were to be implemented in everyday library work.

We relaunched KiK at the ETH Library in 2019 for internal communication. Throughout the COVID-19 pandemic in the year 2020, this platform has proven to be an extraordinarily useful central communication channel. Reports on the COVID-19 countermeasures alone totalled 78 entries on KiK by the end of the year.



Our KiK platform for in-house information and communication was a helpful tool for us during the 2020 COVID-19 pandemic.



Once the lockdown started in the 13th calendar week, customers abruptly stayed away and, at the same time, the requests for postal circulation increased rapidly.

Spontaneous reorganisation of circulation

We introduced a comprehensive free postal circulation service for all members of ETH Zurich, a service which was actively used by our customers.

For postal circulation, shipping procedures for the books had to be adapted and all applicable protective measures had to be integrated into the workflows with as few staff members on site as possible. In addition to the logistical problems, there were other challenges to overcome, e.g. when messages with cryptic destinations appeared in the comment field for book orders (which only allows a small amount of text due to the system), such as: "I would like to have it delivered to my place Rose". However, in the end we were also able to decipher and fulfil this lovely request. Due to the lockdown, our Library IT Services team had to adjust fees in the system during the closure, hide pick-up location entries because only postal delivery was possible and, as a service for the NEBIS libraries, implement their closures or partial closures in the system – to name just a few examples.

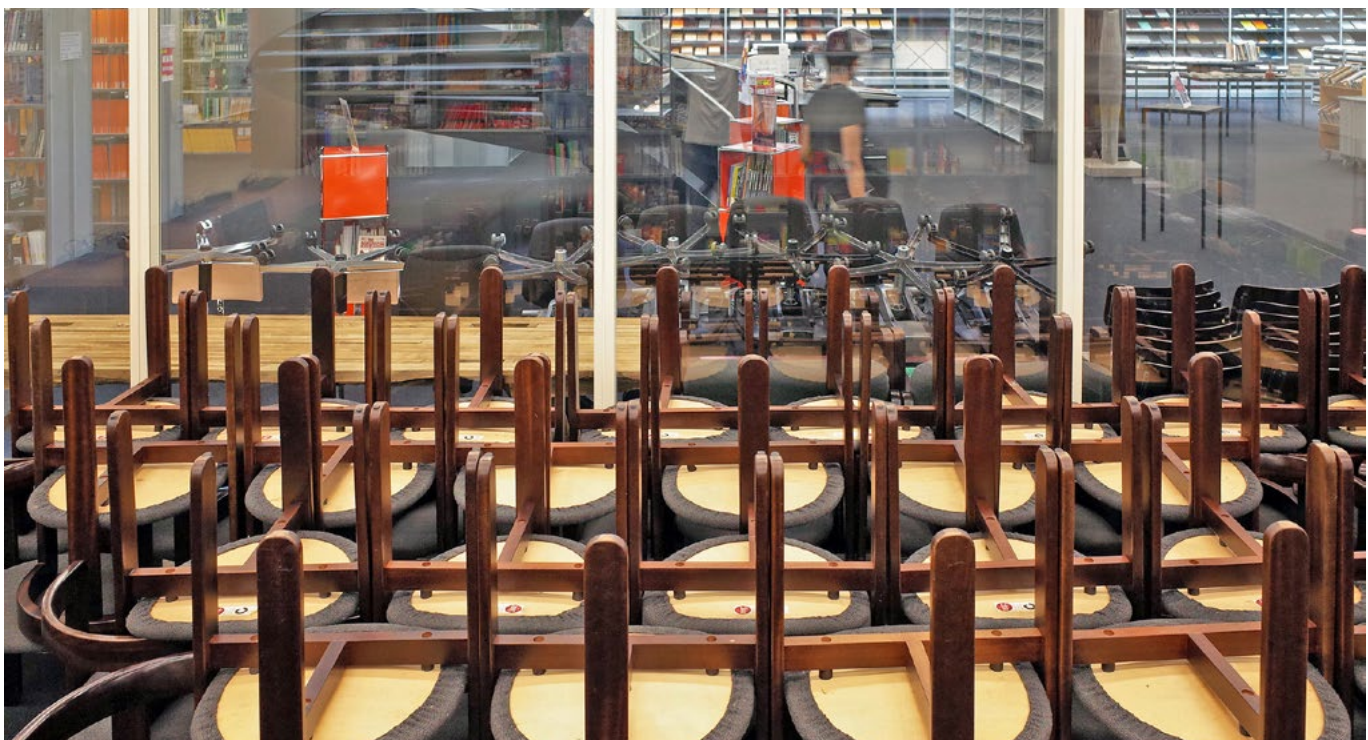
Human Resources organises further training and provides advice and assistance

In addition to performing their usual tasks during the lockdown period in which they worked from home, the staff was able to use the time for further training. Human Resources drew up a list of suitable courses such as self-management, IT skills and language learning. For all personnel-related concerns, Human Resources was available via email, Zoom or Skype. For example, they answered questions about logging working hours in connection with childcare or about holidays during the lockdown.



Only a few essential jobs were performed on site during the lockdown. Source: ETH Library, photographer: Olivier Gygi

In addition, the staff at Human Resources provided advice and assistance to all employees and their supervisors if there was a suspicion of a COVID-19 infection or a positive test.



Displaced furniture (1): At Architecture and Civil Engineering Library on the Hönggerberg, sitting comfortably was impossible for weeks. Source: ETH Library, photographer: Olivier Gygi



Displaced furniture (2): After restrictions were eased, students could work in the reopened reading room only with proper distancing.
Source: ETH Library, photographer: Maurizio Orlanduccio

Best service in emergency operation

While everyone else stayed home, our Operations Management and IT Support maintained emergency operation on site. Ongoing construction and renovation measures were monitored and internal and external mail distribution was ensured. In addition, colleagues working from home were supported remotely and provided with additional IT equipment as needed, for example for virtual meetings. Personal advice was available on request for all application questions. Before the library reopened for restricted operation in June, Operations Manage-

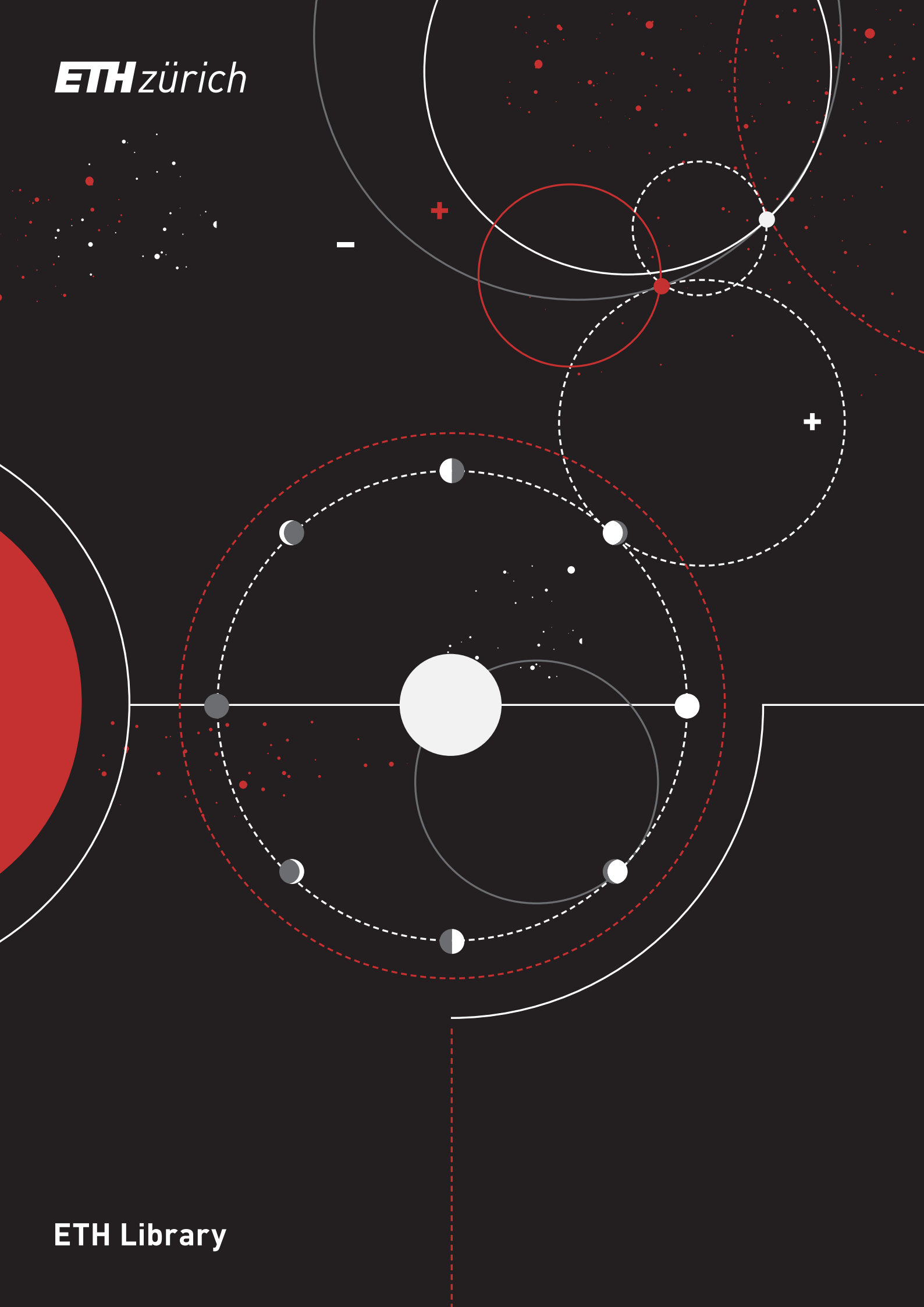
ment arranged one-way paths through the building, moved work tables to maintain physical distancing, set up protective and sanitary equipment and ordered masks and disinfectants. Executives and staff were advised on how to avoid overcrowding during restricted operation. IT Services set up rotational workspaces that employees could share on site if their equipment was still being used at home. Once restricted operation was launched, compliance with the protection rules and regulations had to be checked regularly. ■



Displaced furniture (3): The waiting and reading zone in front of the information desk of the Library Zentrum ...



... was not especially welcoming in the interim.
Source: ETH Library, photographer: André Reichmuth





Activities //

2020 in Brief

2020 is a memorable year in many respects, not least for proving the great extent to which employees carry a company. It took a great deal of effort to carry out the tasks from home that are usually performed together in day-to-day business operations. The ETH Library staff were extraordinarily committed to keeping the library up and running while working from home. As in previous years, they created attractive new functions, tools and services for information acquisition, knowledge exchange and supporting academic publishing. Several complex projects were completed, including exhibitions.

In addition to the services already presented, this chapter gives a compact overview of other interesting achievements by library staff. Read about the efforts of the ETH Library to make research publications from ETH Zurich more visible in the international scientific network. Learn about the automated, app-based classification of butterflies and find out how the journal platform E-Periodica not only answers researchers' publication queries, but also automatically suggests further information on the research question with clickable links. These are just three of 21 examples that exemplify the work of the ETH Library in 2020.



Using the library to find tools against information overload

Keeping up to date with developments and trends in research is becoming increasingly time-consuming, even in the personal research sector. A variety of tools can assist you in this process. At the ETH Library we are committed to providing services that truly meet the specific needs of our customers. In view of this, we were happy to adopt the suggestion of two doctoral students at ETH Zurich, who suggested testing the "Feedly Business" news aggregator.

No sooner said than done: as of June 2020, approximately 80 members of ETH Zurich tested the information management tool for two months. Prior to testing, they took an onboarding webinar to familiarise themselves with the app.

Participants were interviewed before and after the test phase. About half said they would continue to use the app in its current form. Another 30% would continue using it if it were revised. Based on these results, the ETH Library decided to initially buy a one-year licence for Feedly Business. During this time, we will track the further development of the information management tool in accordance with the requirements of the scientists using it.

01//20

// Services

01//20

// Networking

Combining competences at ETH Zurich: AR app brings engravings to life

Agostino Carracci and Hendrick Goltzius were the predominant copperplate engravers of the late sixteenth century – one of them north, the other south of the Alps. They both independently discovered the illusionistic potential of undulating lines and, by further developing this technique, created the foundation for baroque copperplate engraving. With the exhibition "Crossing Parallels: Agostino Carracci and Hendrick Goltzius", the curators Susanne Pollack (Graphische Sammlung ETH Zürich) and Samuel Vitali (Kunsthistorisches Institut in Florenz – Max Planck Institut) have traced the parallel life paths of the two artists and investigated points of contact.

For the exhibition, an app was developed in cooperation with the ETH Zurich Game Technology Centre (GTC), which combines art and technology in an innovative way. With the augmented reality (AR) app "Behind the Art", the exhibited artworks were supplemented with multimedia information such as images, videos, animations and special effects. It offered visitors an innovative, playful and interactive way to experience the exhibits and provided them with contextualised, customised information. The offer met with great interest and was the subject of a report by the Tagesschau on 22 December 2020.



https://www.youtube.com/watch?v=kCXfW8jMQmw&feature=emb_logo



From many, one: people and places in knowledge networks

Wherever possible, the ETH Library aims to connect knowledge from its collections with information resources on the web. It has developed an extension for the search interface of "ETH Library @ swisscovery" which, for authors of publications in the result list, displays personal info cards with pre-sorted direct links and further information. In addition to a portrait picture, these cards display biographical information from Wikidata and the Integrated Authority File (Gemeinsame Normdatei, GND). Below this information, the card also displays further links to relevant archives or to profiles that can be found in the ORCID identification register, the Publon service, the Mendeley reference management system or elsewhere. The ETH Library has also implemented similar information networking for place names.

This interlinking of information creates a wide-ranging knowledge network across institutions and sources. It works multi-laterally; other services can link to the ETH Library pages and further knowledge paths and information networking charts are constructed within the own resources of the ETH Library. <https://eth.swisscovery.slsp.ch>

02//20

// Services

Arnold Sommerfeld: More information about the person



Information from Wikidata and the GND

Physiker
 German physicist
 Born: 5. Dezember 1868, Königsberg
 Died: 26. April 1951, München
 Dt. Physiker; Professor für theoretische Physik
 Information regarding the license status of embedded media files Wikimedia Commons [↗](#).
 Search for this Person

Links in Archive

ETH Zurich University Archives (Inventarnummer: CH-001807-7:HS 412) [↗](#)

Links from Wikidata

Wikidata [↗](#)
 Wikimedia Commons [↗](#)
 GND (Gemeinsame Normdatei der Deutschen Nationalbibliothek) [↗](#)
 Library of Congress [↗](#)

Links from Metagrid

Links powered by Metagrid [↗](#)
 Helveticat [↗](#)

Links from beacon.findbuch

Links from the SeeAlso-Service pnd-aks [↗](#), which is based on BEACON [↗](#)
 MacTutor History of Mathematics archive [↗](#)
 Deutsche Biographie [↗](#)
 Deutsche Digitale Bibliothek [↗](#)
 Projekt Gutenberg [↗](#)

03//20

// Communication of knowledge

When art and science collaborate, reefs become printable

"Art can be a catalyst for individual action and social change. It achieves this by creating artifacts that serve as an anchor enabling people of diverse backgrounds to communicate and act. In this way, art and science can also become symbiotic." As an Innovator Fellow at the ETH Library Lab, the Swiss artist Marie Griesmar has impressively illustrated her above statement: working hand in hand with scientists from disciplines such as marine biology, architecture, fluid mechanics and digital fabrication, she has developed a 3D printing process that can be used to produce hollow clay bricks for the construction of modular, artificial reef structures. They provide a suitable substrate for coral larvae to settle in places where natural structures have disappeared due to coral bleaching.

Marie Griesmar has been developing strategies and sculptural studies for the construction of artificial reefs since 2016 for the project "Beneath The Sea: A New Form of Reef". The ETH Library Lab assisted the artist in learning to use new digital fabrication technologies in order to find the most suitable techniques for her project. Among other things, Griesmar received scientific support from the Gramazio Kohler Research group at ETH Zurich, pioneers of digital fabrication in architecture. She talks about her experience in more detail in a short series on Explora, the ETH Library storytelling platform. As an incubator for open knowledge ecosystems, the ETH Library Lab promotes collaboration and resource sharing across disciplines and institutions. It supports projects that make new forms of knowledge work visible at the interface between science and society and identify future fields of action for academic libraries as providers of information infrastructure and services.

<https://www.librarylab.ethz.ch/project/beneath-the-sea/>



ETH Library Lab app classifies butterflies based on photos

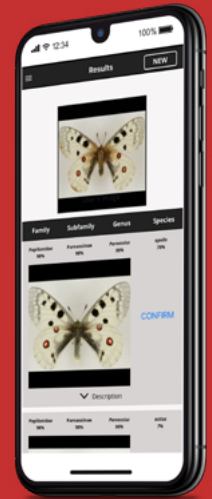
In collaboration with the ETH Zurich Entomological Collection, the ETH Library Lab has developed an app for the automated identification of insects. This app makes more effective use of the resources of taxonomy experts in natural history collections, which in turn allows less experienced people to be integrated into the work processes. The aim is to accelerate the publication of historical comparative data for biodiversity research.



Based on a photo of an undetermined collection specimen, the BioDex app suggests which family and species a butterfly could belong to. To do this, the photo is classified automatically on a server using a convolutional neural network and a list of the most probable species is generated, ranked by probability of a match in percent. This list is transferred back to the app. The user then selects a list entry based on the sample images and percent matches, which indicates that the selected entry is correct.

The first version of the BioDex app included 560 butterfly species. The Entomological Collection plans to extend the BioDex project to other insect groups in collaboration with the Naturalis Biodiversity Center in Leiden, the Netherlands.

<https://www.librarylab.ethz.ch/de/project/biodex/>

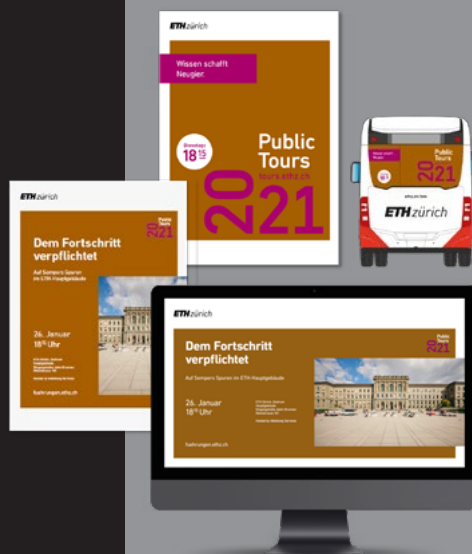


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// Services

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// Outreach



Experience science, art and culture on a tour of the campus

The regular public tours offered at ETH Zurich are an engaging contribution to the city's cultural life. The varied programme provides an insight into the history and present of the university. Buildings, collections, research topics, laboratories and art exhibits are presented on the tours.

We coordinate and organise the events at the ETH Library in joint management with the Services department of ETH Zurich. Before COVID-19, there were about 50 public tours per year. Due to the pandemic, only 14 were carried out in 2020. For this reason, we have developed an additional virtual format for 2021. In addition, advertising for the public guided tours has been completely revamped. All advertising materials now feature the ETH Zurich umbrella brand design, which is clearer and more modern. Printed flyers and posters are showcased in more places than before.

<https://ethz.ch/en/news-and-events/events/public-tours.html>



Katia Mann in 1915 in the library of her parents' house in Munich's Poschingerstrasse, which was considered a social centre. Source: ETH Library Zurich, Thomas Mann Archiv / photographer: Friedrich Müller / Theodor Hilsdorf / TMA_1042

Public list of Katia Mann's books including signs of use

Some time after the death of Katia Mann (1883–1980), her family donated her private library to the Thomas Mann Archives at the ETH Library. The collection of 428 books dates mostly from the late 1950s to the 1970s. These are works that were part of Katia Mann's life after the death of her husband Thomas Mann (1875–1955). Almost half of the volumes bear dedications to Katia Mann. On the basis of existing library catalogue data, the Thomas Mann Archives recorded these dedications, as well as other signs of reading and use, in a structured complete list of all the titles in Katia Mann's library. The first version of the Excel list was published on the archive website in May 2020. It can be downloaded for free. This provides researchers with a new tool for working with Katia Mann's library. The collection itself can be accessed in the reading room of the Thomas Mann Archives.

https://tma.ethz.ch/en/archive/bibliotheksbestaende-und-nachlassbibliothek.html#nachlassbibliothek_katiamann

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// Information treasures, data retention,
cultural artefacts protection

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// Communication of knowledge

#ETHLibraryDigital – communication of resources during lockdown

When customer traffic in Swiss libraries was practically shut down from one day to the next due to the first lockdown, the ETH Library immediately launched the #ETHLibraryDigital campaign. Its most important message was “We are here for you!” Using our social media channels and the websites of the ETH Library and ETH Zurich, we informed customers that all existing e-resources are accessible online from home and that we provide further access to information and knowledge. Services that were normally offered physically have been converted to online services. Our “Book a Librarian” consultation service was accessible via Zoom or Skype for Business, as well as many of the library's

range of courses for personal training and education. Of course, COVID-19 was also a hot topic. Our subject specialists compiled a list of interesting research activities on the topic, and we informed customers that the ETH Library would pay the open-access fees for articles on the COVID-19 pandemic published by ETH Zurich. <https://library.ethz.ch/en/locations-and-media/media-types/frei-zugaengliche-e-ressourcen.html>





Max Frisch on the world stage

Max Frisch (1911–1991) is not only a famous playwright whose work is staged internationally, translations of his novels and plays into more than forty languages have also spread his ideas across the whole world. The Max Frisch Archive at the ETH Library dedicated the exhibition “Translations – Max Frisch on everyone’s lips” (5 October 2020 to 31 March 2021) to the international dissemination of the works of the famous

Swiss writer, architect and ETH Zurich alumnus. The

exhibition showcased original letters in addition to foreign-language book editions, which revealed the prolific and often friendly exchange between the author and his translators and publishers.

The Max Frisch Archive documents the reception of Max Frisch’s works on international theatre stages in an extensive and growing collection, which includes programme booklets, photographs, theatre posters, reviews and scripts with stage directions. The theatre documentation was systematically indexed in the Max Frisch Archive Online database as part of a project for electronic access and digitised by the DigiCenter of the ETH Library.

<https://mfa.ethz.ch/en/News-events/exhibitions/previous-exhibitions.html>



ماكس فريش

马克斯·弗里施

Макс Фриш

Makss Frišš

Μαξ Φρις

מקס פריש

マックス・フリッシュ

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// Communication of knowledge

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// Information treasures, data retention, cultural artefacts protection

ETHorama – from a place on the map to history and narratives

Based on a digital map, you can take an imaginary journey through historical Switzerland and, on the way, display old and new photos as well as historical and current texts with a simple mouse click for any place that interests you. This is the fascinating idea behind ETHorama. The platform connects georeferenced points on a map with documents from the ETH Library’s digitised holdings. The interactive map is based on Google Maps. The digitised resources consist of texts and photos from old books, old and new journals and photo collections, as well as historical maps and manuscripts that can be geographically assigned to the selected location and have a direct connection to Switzerland. In addition, ETHorama provides further information from free public sources such as the Historisches Lexikon der Schweiz (historical dictionary of Switzerland) and Wikipedia. You can embark on your own imaginary journey or choose preset guided historical journeys and themed collections.



You can find journey and theme suggestions in the menu. This innovative information offer is updated regularly. In 2020, the ETH Library uploaded 12 themed collections and 12 historical journeys on ETHorama and showcased the virtual opportunities for travel and discovery in a lighthearted animated video. Subsequently, use of the service tripled year on year, achieving 3.8 million page views.

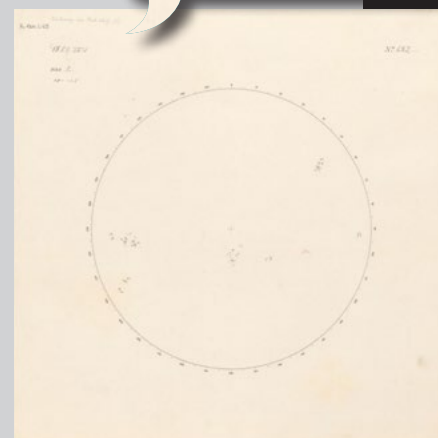
<https://www.youtube.com/watch?v=6WMMiD6C4L8>

First ETH Library director left behind his legacy in solar research

Sunspot projection drawings and associated data tables are considered a valuable source of information for climate studies. As part of the Global Climate Observing System (GCOS), MeteoSwiss, the Swiss Federal Office of Meteorology and Climatology, is funding a complex five-year digitisation project. The ETH Zurich University Archives and the DigiCenter of the ETH Library are digitising and making accessible sunspot records that were compiled at the Eidgenössische Sternwarte (federal observatory) of ETH Zurich from 1884 to 1980 and are still being compiled today at the Locarno-Monti observatory. Of the thousands of projection drawings and tables created over a period of more than a century, some 23,000 sheets had been digitised by the end of 2020. They are already freely accessible on e-manuscripta.ch, the cooperative platform for digitised historical sources from Swiss libraries and archives.

Rudolf Wolf (1816–1893) contributed a great deal to the study of the solar cycle. Appointed in 1855 as the first professor of astronomy at the Zurich Federal Polytechnic School and as the first director of the ETH Library, he combined both occupations for his research. The historical works on astronomy procured and collected by Rudolf Wolf, including works by Galileo, Copernicus and Hevelius, are among the most valuable old texts in the holdings of the ETH Library today.

<https://www.explora.ethz.ch/en/s/fackeln-flecken-flares/>



Sunspot drawing no. 632. Drawing of spots and torch areas to determine solar activity on 07/18/1889 by Alfred Wolfer. ETH Library Zurich, Hs 1304.2: 633, <https://doi.org/10.7891/e-manuscripta-56130>

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// Services

More accessible research publications from ETH Zurich

Since 2020, you can access around 4,800 full-text articles by authors at ETH Zurich published between 1959 and 2016 in journals of renowned science publishers at the Research Collection. These articles were made openly accessible on the central publication portal of ETH Zurich thanks to Swiss national licences. At the ETH Library we are constantly expanding and improving the Research Collection and regularly introducing new features. In 2020, we were able to make the research data in the Research Collection more visible worldwide. All records can now be found in the global citation index Web of Science via the special database Data Citation Index (DCI). DCI uses a powerful search interface to identify research data from all disciplines and lists and links to master data repositories. Members of ETH Zurich can access DCI directly on the ETH network or through the "ETH Library @ swisscovery" portal of the ETH Library.

<https://www.research-collection.ethz.ch/?locale-attribute=en>

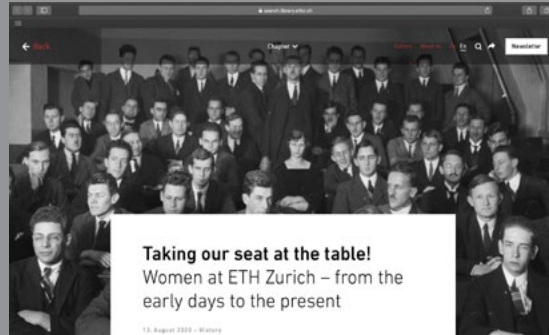


Explora recounts the history of women at ETH Zurich

On the storytelling platform Explora, the ETH Library posts entertaining articles using multimedia that describe the state of the art of science and research at ETH Zurich. The ETH Library's holdings and services are illustrated in stories, as are sociopolitical developments in the context of the university and other topics. Scientific and administrative experts at ETH Zurich support the research, give interviews on their subjects and submit their own stories. Many posts on Explora are also available in an audio format.

Women had a long way to go before being accepted at ETH Zurich, and a much longer way still before they were treated as equals. It was not until the early 1970s that Katharina von Salis, a geologist and associate professor at ETH Zurich, established the first "point of contact for women", which laid the foundation for the now firmly established support services that ETH Zurich maintains to attract and retain the potential of women in science and academia. Today, women represent over a third of the student body. Women are actively encouraged to apply for professorships and management positions.

<https://www.explora.ethz.ch/en/s/taking-our-seat-at-the-table/>



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// Outreach

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// Outreach



Installation view of the exhibition "Franz Gertsch. Looking Back. A Ninetieth Birthday Tribute". Source: Graphische Sammlung ETH Zurich, Photo: Livio Baumgartner

Collection of Prints and Drawings honours Franz Gertsch with exhibition

Franz Gertsch is one of the most important Swiss artists of the present day. On the occasion of his ninetieth birthday, the Graphische Sammlung ETH Zürich dedicated the exhibition "Franz Gertsch. Looking Back. A Ninetieth Birthday Tribute" to the artist. Together with the artist, individual themes were selected from his personal collection and selectively supplemented with works from the holdings of the Collection of Prints and Drawings. Naturally, many obstacles and imponderables had to be overcome before the exhibition could be implemented during the COVID-19 pandemic. Originally planned to run from April to June, it could not be opened until 1 September and only lasted until 15 November. The opening event had to be dispensed with

altogether. But despite all the restrictions due to the pandemic, the Collection of Prints and Drawings succeeded in immersing visitors in the incomparable world of Franz Gertsch, offering a welcome respite from the daily grind. Studies, sheets from Gertsch's sketchbooks and drawings were on display as well as woodcuts and artists' books. An anniversary publication on the exhibition was issued by Hirmer Verlag, Munich. https://www.youtube.com/watch?v=10_lnlAHOU&feature=youtu.be





Harmonised image data as a service: the ETH Library implements an IIIF server

Anyone who uses digital images and digitised resources or operates image-based information services such as the platforms E-Pics, e-rara, E-Periodica or e-manuscripta.ch is familiar with this problem: when working with digital images, there are a variety of protocols, formats and functionalities to be mastered. Over the past 15 years, the ETH Library has also launched various proprietary web viewers, each optimised for a specific application purpose. In order to solve the problem of diverging formats, experts from all over the world have collaborated to create the International Image Interoperability Framework (IIIF) and define IIIF standards for image data. This harmonisation aims to standardise the provision of data and make the systems more user-friendly.

The ETH Library implemented a prototype IIIF server in 2019. In 2020, we were able to launch and productively operate the system as a central IIIF server during the complete overhaul of E-Periodica and Schulratsprotokolle Online. The IIIF server outputs standardised image data. This is the foundation for making further images from source systems without their own IIIF interface publicly available via the central IIIF service in future, which would greatly simplify subsequent use and integration of the images in third-party systems.

<https://iiif.io/>

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// Services

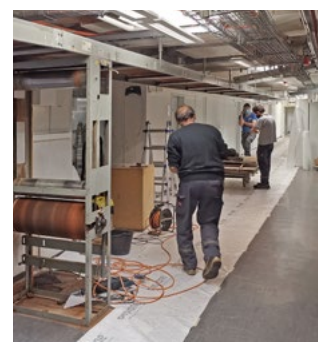
11//20

// Library management

Mobile shelving refurbishment completed, dismantling of book conveyor system begun

The buildings of ETH Zurich devoid of people were not a pretty sight during the lockdown in 2020, but the situation was not entirely negative. Like many other institutions, we used the time for renovation measures. Our Operations Management group quickly advanced the complete replacement of the aging electrical mobile shelving in the ETH Main Building, begun in July 2019, and tackled the pending dismantling of the book conveyor system. Seven electrical mobile shelving systems were completely replaced by modern manual systems. 20,000 running metres of holdings had to be moved.

The first stage of the successive dismantling of the book conveyor system was completed in mid-December 2020. This measure will provide us with office space for around seven to eight new study spaces.





“Research Data Management” workshop series offers new content

Data-based science is the new normal. Researchers must possess or acquire competencies in handling research data for their work. In cooperation with the Scientific IT Services and Corporate Communications of ETH Zurich, the ETH Library offers consecutive workshops on Research Data Management (RDM) along the research data cycle. The range of offers will be expanded step by step, according to the information and teaching content requested by workshop participants and members of ETH Zurich interested in RDM. In 2020, the two workshops “Working with images in research” and “Scientific outreach – how to promote your research” were added.

The series currently consists of six workshops. Normally, they take place as face-to-face events. In the fall semester of 2020, the workshop series had to be conducted virtually for the first time, but this also had one positive aspect: travel times were eliminated.

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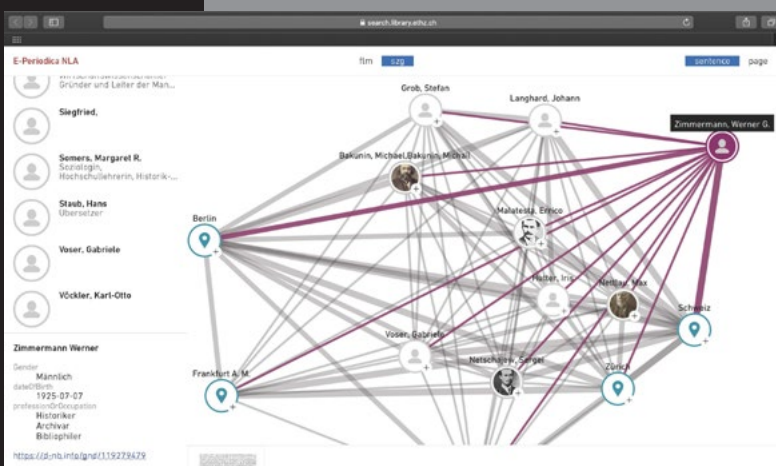
<https://library.ethz.ch/en/news/courses/research-data-management-and-related-topics.html>

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// Services

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// Networking



Launching the next level of automated information acquisition

Since 2016, the ETH Library has been researching basic application solutions for the automated extraction and enhancement of digitised full texts. On the system side, the aim is to improve content recognition through automated text enhancement, and on the application side, the objective is to provide users with new types of research and analysis tools. The originally developed method was enhanced in 2020 with a wide range of machine learning components. It now recognises individual, uniquely identifiable information objects in the full-text files of Swiss journals on the E-Periodica platform, for example a specific person or a place or country name (so-

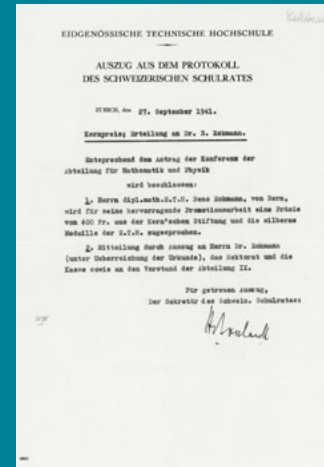
called entities). The information automatically extracted from the journal texts is presented in the form of a promising prototype, an interactive graph-based visualisation that builds a contextual network around the identified information object. In an implemented prototype, the network makes links visible between recognised persons in the examined full journal texts. Clicking on a displayed link opens the corresponding text passage of the journal from which the information originates on E-Periodica. The identified entities can be unambiguously referenced by matching and linking them to the libraries' Integrated Authority File (Gemeinsame Normdatei, GND).

University administrative files as a research pool

The University Archives represent the memory of ETH Zurich. It archives documents of lasting value for ETH Zurich and the ETH Board and documents, indexes and transmits them. The holdings are listed in the database "Hochschularchiv Online" and can also be accessed via the central search platform of the Swiss libraries, *swisscovery*. The University Archives are also successively indexing all administrative files from 1855 onwards for digital searches. In 2020 alone, 160 linear meters of files were processed and described in 17,500 records that can now be searched digitally.

The student and visiting student directories, student registers, certificates, lecturer directories, student and doctoral student dossiers, letters, notes, etc. recorded during university operation are a rich source of insightful information for biographical or prosopographical research. In addition, the progress and media changes in university administration can also be traced in the administrative files. As an example, we can find the mathematician and ETH Zurich student Beno Eckmann through a database query, which tells us that his doctoral student dossier is available in the university archive under the call number EZ-2.4/01175. It was created in 1942 by the doctoral administration of the time and the term of protection has expired. The dossier is now classified as a freely accessible "unique text". The original files are made available for consultation on request in the Reading Room Collections and Archives.

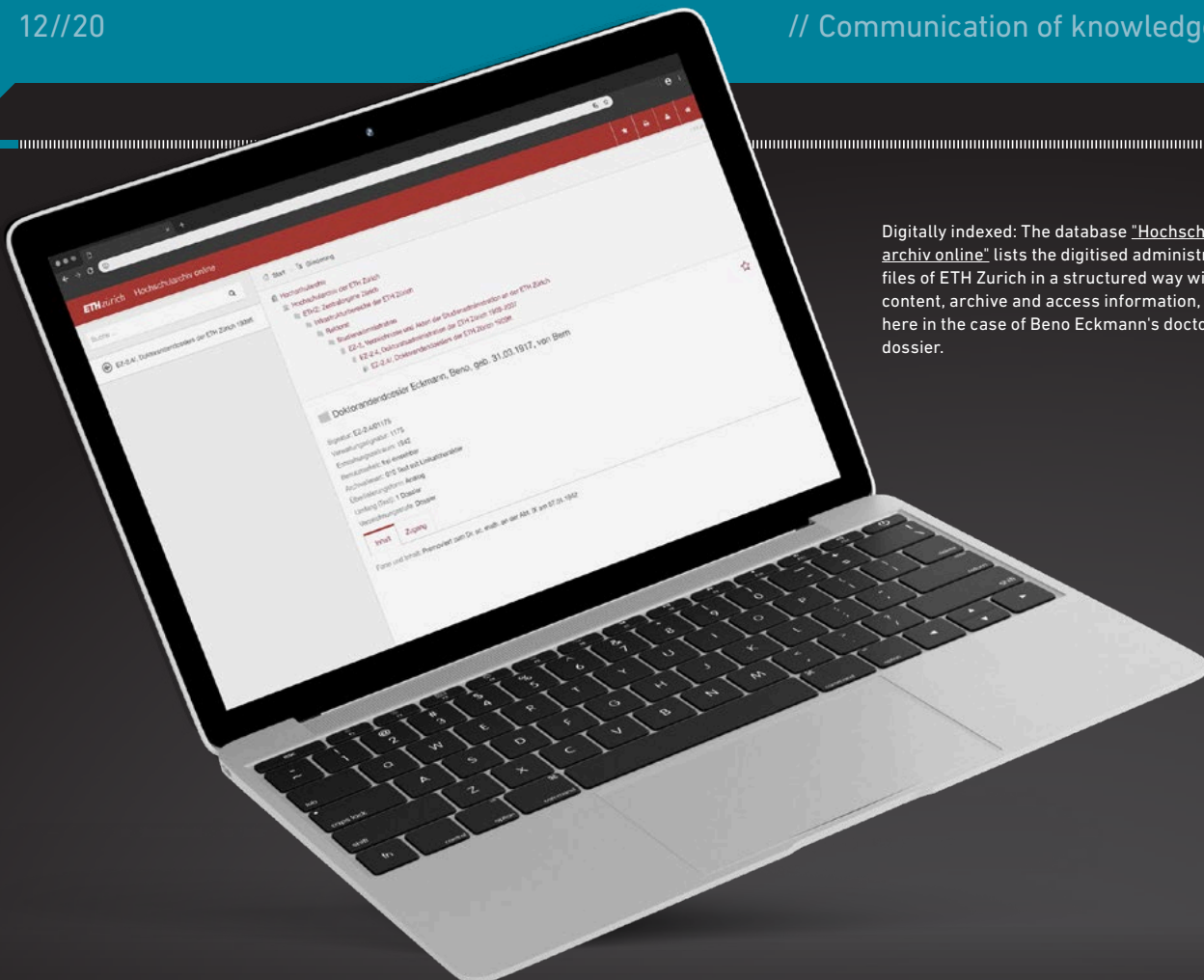
<https://library.ethz.ch/en/publishing-and-archiving/archiving/eth-zurich-university-archives.html>



Source: ETH Library, ETH Zurich University Archives, EZ-2-4-12275/09, Benno Eckmann

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// Communication of knowledge



Digitally indexed: The database "Hochschularchiv online" lists the digitised administrative files of ETH Zurich in a structured way with content, archive and access information, like here in the case of Beno Eckmann's doctoral dossier.

New open-access area in the Architecture and Civil Engineering Library: graphic novels

What do comics have to do with architecture? Quite a lot, according to the team of our Architecture and Civil Engineering Library at the Hönggerberg campus, which is offering a new open-access area with graphic novels in cooperation with the local Self-Access Center of the Language Center. This literary genre combines art, literature and architecture. Drawn in the style of comics, graphic novels bring past and futuristic worlds to life, for example by displaying fantastic cityscapes such as Batman's Gotham City or by reporting on the long-neglected designer and self-taught architect Eileen Gray, whose great work has had a lasting influence on modern industrial design and architecture.

Graphic novels are a creative approach to narrating the world with pictures. There is much evidence to suggest that they can also be used as a solid foundation for transmitting knowledge and learning. Several academic research projects are currently being carried out on this literary genre in art and cultural studies, as well as in the field of architecture. The Architecture and Civil Engineering Library took an in-depth look at graphic novels in 2020, and by the end of the year had assembled some 190 volumes for the open-access area, all of which have a connection to architecture. The holdings are continuously being expanded.

<https://www.youtube.com/watch?v=j4SxaYNpb9o&feature=youtu.be>



The Architecture and Civil Engineering Library now also offers graphic novels in its open access collection that have a connection to architecture. Library staff member Petra Gehrman presents the new collection in a Coffee Lecture on the ETH Library's YouTube channel, Drawing from: Malterre-Barthes, A., Gray, E., & Dzierżawska, Z. (2019). Eileen Gray : a house under the sun. London: Nobrow.



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// Services

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// Information treasures, data retention,
cultural artefacts protection



Notable mollusc collection back at ETH Zurich and online

Weighing well over eight tonnes, Charles Mayer-Eymar's systematic palaeontological collection of around 500,000 Tertiary molluscs had to be moved in order to be reintegrated into the ETH Zurich Earth Science Collections. This evidence of past life, including numerous holotypes and originals, which had been stored in Zurich for over 100 years, was lent to the Natural History Museum Basel as a deposit in the 1970s. In the first and last phases of the transfer, the tonnes of specimens had to be moved manually: before transport, each individual object had to be repacked by hand

into wooden archive drawers, and after arrival at ETH Zurich, the drawers had to be lifted and pushed into the designated cabinet body systems. This was a feat of strength that the ETH Library and the Earth Science department also used as an opportunity to digitally index the entire collection, drawer by drawer. The Mayer-Eymar Collection is now fully accessible in the ETH Zurich database "Earth Science Collections" and is freely available to the public.

<https://geo-coll.ethz.ch/start>

Publications and Presentations

Publications and presentations by the ETH Library staff reflect some of the subjects we focused on in 2020. The titles shown here illustrate the wide range of topics that our staff covered in the reporting year. You can access the publications and presentations in the ETH Research Collection as well as at other online sources.

Publications (selection)

Amslinger, Tobias.

"Auf dem Weg zu einer digitalen Edition der Notizen von Max Frisch."
"Wiener Digitale Revue, vol. 2020, no. 1, 2020, unpaginated,
<https://doi.org/10.3929/ethz-b-000445043>

Ball, Rafael.

Wissenschaftskommunikation im Wandel: Von Gutenberg bis Open Science.
Wiesbaden, Springer Fachmedien Wiesbaden, 2020,
<https://doi.org/10.1007/978-3-658-31541-2>

Barillari, Caterina, et al.

"Supporting Scientists with FAIR Research Data Management –
Initiatives at ETH Zurich and beyond." VSH-Bulletin, vol. 46, no. 2, 2020, p. 22-27,
<https://www.research-collection.ethz.ch/handle/20.500.11850/447597>

Bedenig, Katrin, and Hans Wißkirchen.

Thomas Mann Jahrbuch, vol. 33, Frankfurt am Main,
Vittorio Klostermann, 2020, ISBN: 978-3-465-01359-4

Bellanger, Silke, et al.

"Forschungsdatenmanagement und Bibliotheken."
VSH-Bulletin, vol. 46, no. 2, 2020, pp. 11-21,
<https://www.research-collection.ethz.ch/handle/20.500.11850/447594>

Bolliger, Stephanie, et al.

"How to Link Your Institution's Collections to Wikidata?: a short manual to a
semi-automatic way of using the 'archives at' property (P485)." Zurich, Berne,
ETH Library, Swiss cultural heritage institutions, Central Library of Zurich,
Swiss National Library, 2020, pp. 1-13,
<https://doi.org/10.3929/ethz-b-000393724>

Edinger, Eva-Christina.

"Designing New Learning & Working Environments – Our Practical Approach
at ETH Library: UX Labs poster." A Handbook of User Experience Research &
Design in Libraries, edited by Andy Priestner, Cambridge, UX in Libraries,
2020, pp. 159-165,
<https://doi.org/10.3929/ethz-b-000407743>

Graf, Nicole.

"'Wissen Sie mehr?' Erfolgsfaktoren beim Crowdsourcing:
Ein Erfahrungsbericht des Bildarchivs der ETH-Bibliothek, Zürich."
Rundbrief Fotografie, vol. 27, no. 1, 2020, pp. 28-38,
<https://www.research-collection.ethz.ch/handle/20.500.11850/410818>

Töwe, Matthias and Barillari, Caterina.

"Who Does What? – Research Data Management at ETH Zurich."
Data Science Journal, vol. 19, no. 1, 2020, pp. 36-42,
<https://doi.org/10.5334/dsj-2020-036>

Presentations (selection)

Ball, Rafael.

"Strategisches Verhalten als Überlebenskonzept in der Wissenschaft:
Die neue Awareness-Mentalität." F3 Konferenz: Fighting Fake Facts,
3 February 2020, Basel, Switzerland

Bedenig, Katrin.

"Thomas Mann: Der Nobelpreis und die Entwicklung zum Europäer."
Töpfergesellschaft Solothurn, 8 January 2020, Solothurn, Switzerland,
<https://www.research-collection.ethz.ch/handle/20.500.11850/403645>

Gasser, Michael.

"'archives at' – Referencing Archival Fonds on Wikidata in a
Semi-Automatic Way." GLAMhack 2020: 6th Swiss Open Cultural
Data Hackathon, 5-6 June 2020, online,
<https://doi.org/10.3929/ethz-b-000417823>

Graf, Nicole.

"Recherche, Nutzung und Weiterverwendung von Bildern auf
ETH E-Pics 'Bildarchiv Online.'" Bildmaterialien: Recherche, Rechte –
und mehr, 20-21 February 2020, Hamburg, Germany,
<https://doi.org/10.3929/ethz-b-000401212>

Hirschmann, Barbara.

"Three years of publishing data in ETH Zurich's Research Collection:
Lessons learned and new developments." Swiss Research Data Day,
22 October 2020, Geneva, Switzerland,
<https://doi.org/10.3929/ethz-b-000446811>

Okonnek, Maximiliane.

"ETH Library Lab. Art x Science Dialogues: Bridging the Future –
New Transdisciplinary Initiatives Webinar." Swissnex China,
11 August 2020, online,
<https://doi.org/10.3929/ethz-b-000431063>

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